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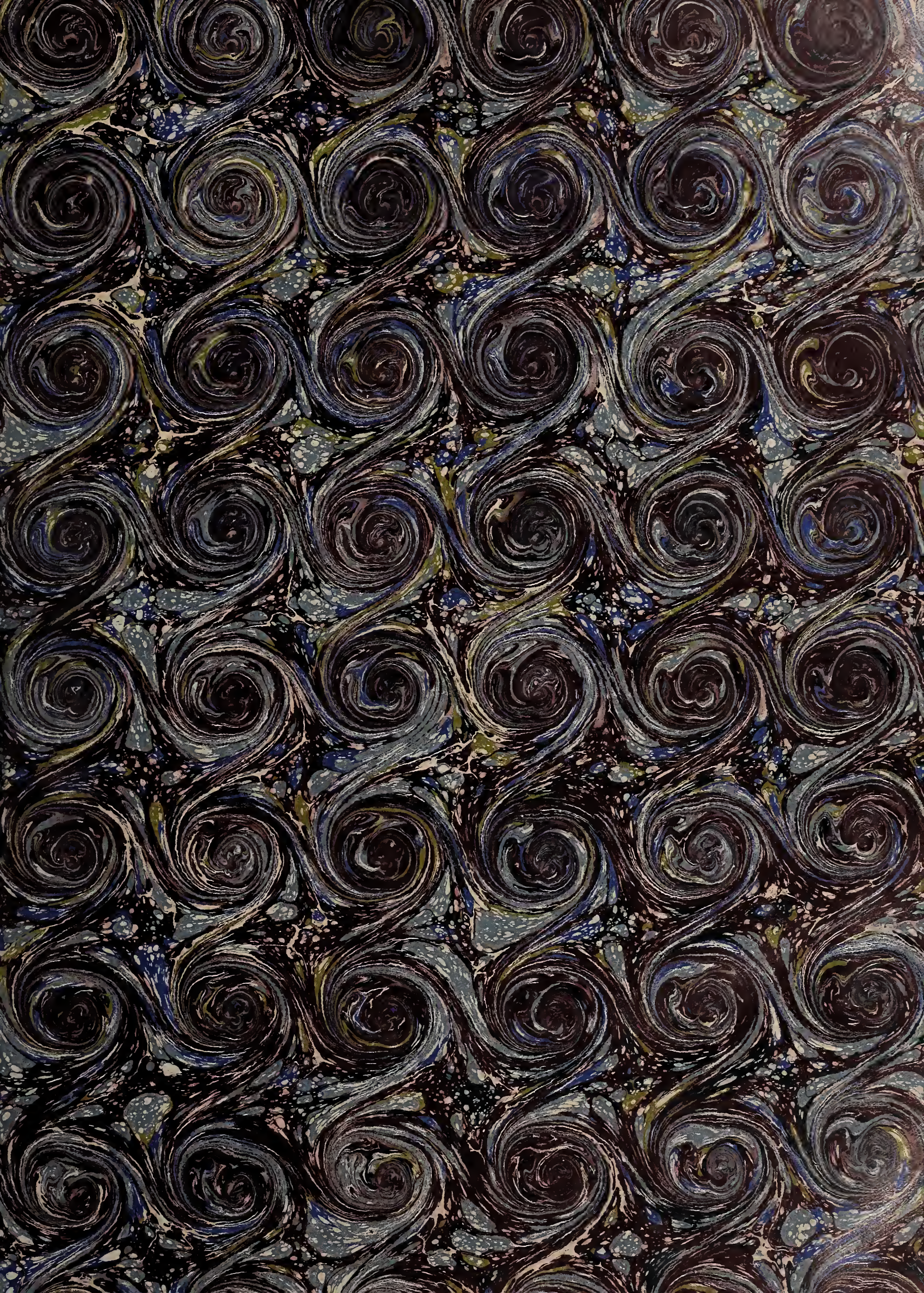

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

NEXT WEEK'S ENGAGEMENTS.

Monday, Sept. 3rd.—Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.

Tuesday, Sept. 4th.—Flower Show at the Westminster Aquarium (3 days)

Meeting of the Floral Committee of the N.C.S. at 1 o'clock.

Friday, Sept. 7th.—National Dahlia Show at the Crystal Palace (2 days).

Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 1st, 1894.

What is a Plant.—This may seem an easy question to answer, but the more it is studied the more difficult it becomes to give an explanation that may not be confuted by some other discovery. The two kingdoms, the animal and the vegetable, approach each other very closely amongst the lower organisms belonging to each, and it would not be a wide stretch of the imagination to conceive that both had a common origin; in fact, it seems very feasible after a close study of the organisms, both plant and animal, endowed with life, and even with the power of movement. In the case of the higher organisms belonging to both kingdoms, there is no difficulty whatever in coming to a decision as to which great division each should belong. As a type of one of the lower forms of vegetable life, the green scum that forms in water-butts, shallow pools and other reservoirs supplied by rain water, may be taken. This is the Protococcus pluvialis of the botanist, and consists, when mature, of a single cell or sac filled with protoplasm, with leaf-green or chlorophyll diffused through it, and sometimes possessing what appears a nucleus. The cell wall consists of cellulose, but this may be entirely absent during the motile stage of the organism when it is, for the time being, an animal for all practical purposes. But the fact that it becomes enclosed in a cell wall of cellulose at one stage of its life history, and can manufacture its own food out of such a compound as ammonium tartrate, and, in fact, out of the simple inorganic elements constitutes it a plant. The power to construct protein out of ammonium tartrate is decidedly a vegetable peculiarity.

What then is an animal? The Proteus Animalcule or Amoeba may be taken as the lowest form of animal life. It consists of a microscopical mass of jelly-like matter, clear on the outer surface, granular and more opaque inside of this and passing into a more liquid matter in the centre. It sometimes, but not always, possesses a nucleus and a clear spot known as the contractile vesicle. The outline of this jelly-like mass is continually undergoing changes of outline; small, rounded portions are pushed out and the remainder then brought up to them, and in this way the primitive and minute animal moves along. It is an animal, not because of its power of contractility and movement, but because it never becomes enclosed in a cell wall of cellulose, and because unable to manufacture protein out of comparatively simple chemical substances.

Professor Macfarlane has been lecturing upon this subject at the Marine Biological Laboratory of Wood's Hall, Massachusetts, and speaks of the protoplasm or jelly-like matter in the cells of the higher plants as the true contractile tissue and not the cell walls. That is, indeed, no new idea to us, for, in fact, it has long been known that one of the properties of protoplasm is contractility. The cell wall in the young and growing stage is capable of being stretched or extended by the pressure of the contents within, but it is capable of great reduction in size when the pressure is removed. Professor Macfarlane says that contractility may be stimulated by light and heat, by chemical, mechanical and electrical agencies. On this side of the Atlantic, those facts are now comparatively old. Nor do we see that it breaks down any more of the old landmarks between plants and animals. If protoplasm were unable to respond to stimulation from external agencies, we should have no such phenomena as are exhibited by sensitive plants, by Venus Fly-trap, by climbing plants, by leaves and parts of flowers generally which respond to stimuli and show it by movements more or less rapid. The movements are merely an expression of the fact that a change has taken place in the chemical composition or complexity of the protoplasm, so that it contracts and water is allowed to pass out of the cell.

Is the plant or animal kingdom the oldest? Well, the simple fact that animals cannot manufacture their own carbonaceous food from the carbon dioxide of the atmosphere, and from water, should be conclusive evidence that plants containing a green colouring matter should have previously existed so as to supply the animals with an already manufactured food. It may be said that some plants do not possess chlorophyll. In such cases they absorb food that has already been at one time built up in some other plant or animal. The yeast plant is an example of this. The Amoeba has, in the long run, to obtain its food ready-made by some or other form of vegetable life, and, in that respect, it is like the higher animals.

Bayham Abbey Gardens.—We understand that Mr. Walter Johnstone is leaving the service of the Marquis of Camden, after occupying the post of gardener at Bayham Abbey for many years, and that his successor will be Mr. A Methven, formerly gardener to the Baroness A. de Rothschild, Pavillon de Pregny, Geneva, who is to be congratulated on the attainment of a position which promises to find abundant scope for the display of his undoubted ability as a gardener.

Mr. Arthur Pope, for the last eighteen months gardener at Allington Hall, Grantham, and formerly gardener to the late Sir Chas. de Hoghton, Bart., Hoghton Towers, Preston, has been engaged as gardener to Capt. Neville Reeve, Ashby Hall, Lincoln, and will enter on his duties on September 15th.

The Crewe Chrysanthemum Society's Show is announced to be held on Saturday, November 10th.

Scabious, New dwarf yellow.—This is a continental novelty of 1893, but the hot summer of that year prevented it from being shown to the best advantage, This year it appears to be coming much better, the flowers fully double, and of a pleasing pale yellow colour. At the Basingstoke Flower Show last week a fine bunch of it was shown in a stand of hardy herbaceous perennials, but being an annual, the collection had to be shut out from competing.

Kew Garden, Conservatories.—At a cost of about £12,000 Her Majesty's Office of Works is about to make extensive improvements in the conservatories at Kew Gardens. The Temperate House is to be enlarged by the addition of two wings—at the north and south ends—the heating apparatus in the Palm House is to be re-arranged, and the south wing of the large conservatory, known as No. 4, is to receive its final instalment of a reconstruction that was commenced three years ago.

National Chrysanthemum Society.—At a meeting of the General Committee, held on Monday evening, Mr. B. Wynne, presiding, four Fellows and fourteen ordinary members were elected, and a warm greeting was accorded to Mr. Briscoe-Ironside, on his re-appearance on the Committee after his lengthy stay in Italy. While residing in the sunny South, Mr. Briscoe-Ironside, devoted much of his leisure to the scientific crossing of Chrysanthemums, and has brought a large number of seedlings home with him. The blooming of them this autumn is being looked forward to with great interest.

Marigold, Single, Legion of Honour.—This is a very compact dwarf-growing single-striped French Marigold that is being recommended for bedding purposes. In the London Road Seed trial grounds of Messrs. Sutton & Sons, at Reading, it is largely used as an edging plant, and with the best effect—there is so much of it as to afford a satisfactory test as to its coming true from seed. That it does this there can be no doubt, and the flowers being uniformly yellow, with dark stripes on the segments, and also being stout, erect, and well displayed, it does, indeed, make an excellent bedding plant, especially during the late summer and autumn months.

Re-afforesting Welsh Hills.—On the vote for £11,748, to complete the sum necessary for salaries and expenses in connection with the Department of Woods and Forests, Mr. Lloyd-George asked for the appointment of a Departmental Inquiry into the practicability of re-afforesting the Welsh hills which had been stripped for State purposes. Sir. J. Hibbert said the Commissioner of Woods, who was responsible for the management of the property in Wales, was in sympathy with hon. members from the Principality. The matter was under consideration. The Commissioner proposed to visit the several localities concerned in order to ascertain how far they were suitable for the purpose desired, and how far the feelings of the inhabitants were in favour of the proposal. The inquiries would be open.

Shirley Gardeners' and Amateurs' Improvement Association.—The monthly meeting of this Society was held on the 20th inst., Mr. B. Ladhams, F.R.H.S. presiding. The subject of the paper was "Vine culture and Grape growing generally" by Mr. W. Mitchell, gardener to G. W. Fleming, Esq., Chilworth Manor House. Mr. Mitchell, who is a successful exhibitor of Grapes, based his remarks upon an experience of twenty-three years, dealt very fully with the methods of planting, setting, fruiting, &c. He also touched briefly on the subjects of manures, borders, rust, mildew, shanking, scalding, thrip, &c., and expressed a very decided opinion that a large number of vines suffered for the want of sufficient water at the roots. A great number of questions were put to Mr. Mitchell, and, after replying, Mr. Mitchell was very heartily thanked for his paper on the proposition of the chairman, seconded by Mr. Armstrong. There was an interesting exhibition of Grapes, Vines in pots, &c., by Mr. Mitchell, and Herbaceous Plants by Mr. Ladhams.

A Parish Flower Show.—The annual exhibition of the Glenbervie Hortus Club was held in the beautiful grounds of Glenbervie House, Kincardineshire, by the kind permission of J. B. Nicolson, Esq., on the 22nd ult., and was as great a success as previously, while the exhibits were more numerous than for several years past. Competition is entirely limited to those living in the parish, and although the prizes are moderate in value, they are distributed over 205 classes, with the result that the show is well patronised by an industrial population, all striving with a healthy emulation to be prize-winners. The past season has been a rainy one, yet pot plants made a good display, while the cut flowers were exceptionally fine. The principal feature of the show, however, was the vegetables, for which the district has long been famed. The Potato known as the Glenbervie used to be widely and extensively cultivated in the north. Black Currants and Gooseberries were exceptionally large. Dairy produce and the products of household industry were all very superior and tempting in appearance. The district may be said to be situated almost amongst the outlying spurs of the Grampians in fertile valleys, and as the shooting season is now in full swing, there was a large attendance of landed proprietors and others, who at other periods of the year reside in London, Edinburgh, and other large towns, so that the show in many respects might be looked upon as a social gathering of the people of the district. Sports and games were also held in connection with the show.

TEACHING THE YOUNG IDEA.*

At first sight this book seemed intended as a popular history of plants for the public generally, but on perusal it bears evidence of having been written for the use of the students in some school, as is indeed explained in the preface, namely, for the students of the Chautauqua Town and County Club at Houghton Farm, Mountainville, New York. It is written in a popular style, and in simple language suitable for students in the elementary phases of gardening, and calculated to waken the powers of observation and "teach the young idea how to shoot." It is really notorious how little is known about the useful vegetable products of the earth, and less about plants generally, by those who have never undertaken their study.

The writer, in speaking of useful friends, says there are only about 240 kinds of really valuable and useful plants throughout the world. This number on the face of it seems very small, but the definition is inadequate since the writer goes on to include flowering plants and forest trees afterwards. They are certainly valuable and useful, considering the large industries dependent upon them, and the means of a livelihood which they furnish to millions throughout the world. Altogether the useful subjects are grouped under the headings of food, fodder, wood, fabric, medicine, and flowering plants, and examples of each are given with advice to students to add such others as come under their notice. We are amused, however, to see Ginseng included under food plants. The Chinese physicians prescribe it for removing fatigue, restoring exhausted animal powers, and in fact to render man immortal, if anything on earth can do so. On the other hand, Tobacco is classed as a medicinal plant, a statement which is equally curious. Examples of classification and description are given, so that the students may work out others for themselves.

The multiplication or propagation of plants is dealt with under the fanciful heading of "Plants with two Lives," and this is explained as reproduction by seeds and by offsets, runners, etc. Two lives in one is explained by the phenomenon of two kinds of Apple on one tree, a result brought about by the process of budding or grafting. One tree might bear ten or fifty kinds of Apples, so that we could have ten or fifty lives in one according to the explanation. The teaching, however, is practical enough, although a few illustrations would have helped the student greatly to grasp the subject. Some woodcuts show the difference between an intelligent use of the pruning knife and a stupid and aimless abuse of it on the form of young Apple trees. This is a subject that the young gardener cannot afford to ignore, for the mischief caused by the misuse of pruning implements is very great and disastrous to the well being of young trees.

Weeds are spoken of as plants out of place, and the necessity of keeping them down with unsparing diligence to give the cultivated plants a chance is duly impressed upon the students, and the reasons for doing so given, The article on creatures out of place refers to animals of all kinds that must, if possible, be kept out of gardens, particularly during the fruit season. Various designs for scaring birds or keeping them from fruit are mentioned from the scarecrow, so unlike anything real that the birds take delight in sitting upon its head, to a boy or a man whose business is to drive them from the crops. Sometimes guns are arranged so as to fire off every few minutes, but in no case is the shooting of them advocated. On the other hand when the cultivator fails to exterminate or hold insect enemies in check, he is recommended to call the English sparrows to his aid. Further on the writer says "above all, cultivate the friendship of the birds. Never, on any account, allow a song-bird to be killed on your land. It is better even to lose a few quarts of Cherries and to keep the birds."

*Talks About our Useful Plants. By Charles Barnard. New York: Funk & Wagnalls Company, London and Toronto, 1894.

HARDY HERBACEOUS PLANTS IN FLOWER.

Acanthus spinosus.—Although a few of the species of Bear's Breech find a place in gardens, they by no means enjoy that distribution to which their bold and handsome appearance entitles them. A. spinosus is by no means so well known as that whose leaves were copied upon the Corinthian capitals, namely A. mollis. The Spiny Bear's Breech has deeply cut leaves with narrow spiny segments, and tall, stately stems bearing curiously formed purplish flowers The species is a native of south Europe, is perfectly hardy and may be propagated by division in autumn, winter or spring during open weather.

Helianthus multiflorus Bouquet d'Or.—There are three double varieties of this Sunflower, and Bouquet d'Or is, in the opinion of many, the best. The heads are semi-globular, golden yellow and consist of very numerous, narrow florets, compactly arranged, and without any ray. As a moderately dwarf Sunflower it is highly desirable, either for the herbaceous border or to plant amongst shrubs or in clumps or beds on the grass. It is easily increased by division.

Lysimachia ciliata.—This North American species is very suitable for border culture, where it appears more graceful than certain others whose flowers are more densely crowded and stiff in habit. The upright stems are generally about 2 ft. high and produce small clusters of stalked flowers in the axils of the leaves. The latter are ovate-lanceolate and fringed on the stalks, a fact to which the specific name applies. The flowers are of good average size for the genus and of a pleasing light yellow. The plant is easily grown in any garden soil that is not too dry, and may be propagated by division in autumn or spring, preferably the former, so that it may get thoroughly established before drought sets in.

Lilium Chalcedonicum.—The Scarlet Turk's-cap Lily is easily cultivated after it has got established, and is well worthy of waiting for. The densely leafy stems vary from 2 ft. to 4 ft. in height and terminate in a cluster of brilliant scarlet flowers generally without spots, but sometimes with small dark dots on the lower half of the segments. The flowers are drooping and contrast well with those of L. candidum and L. testaceum, which are as easily grown.

Anemone japonica elegans.—The stems of this beautiful variety grow to a height of 3 ft., 4 ft., or

more, according to soil and position. It is well adapted for cultivation in clumps or beds for late summer and autumn decoration. Grown in this fashion the stems require no staking, notwithstanding their height. The third or fourth line of the herbaceous border would be its position there. The flowers are of a soft rosy-pink, large and attractive. The variety is also known under the names A. japonica rosea and A. j. hybrida.

POLYGONUM AMPLEXICAULE. — The graceful character of the stems of this plant and the arrangement of the flowers on slender spikes, makes it a choice subject for the herbaceous border. The ovate, stem-clasping leaves are drawn out to a long point and thinly arranged, thus according well with the graceful slenderness of the stems and branches. The small flowers are rosy-purple. Propagation is easily effected by division in early spring.

VERONICA LONGIFOLIA SUBSESSILIS.—The forms of V. longifolia are very numerous, and some of them very ornamental in gardens throughout the country. That under notice was introduced comparatively recently from Japan and is considered the best by a great many cultivators. The flowers are large, handsome, deep blue, and borne in dense terminal spikes, and the foliage is of a rich dark green, but the plant is stiffer in habit than the European forms. It is, nevertheless, a most desirable plant.

SPIRAEA LOBATA.—Nothing is more puzzling than the variable height of this plant even under cultivation, for while some of them are only 18 in. high, others run up to 8 ft. The dwarf forms are the prettiest, though the tall ones are more stately. The rosy-peach flowers are borne in large, terminal cymes, and appear at various times through the summer. Damp places should be chosen for it as the plant there succeeds best.

PARNASSIA PALUSTRIS.—On the northern moors this is now flowering finely, especially on the northern aspect of hills and mountains in boggy places. When transferred to the garden in lowland districts and the south, a cool aspect should be chosen for it, and if it can be planted in the bog garden, so much the better.

STOCK TAKING IN THE GARDEN.

THIS is an important matter in successful gardening and one that should never be neglected. It is not wise to trust wholly to Spring propagation and general begging, because in many cases you never know what you are getting and great disappointment is often the result.

Pelargoniums should be attended to first, as the beds at this time will be all the better for a judicious thinning, according to quantity required. Take them with a sharp knife, choosing the strongest and firmest wood and make them into cuttings with four or five joints. Then insert them in boxes 4 in. deep in a sandy compost, afterwards standing them outside on something to raise them from the floor. The result will now be satisfactory. Plenty of sunshine will not hurt them in the least and cold winds and nights will hasten the ripening of the wood. If frosty weather should come before they have rooted they will be sure to have done something towards that end, and if taken and kept on a cool greenhouse shelf will be quite at home for the winter.

Lobelias should be potted at once (using discretion as to colour required) into 5 in. pots, crocked well to ensure good drainage. During the winter months as a rule not one gardener in twenty keeps this useful plant well through the dead time of the year. It requires a light, airy shelf, with very little fire heat as long as frost is kept away. After potting all flowers should be cut off to entice new growth for propagation in the spring. If damp should appear, sprinkle well betwixt the plants with dry sand.

Pansies, Calceolarias, Penstemons, Echeverias, Carnations, and a host of other little things too useful to let slip, will very soon want attending to, so to be ready it will be wise to have winter quarters for these prepared at once.—*J. G. Pettinger, 26, Providence Terrace, Harrogate.*

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s.; post free, 5s. 3d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, W.C.

THE LEOPARD-SPOTTED LILY.

LILIUM pardalinum was introduced from California in 1875, and since then has become increasingly popular with a large section of the gardening public, but chiefly for open air cultivation. The bulbs spring from a short rhizome, and are renewed annually, so that plenty of room is necessary for their success in succeeding years. The peaty soil of Rhododendron beds keeps the bulbs and roots cool, and provided the Rhododendrons or other shrubs are young or dwarf, or kept separate from one another, the Lily under notice, will thrive and produce a splendid effect in the garden or pleasure grounds during July and August, earlier or later according to circumstances. The narrowly lanceolate leaves are arranged in three or four whorls of nine to fifteen each. The stems vary from 3 ft. to 7 ft. in height and bear a terminal raceme of drooping flowers with revolute segments. The latter are of a rich orange-red on the outer half, but fade to orange on the basal half with large, purple or crimson spots. Numerous variations have, however, appeared amongst importations and many of these have been

LILIUM PARDALINUM.

honoured with special varietal names. The accompanying illustration will give a general idea of the plant, and the appearance produced by the drooping, revolute flowers. In cool districts with a fair average rainfall, this species could doubtless be cultivated with success in the herbaceous border, for which it would be a great acquisition.

A WALK IN THE COUNTRY (5).

As the weather had again become propitious, my friend suggested that we should try the chalky hills of the Surrey range and have a look at the plants there. I readily fell in with this proposal, as I was anxious to renew my acquaintance with the flowers I had seen on my previous walk (No. 1) over these hills, so we took our tickets for Oxted, and walked away by the line and road to the westward with a view to reaching the top of the hills above the Oxted chalk pits. On the embankment of the line we found the Hare's Foot Trefoil, a delicate little morsel, and charming when used as a table decoration. I have always considered this as a sand plant, and supposed therefore, that the seeds must have come with the ballast and have sprung up on the embankment—a supposition which has been strengthened with me by finding so many plants by the side of the line that I do not find in the fields or woods adjoining.

Here, too, was the Greater Knapweed, its heads as large as half-crowns, with a white variety growing from the same root. This plant I found last month growing in the hedges and fields in Gloucestershire, but in Surrey I have not found it except on the line. Descending on to the road we found the hedges full of the Dogwood, much used for skewers, the Spindle tree, which still is considered to have a medicinal value, and the bright flowers of the Golden Rod lighted up the lane. The herbalist Gerarde's account of this plant is interesting, so I quote it at length :—"It is extolled above all the herbes for the stopping of blood, and hath in times past been had in greater estimation and regard than in these daies, for within my remembrance I have known the drie herbe which came from beyond the seas, sold in Bucklersburie in London for half-a-crown an ounce. But since it was found in Hampsteed Woods, even as it were at our townes end, no man will give half-a-crown for an hundredweight of it, which plainly setteth forth our inconstancie and sudden mutabilitie, esteeming no longer of anything the while it is not strange and rare."

Intermingled were two plants having particularly charming names for which I can find no satisfactory explanation—the Wayfaring Tree and the Traveller's Joy. The former was in full flower on some branches and on others in full fruit, bearing bunches of berries mostly scarlet, but with here and there one or two of jet black. In a moist spot by the roadside we found the Greater Horsetail growing to a height of about 3 ft. Such a lovely plant! and worthy of a chief place for decoration. I can see in my mind's eye, as I write, a table decorated with scarlet Poppies —the Poppies such as we gathered on our walk, with the fronds of the Horse-tail falling over them like pagodas; for the green of these Horsetails is of a shade unlike any other that I know. We now began to climb the hills and found growing in great luxuriance, three plants, all poisonous, twining together—the Red Bryony, the White Bryony, and Bitter Sweet. All were in full berry, their scarlet fruits locking luxurious and tempting, but "experience does it," a translation only to be admitted by its antiquity, and we passed on. Side by side were growing the Wild Mignonette and the Dyer's Rocket varying greatly in the seed vessels, the Mignonette being exactly like the garden form in this particular. I read that Linnœus states the Dyer's Rocket is a true "Sunflower" following the course of the sun, (or rather the earth) from east to west, and at midnight pointing due north. A plant growing on the prairies of the United States, called the Compass plant, is said to have similar attributes; so too is our garden Sunflower, but, so far as I have been able to test it, I have found it a decided fraud.

On the downs as we ascended we came across the big Apple Snail, this time alive, so no longer does any question arise in my mind as to whether the shells I saw on a former walk had been dug up. The general theory in reference to them is that they were brought over here by the Romans as great delicacies, and were bred here by them in the neighbourhood of their camps. I can now certainly remember having seen snails for sale in Paris exactly like them, the price of which was about 2d. each, and these had been bred for eating purpose. I have never tasted them, but am told they are very delicious, but prejudice is still strong, for though I brought home two of them alive they were, like Nebuchadnezzar, turned out to grass, instead of finding their way into the stew pan. As we climbed the butt side we met with the Vervaine called the Holy Vervaine, and considered in olden time to be a specific against thirty evils; the Stemless Thistle, which I should advise no one to sit on; the perfoliate Yellow Whorl, a graceful and pleasing plant; and the Ploughman's Spikenhard, again an attractive old name implying something that I wot not of. On the top of the down we came on to the old road called "The Pilgrim's Way," a road used by the pilgrims from Winchester and the West on their journey to the Shrine at Canterbury. The road may be traced for a long distance both east and west of where we were, and no doubt was formed over the high lands by reason of the forests and swamps which prevailed over England at the time in the low-lying districts. — *J. C. Stogdon, Inglenook, Bellaggio.*

(*To be continued.*)

SHREWSBURY FLORAL FETE.

THE Shropshire Horticultural Society's Fête of 1894 will take rank as one of the most remarkable of the long series of successes which have been achieved in the far-famed Shrewsbury Quarry, than which place as a site for such a gala there is no equal in England. It was remarkable as being one of the finest displays of horticultural produce that has taken place during recent years in this country, but it was much more remarkable in regard to the attendance and the important matter of "the gate," which, under the circumstances was quite phenomenal. The opening day, Wednesday, August 22nd, was all that could be desired in regard to the weather, and the total amount taken at the gates was £583 11s. 3d. as against £524 15s. 8d. taken on the corresponding day of last year, which was the largest amount ever taken on the first day up to that time. But the second day, Thursday, the morning opened wet, and with but few brief intervals, rain continued to fall steadily until nightfall—where did it not rain on that dreadful day?—and yet the receipts show that about 35,000 people visited the show, the amount taken being £1,262 8s. 9d. or a total for the two days of £1,846, eloquent testimony assuredly of the popularity of the show and the excellence of the management.

From the gardening visitor's point of view it would be hard to say which feature of the show stood specially prominent above the others, but if the point is given in favour of the plants and cut flowers, and everything else is characterised as being of very high class, the situation will be fairly summed up. It was a grand show all round, and again illustrated the importance of giving liberal prizes if you want to draw the best things. The liberal rewards offered for a 300 ft. group brought out four grand displays of the art of grouping, and a close fight for premier honours between Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood, and Mr. J. Cypher, of Cheltenham, the former eventually securing the verdict, the third award going to C. H. Wright, Esq., Halston, and the fourth to Messrs. Jones & Sons, Nurserymen, Coton Hill, Shrewsbury. Mr. Cypher was in his old position as first with twenty stove and greenhouse plants, having among his flowering subjects exceedingly fine examples of Erica Austiniana, E. obbata purpurea, E. Aitoniana, Ixora Regina, I. Pilgrimii, Phoenocoma prolifera Barnesii, Stephanotis floribunda, &c. Mr. Finch, gardener to J. Marriott, Esq., Coventry, was a good second. In the class for six, open only to local gardeners, the first prize went to Mr. T. Samber, gardener to Lord Harlech, Brogynton, Mr. J. Howard, gardener to Mrs. Juson, Shrewsbury, being second, and Mr. G. Burr, Shrewsbury, third. Mrs. Juson's gardener had the best half-dozen Ferns, in an open class, and in a corresponding competition confined to the county, the highest honours fell to Mrs. J. H. Slaney, Sunnycroft, Wellington.

Mr. Cypher had the best six plants, Orchids excluded, Mr. Finch being again second, and the Cheltenham grower also had the best group of twenty Orchids in a competition with Messrs. Charlesworth, Shuttleworth & Co., of Heaton, Bradford, both showing good plants very tastefully arranged. The first prize in the local class for four went to A. E. W. Darby, Esq., Little Ness, Shrewsbury. Mr. Cypher, Mr. Finch, and Mr. C. H. Wright, all showed fine groups of tall Palms, taking the awards in the order named. The best half-dozen Dracaenas came from Lord Harlech's gardens, and the best Caladiums from Mr. J. R. Greatorex, Mytton Hall, Shrewsbury. In excellent competitions, Mr. Albert Myers, Sutton Lane, Shrewsbury, came out first for four pyramidal Coleus; Mr. W. J. Scott, Shrewsbury, for four Fuchsias, and the Hon. W. H. Herbert, for four Begonias. The last-named gentleman also secured Mr. T. S. Ware's special prize for a group of Begonias.

The cut flower classes were superb all through and with collections of hardy border flowers there was a spirited competition between Messrs. Harkness of Son, Bedale, Messrs. Dickson's, Limited, Chester, and Messrs. J. Burrell & Co., Howe House, Cambridge, who took the awards in the order named. The Messrs. Dickson also secured the premier award for a collection of hardy bulbous and tuberous rooted plants. The Rose classes were very good, and the local nurseryman, Mr. Edwin Murrell, secured the highest award for a collection beating the Messrs. Harkness and Messrs. Perkins & Son, of Coventry. The Bedale growers, however, were not to be denied with twenty-four single blooms, in which competition the Messrs. Perkins were second, Mr. Murrell, third, and Messrs. Proctor & Son, Chesterfield, fourth, an extra prize. Premier honours for twenty-four Dahlias went to Messrs. Keynes, Williams & Co., Salisbury, and to Messrs. J. Burrell & Co. for a collection of Gladioli, very fine. Messrs. Thomson & Co., Sparkhill, Birmingham, had the finest collection of Carnations and Picotees, naturally shown in bunches, the other prizes going in the order named to Mr. M. Campbell, Blantyne, Messrs. Laing & Mather, Kelso, and Messrs. Dickson's. With twelve Carnations and the same number of Picotees, Mr. A. R. Brown, Handsworth, Birmingham, was to the front, while Messrs Thompson & Co., Birmingham, had the best dozen yellow grounds, selfs and fancies.

The fruit classes as usual, were of a very high order, exceedingly fine all round, with perhaps the exception of Muscats. Mr. Goodacre, Elvaston Castle, carried off the first prize for a collection of twelve dishes, to include two dishes of black and two of white Grapes, with a most meritorious lot. Mr. M. Gleeson, gardener to C. E. Keyser, Esq., Warren House, Stanmore, was a very close second; and Mr. Bannerman, Blithefield, Rugeley, a good third. In the County class, for nine dishes, the highest award went to Mr. Bellis, gardener to Sir C. H. Rouse-Boughton, Bart., Downton Hall; the second being taken by Mr. C. Roberts, gardener at Halston, and the third by Mr. Langley, gardener to the Rev. T. M. B. Owen, Tedsmore. In capital Grape classes, Mr. Craven, gardener to J. Grant Morris, Esq, Allerton Priory, Liverpool, had the best six bunches of black, in three varieties, very fine Alnwick, seedling, Madresfield Court and Alicante; Mr. Brownhill, gardener to J. C. Sinclair, Esq., Rock Ferry, the best Black Hamburghs; Mr. Craven, the best Madresfield Court; and the best four bunches and the best two bunches of white Grapes, with Mr. Elphinstone, Shipley Hall, a good second, in both classes; while Lord Harlech, The Rev. T. M. B. Owen, and Mrs Donaldson Hudson took the lead in the local classes.

Vegetables were also of the best, and here Mr. Wilkins, Inwood, Blandford, again came to the front, with a collection of twelve varieties, Miss Talbot, Penrice Castle, Swansea, coming in second, and Mr. Pope, Highclere Castle, third. Mr. Inwood also secured Messrs. Webb and Sons' first prize for eight dishes; Mr. Pope, being a good second, Mr. C. J. Waite, third, and Mr. Hathaway, gardener to the Earl of Lathom, fourth. Mr. Waite, went for Messrs. Sutton and Sons' premier and secured it, Mr. Wilkins, coming in second, and Mr. Hathaway, third. Messrs. James Carter and Co's. first prize went to Mr. Abel Jones, Donnington Wood, and Mr. Waite, and Mr. Jones, Bryn Penylan, took the prizes for six dishes offered by Messrs. Johnson and Wheeler, Chesterfield. In the Miscellaneous class, Gold medals were awarded to Messrs. Veitch and Sons, Chelsea, for groups of new Caladiums and Nepenthes; and to Messrs. Pritchard and Sons, Shrewsbury, for Liliums, Begonias, etc., Silver medals were awarded to Messrs. John Laing and Sons, Forest-hill, London, for Begonias and Caladiums; to Messrs. Kelway and Sons, Langport, for a collection of choice Gladioli; to Messrs. H. Cannell and Sons, Swanley, for a collection of Cactus Dahlias; to Messrs. J. Peed and Sons, Norwood Nurseries, London, for a group of Caladiums; to Messrs. W. Cutbush and Son, Highgate Nurseries, London, for a collection of hardy flowers; to Messrs. Dobbie and Co., Rothesay Nurseries, N.B., for Violas, Sweet Peas, etc.; to Messrs. B. S. Williams and Son, Holloway, London, for new and rare plants; to Mesrss. W. J. Birkenhead, Sale Nurseries, near Manchester, for collection of Ferns; to Messrs. Hewitt and Co., Solihull Nurseries, Birmingham, for hardy border flowers; to Mr. B. R. Davies, nurseryman, Yeovil, for double and single Begonias, Bronze medals were awarded to Mr. E. Murrell, nurseryman, Shrewsbury, for a group of Begonias; Mr. A. Myers, nurseryman, Shrewsbury, for Zonal Pelargonium, and other plants; to Mr. Septimus Pye, florist, Caterall, Lancaster, for Violas and Pansies; to Mr. H. Eckford, Wem, for collection of Sweet Peas; and to Messrs. Pearsons and Sons, Chilwell, for new Zonal Pelargoniums.

ORCHID NOTES AND GLEANINGS.

By JOHN FRASER, F.L.S., KEW.

THE following Orchids received awards according to merit at the meeting of the Royal Horticultural Society on the 14th ult.:—

Cattleya Ashtoniana, *Nov. hyb.*—The seed bearer of this hybrid was C. Loddigesii Harrisoniae crossed with C. Warscewiczii, and the effect of both parents can be traced in it. The sepals and ovate-elliptic petals are of a soft rose. Externally, the tube of the lip is pale purple with darker lines towards the top, the lamina is deep crimson-purple, wavy, crisped and toothed with a narrow lilac margin. Towards the base of the lamina is a narrowly elliptic, clear yellow band, reminding us of what occurs in the pollen plant; and the interior of the lip is pale purple, but partly concealed by the curved column that lies close upon it, as in Cattleya Loddigesii and its forms. Award of Merit. Exhibited by Messrs. W. L. Lewis & Co.

Cypripedium Excelsior, *Nov. hyb.*—The seed parent of this beautiful hybrid was C. Rothschildianum and was crossed with C. Harrisiianum, itself a hybrid. The upper sepal is closely lined with dusky brown on a white ground. The long drooping petals are closely spotted all over with very dark markings, and give the flower its most striking feature, which it inherits from C. Rothschildianum. The bronzy-brown lip is also similar in shape to that of the last named. Award of Merit. Exhibited by Thos. Statter, Esq.

Laelia elegans dulcotense, *Nov. var.*—The sepals and petals of this variety are dark purple tinted with green. The lip has a rich, crimson-purple lamina, and is the most striking feature of the variety. A large plant with numerous flowers was exhibited by Walter Cobb, Esq. (gardener, Mr. Howse, Dulcote, Tunbridge Wells. Award of Merit.

Cypripedium W. R. Lee, *Nov. hyb.*—The upper sepal of this hybrid is ovate, pale green, lined with brown and white at the edges. The oblong, pointed petals are pale yellow, fading almost to white at the tips, and with exception of that portion, heavily spotted with blackish-purple; they are 3½ in. long, and render the flower conspicuous and showy. The large lip is laterally compressed, deep brownish-purple, except on the under side, which is greenish. The leaves are oblong and bright green, chequered with darker markings. The hybrid was raised from C. superbiens crossed with C. Elliottianum and is intermediate in character. Award of Merit. Exhibited by W. R. Lee, Esq. Beechlawn, Audenshaw. Manchester.

Stanhopea inodora.—The broad, concave sepals and the oblong, narrow petals of this species are creamy-white. The curiously formed lip has a short, saccate hypochile, a two-horned mesochile and a roundly ovate spichile, all of which are white with exception of the hypochile or basal portion. Botanical Certificate. Exhibited by Walter C. Walker, Esq. (gardener. Mr. Geo. Cragg), Percy Lodge, Winchmore Hill.

Epidendrum Brassavoiae.—The flowers of this species are borne in long racemes and have yellowish-brown sepals and petals. The lip is pale yellowish at the base, purple upwards, and constitutes the finest feature of the bloom. Botanical Certificate. Exhibited by W, C. Walker, Esq.

Epidendrum radiatum.—The flowers in this case are carried in racemes arising from the top of a fusiform pseudo-bulb. The sepals and petals are creamy-white and reflexed. The lip is much the largest organ, shell-formed, white and lined with radiating purple veins. Botanical Certificate. Exhibited by W. C. Walker, Esq,

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Chysis bractescens aurea.—A fine variety of the old Chysis bractescens has turned up in the nursery of Mr. P. McArthur, 4, Maida Vale, London. The sepals and petals are pure white, and the three-lobed lip is of the colour of old gold in the throat, and this hue is carried beyond the fleshy crest to the base. The plant is a fine piece, consisting of twelve pseudo-bulbs, each about 15 in. long, and possesses two leads. It was imported about two months ago, and is now flowering for the first time. It is grown in a 10-in. basket, to which it took so kindly that it now looks like an established plant,

with an abundance of roots. The inner face of the side and terminal lobes in the typical form, is simply yellow, and streaked with red. The present flowering is no doubt abnormal, and due to the plant having been so recently introduced. When once it has become acclimatised to its surroundings, it will, in all probability, revert to its normal season in March and April.

THE PLANT HOUSES.

The Stove.

At this season of the year air should be freely admitted on all favourable occasions, and the bottom ventilators should never be quite closed—day or night. Special care must be taken that no plant suffers from lack of water, as the pots should now be pretty well filled with roots, and when in that condition it is astonishing what a quantity of water a vigorous plant will take. If any potting is found to be necessary it should be attended to at once, in order to allow the plants to get well established in their new quarters before the approach of winter. In any case large shifts should be avoided. Regulate the growth of creepers and keep a sharp eye to the cleanliness of the plants.

Thrips.—These are, perhaps, the most to be dreaded of all the insect pests with which the gardener has to contend (with the exception of red spider) and they often cause a lot of trouble and do a deal of damage during late summer and autumn months. In this case, as in many others, "Prevention is better than cure," and a liberal use of the syringe is the best way to keep stove foliage plants clean and healthy.

Caladiums that were started into growth at the beginning of the year will now be ripening their tubers. The supply of water at the root should therefore be reduced, although under no consideration should they be allowed to get dry or the tubers will shrivel.

Crotons and Dracaenas.—Where plants for indoor decoration are in great request it is always desirable to have a number of these useful decorative subjects at hand. If necessary, cuttings of these may now be taken, as they will make nice little plants of a handy size for the dinner table or the drawing-room by spring. Take the tops off any large shoots, and insert them singly in thumb pots, using a compost of two parts loam and one part good leaf soil, with a liberal addition of sharp sand. It is a good plan to tie up the leaves of the cuttings to a stake, greater safety being thus obtained. Plunge the pots in a propagating frame with a temperature of not less than 75° Fahr.

The Greenhouse.

Many plants in this department will now be needing stimulation in the way of liquid manure. A solution of cow manure and soot mixed will be found to produce as good results as anything, although it must be carefully applied.

Nerines.—These beautiful bulbous plants may be classed amongst the most beautiful greenhouse subjects we have. Natives of Southern Africa, they are never difficult to grow, and should find a place in every garden. N. sarniensis and N. curvifolia (better known as N. Fothergillii) are the ones most frequently met with. These will now be throwing up their flower scapes. After the complete rest, which Nerines need after growth is completed, water should be given gradually. When in full vigour, however, plenty of water must be given them, and liquid manure may be applied with advantage.

Pits and Frames.

The resources of the propagating department will now be taxed to the utmost. Where the propagation of bedding plants has not been commenced, no time should be lost in making a start, as in most establishments this is an operation that takes some considerable time and often extends well on towards the end of September. The more tender plants, such as Alternantheras, Mesembryanthemum, Iresines, etc., will be found to strike very readily if the pots containing the cuttings are plunged to the rims in a hot-bed. Where Hyacinths, Narcissi, Crocuses, etc., are in request during spring, the potting of the bulbs should not be delayed too long. Most nurserymen recommend their customers to send in their orders for bulbs in good time if good sound material is required.

Mignonette.—Seeds may now be sown in pots for winter blooming. Thin out the seedlings as soon as large enough, leaving three to each pot, which will be found amply sufficient for all purposes. Keep them in a cold frame and give plenty of air, or the young plants will become drawn and comparatively worthless.

Pelargoniums.—Those plants which ripened their wood early and were first cut down will now be far enough advanced for potting. Knock them out of their pots and shake as much of the old soil from the roots as possible. Repot into a smaller size, using a compost of good fibrous loam two parts, leaf soil one part, with plenty of silver sand. Put them in a frame and keep close for a few days until they have recovered in a measure from the check. More air may then be given. In no case should coddling be allowed, or weak spindly growth will inevitably result.

It will be found beneficial if a light dewing overhead with the syringe be given the plants during bright afternoons. Primulas, Cinerarias, and herbaceous Calceolarias will need attention with regard to potting. A cold frame having a northern aspect will suit Cinerarias admirably. A close watch must be kept, however, for the appearance of mildew. The present wet cold season is particularly favourable to its development, and happy indeed will be the gardener with whom it does not claim acquaintance. The old method of dealing with mildew by dusting sulphur over the affected parts has not yet been beaten. A fairly strong solution of soft soap carefully applied will also often check its ravages.—*A. S. G.*

THE ORCHID HOUSES.

Odontoglossum crispum.—Preparations for repotting the bulk of the Crispums grown here will now be pushed forward without delay, as we like to get them finished off before getting too far through September. The season seems to have been what Odontoglossums like for I never saw them look better, and this makes the repotting of them a real pleasure. But before this can be done it is necessary not only to get plenty of fresh Sphagnum Moss picked, good fibrous peat broken up and clean crocks and pots ready, but also to prepare the plants themselves for the change by allowing them to get moderately dry before shaking them out or rather turning them out of their pots.

This we think is of the greatest importance as the old compost is more easily removed, and the roots being dry they will take hold of the new material. (which must not be too wet or too dry) more readily, In some cases where the peat is in fairly good condition it may not be necessary to remove every particle of the old material, but as much of the old moss as possible should be removed, for this decays much quicker than peat if the latter is good.

Overpotting.—This should be avoided with all Odontoglossums especially Crispums, neither do we recommend that the plants be elevated more than an inch above the rim of the pot, if a 48. This does away with galvanized pegs which cannot be but injurious if left in very long.

Mixing the Compost.—Some excellent growers have all the peat moss and bits of broken crocks or charcoal mixed all up together on the bench, I must confess it saves time but I do not like the practice. Our plan is to have separate lumps of peat and moss on the bench, the plant is held in position by the left hand and the peat and moss packed in alternately with the right hand, and when done the loose bits are clipped off with a pair of sharp scissors which gives a neat and workman-like appearance to the whole. A gentle sprinkle overhead with a rose waterpot before returning them to their quarters is all they will require for a day or two direct, but should we be lucky enough to get some bright sunny weather keep them going by gentle syringing overhead.

Thrips.—These are very fond of Odontoglossoms and will soon do a lot of damage to the plants without our seeing it, unless we are very sharp. When the repotting is done, it is a good plan to have a rather strong solution of tobacco water by your side so that plants with the least signs of their presence, may receive a dipping and no harm would be done if all the plants were dipped whether they wanted it or not. That is what we do.—*C.*

THE VEGETABLE GARDEN.

Spring Onions.

The season for these on the whole has been a good one, though, owing to so much wet in March, sowing on heavy soils had to be deferred till later than usual, but as the weather was afterwards warm germination soon took place, and the plants grew away freely so that no time was lost by later sowings. The heavy rains about the middle of July caused the plants to mildew in some places, the bulbs, however, had attained a fair size by that time, so but little harm was done by it. Most of them will by this time have completed their growth and when this is matured the bulbs ought to be pulled up and spread out thinly on a hard path or some such like place where they may ripen. Should the weather continue showery it will be necessary to turn them frequently so that they may not suffer in consequence of the wet. All thick-necked ones ought to be picked out for present use, as these will not keep, and would have a tendency to cause the others to rot.

Storing and Keeping Onions.

Those who have no convenient place for storing the bulbs would do well to tie them up in bunches and hang them in a cool, dry, airy shed. A close damp atmosphere should be avoided as such has a tendency to cause them to start into growth early, and would therefore spoil them. The different varieties should be kept separate, the best keeping sorts being saved till last. Brown Globe and James' Keeping are both good ones for late use. Onions before being stored should have all the loose skin rubbed off them, as this has a tendency to hold moisture. None, however, except that which is actually loose ought to be removed, as the least injury would cause the bulbs to decay. The ground on which Onions have been growing will be in good heart, and may be used for a variety of crops, it should therefore be prepared as soon as cleared so that no time be wasted in planting.

French Beans.

Preparations should now be made if not already done for sowing a batch of these to succeed those in the open ground. In warm sheltered places on high ground a south border may be selected, and the seed sown in such a manner that it may have the protection of a frame as soon as there is danger of frost. In the North it will be necessary to sow in pits that are heated, for though no artificial heat will be needed for some time to come it may be of great assistance in case there should be several dull wet days succeeding each other when the plants are in bloom. Last season those sown in the open ground gave a good supply in most districts till quite late in the autumn, but some seasons we have early frosts which cuts them off in September.

If sown on a border to be protected, the seed should be put in single rows allowing six inches between each. The rows may be from sixteen to eighteen inches apart, for if the season be mild the plants will grow strong and would therefore get overcrowded if sown closer. It will not be necessary to cover with glass till there are signs of frost, though it is always well to be on the safe side, and have the lights in readiness in case of need. We have seen both French Beans and Marrows cut down in the extreme south in the beginning of September, while in the same season they have stood untouched by frost till well on in October in the more northern parts of the kingdom. Much depends on the situation, so that the cultivator must be somewhat guided in his operations by the locality in which he lives. French Beans are always in request and are more particularly so when other green summer vegetables are scarce, and as a batch may be raised in the autumn with so little difficulty it is always advisable to do so as they will prolong the season till some of the forced vegetables are ready for use.

Autumn Peas.

Where these were sown with a view of being protected later on, greater care will be needed to guard against mildew, which at this season of the year is very prevalent. Should there be any signs of this pest, dust the plants at once with sulphur and repeat this each time it is washed off by the rain. Have material in readiness for protection in case of frost, but do not cover the plants unless actually obliged for peas do not like a close atmosphere.—*Kitchen Gardener.*

FLORICULTURE.

FUCHSIAS AT TROWBRIDGE.

The West of England Fuchsia Growers had a field day at Trowbridge, on the 22nd inst., and it was on the occasion of the forty-fifth annual exhibition of the Trowbridge Horticultural Society. It is not given to many Horticultural Societies to continue an Exhibition uninterruptedly for such a length of time, and the Hon. Secretary, Mr. James Huntley, an indefatigable worker, has held this post for thirty-one years. The field close by the railway station at Trowbridge, is now handed over to the Horticultural Society, in which to hold flower shows in the future, and the Committee have just spent the sum of £300, in properly fencing it, etc., etc. The Trowbridge people appear to have the power of squaring the clerk of the weather, for they had the advantage of a very fine day, a fine show, and an immense company, and they will be able to add something to the satisfactory nest-egg they possess in the form of a good reserve fund in the bank.

But I am to write about Fuchsias, and there they were on the above date occupying the same position in the tent they have for years; splendid plants, admirably grown and bloomed, perfect in shape, and altogether beyond what is seen elsewhere; specimens eight to ten feet in height. It is sometimes said—a good deal is written in praise of the West of England Fuchsias; why are they not brought to some London Exhibition? In the first place there is no London Exhibition during the month of August, when the Fuchsias are at their best, where they could be shown; and in the second place, if there was, the plants would have to be brought by road, a distance of some one-hundred miles, for no railway van which could take them, would pass under the bridges which span the railways. Mr. Lye, will sometimes send his plants to Bath, from Market Lavington, a distance of thirty miles, and in order to get a dozen or so of plants in a van, the branches have to be tied quite closely, which gives to the plants a somewhat severe cone-shape; but it also prevents any bruising of the branches, where the plants are sent by road, and therefore reducing any injury to the flowers to a minimum. What is seen when one looks at these plants is a dense cone-shaped mass of foliage, without any stem or wood of branch being exposed, and the branches are literally covered with blossoms; the men do not believe in starving these plants, they grow them freely, produce grand foliage and masses of splendid flowers.

The first prize for six plants is £3, and though, as Fuchsia prizes go, this is a liberal amount, yet as an attraction and as first-class objects of culture, they are worth more. The winner on this occasion was Mr. George Tucker, gardener to Major W. P. Clark, Trowbridge, who had of dark varieties Doel's Favourite, a very popular exhibition, variety, locally raised some years ago, and greatly esteemed as a local exhibition variety, being of free growth and profuse of bloom; Charming (Lye), and Final (Lye); and of light varieties Gustave Doré, scarlet tubes and sepals, and double white corolla; Arabella, an old and favourite exhibition variety, and Harriet Lye (Lye). Mr. James Lye, gardener to the Hon. Mr. Hay, Clyffe Hall, Market Lavington, with of dark varieties Doel's Favourite. Elegance (Lye) and Rural (Lye); and of light varieties Louise Balfour, Western Beauty, and Annie Earle all raised by himself. Mr. Lye's plants were finely grown but not quite fully in flower, they required another week or ten days to have them in perfection. A third prize collection came from Mr. Thos. Edwards, gardener to J. D. Knight, Esq., Trowbridge—I think a new local exhibitor.

With four specimens Mr. G. Tucker was again first, though Mr. Lye ran him very close. The former had Final and Charming, darks; Marginata, also a somewhat old and favourite exhibition variety, a good grower, and very free; and Arabella, light. Mr. Lye had Abundance (Lye), and Thomas King (Lye), dark; Mrs. Bright (Lye), and Mrs. Rundell, light.

There are also classes for Fuchsias grown and shown by working men who are not gardeners, living within two miles of Trowbridge. With four varieties, James Sartain, Hitperton Marsh, was first, and Samuel Parsons, Trowbridge, second, both with well-grown and flowered plants of good size, much better than one sees at ordinary exhibitions. The best specimen came from S. Parsons, J. Sartain being second.—*R. D.*

CHINESE VEGETABLES.

Several of the plants cultivated in China as vegetables have found their way into British and Continental gardens, but with us they are grown in many cases for the sake of experiment, for ornament, or out of mere curiosity. The larger number of them are, however, mostly confined to botanical gardens. Several of them are cultivated as vegetables in America, but doubtless a large number of them were originally introduced by the Chinese gardeners who are plentiful in various parts of the country. Several of the large and respectable seed houses do, however, offer a number of them by way of novelties. Mr. L. H. Bailey, Professor of Horticulture at the Cornell University Agricultural Experiment Station, has been studying these Chinese vegetables for the past five years and gives the results of his researches in *Bulletin* 67.

Cabbages and Mustards.

He says that the Pe-Tsai or Chinese Cabbage is no longer a novelty in America, but we are surprised that he describes it under the name of Brassica Pe-Tsai. In this country it is referred to B. campestris, the original and wild form of the Turnip, to the foliage of which it bears no small resemblance. It is a pity to give a new botanical name to a garden plant, seeing that long continued selection and cultivation has such an effect in modifying the form and general appearance of the wild originals. The various forms or varieties of Turnips, including the Swede and Rape in this country, show a wide range of modification from the wild B campestris, which has no tuber. The Chinese Cabbage is an annual, and when at its best reminds one of a large Cos Lettuce. Like the Turnip, it requires a cool and moist soil to encourage its best development; on the contrary when sown in hot and dry sandy or gravelly soils, or at an unfavourable season, it is apt to run to seed very quickly. Like the Lettuce it must be cut and used when at its best, otherwise it will soon become useless. Nor must the plants be crowded in the seed beds, otherwise the same unfavourable results will accrue, In America, June, July, and August are the best months during which to sow it, and in the south of England, late sowing should be adopted if the loose head in its best condition is desired, so that the inner leaves may get blanched, crisp and tender. To further this object the leaves should have a tie of matting placed round them a short time previous to their being fit for use. The leaves are sweeter than those of the ordinary Cabbage and are used in the same way, or may be eaten uncooked much in the same way as Lettuce.

Quite another kind of Cabbage is the Pak-Choi (Brassica chinensis) grown by the Chinese and used as greens, which the name in fact implies The leaves have long, fleshy, silvery white stalks, and spread from the crown of the tuberous rootstock like those of a Turnip, while the root itself is shaped like the Beet. The fleshy stalks may be used like Seakale or Asparagus. The California Peppergrass (Brassica japonica) has long, narrow and finely-cut leaves with the flavour of the ordinary Cress, and appears intermediate between the Mustard and Cress. The leaves are used as an ingredient in salads to which they impart a fine flavour, and are excellent for garnishing on account of their finely-cut and crumpled appearance. The flavour is improved by covering the plants with boxes a few days previous to use so as to blanch the leaves. Growth is very rapid so that several sowings should be made during the course of the season. This vegetable is widely cultivated in America, and has several varieties differing much in the same way as our Parsley does. They are sown in the autumn and used in the winter as required. The plant does not seem to be known in this country.

The Chinese Mustard (Brassica juncea or B. rugosa, according to different authors) is a rank and coarse growing species with strongly wrinkled leaves. The latter become very tender when boiled, and have an agreeable, slightly pungent flavour. The best leaves are obtainable in spring and autumn when the weather is cool and the soil moist. Being perfectly hardy, it should be sown in autumn for winter and spring use. It also submits readily to forcing and is highly esteemed in America as a salad plant, when various other kinds are difficult to get. In a wild state it is a native of temperate and tropical Asia, but it is widely cultivated in the Old World, but particularly in Asia. The tuberous-rooted Chinese Mustard, (Brassica napiformis) has thin, bluish leaves and a tuberous root like a conical Turnip about 3 in. or 4 in. in diameter. It is a native of China and is used by the Chinese as a winter vegetable. The root has the flavour and texture of a Turnip.

M. L H. Bailey, discusses the affinity of all the above kinds and, contrary to the authorities at Kew, considers that they belong to the Mustard section of Brassica rather than to the Cabbage section which includes the Turnip (Brassica campestris). The flowers are those of the Mustards. But we cannot altogether agree with the writer that the foliage is much to go by, for we find both glaucous and green leaves in the common Cabbage, (Brassica oleracea), and in the Turnip (B. campestris), for has not the Swedish Turnip as blue or glaucous leaves as early Battersea Cabbage, Cauliflower and Tree Kale, while all white and yellow Turnips as well as the Curled Kales have green leaves.

Melons and Gourds.

The Chinese Preserving Melon (Benincasa cerifera) was introduced to the United States about two years ago, and though largely cultivated in China and India, it is not much relished as yet in America. The fruit is round or oblong, pale green, hairy and covered with a thin film of white wax. The flesh is solid and white and when made into sweet pickles or preserves it is very agreeable and desirable. The young fruit of La-kwa (Momordica Charantia) is cut in half by the Chinese, the seeds taken out and then put in a sauce of vinegar, olive oil, ginger, garlic, salt and allspice. The usual custom is to add mango, carrot, cabbage, and cucumber. The question may well be asked where the flavour of the La-kwa may be amongst so many things. The young fruits of Sua-kwa (Luffa cylindrica) are used by the Chinese sliced like Cucumbers, and put in soups or cooked like the Squash. The Sing-kwa (Luffa acutangula) is used in the same way as the previous species, and has an angled and club-shaped fruit, whereas in the previous one it is cylindrical.

Other subjects used as vegetables.

The Ga-lon-ow or Chinese Pea, is merely an ancient and but little improved form of the common garden Pea (Pisum sativum.) The pod is knotty or jointed, in proportion to the number of seeds in it; the seeds when ripe vary from white to pale and dark brown, and the flowers also vary from white to purple. In all this we have much evidence of the ordinary, unimproved field Pea as grown in this country. Tou-kok or Chinese Bean (Dolichos sesquipedalis), is a native of South America, but is now widely cultivated in various warm countries much in the same way as Scarlet Runners are in this country. It requires a longer season and a warmer climate to bring it to perfection than we possess, for in America it ripens or comes into use in October. There are several varieties varying in the length of the pod from 1½ ft. to 3 ft., the Chinese Long-pod attaining the latter length. In the warmer parts of America it is well worth growing.

The young plants of Hon-toi-moi (Amarantus gangeticus), are used as greens by the Chinese, who profess to have a great liking for them. The plant is widely cultivated in eastern countries. Yon-soi is believed to be identical with the Coriander (Coriandrum sativum) of our gardens, so that it can hardly be considered a novelty. The leaves are a little more finely cut and the flowers slightly different in appearance, but Mr. W. B. Hemsley, in his flora of China, considers the two to be identical. The Chinese use the leaves as a condiment.

A WHITE PERPETUAL STOCK.

A very beautiful white Stock for growing in pots is a variety named Princess Alice, which Mr. Prinsep grows freely for decorative purposes at Buxted Park. It throws a fairly long spike of flowers, which are as fully double as a good Balsam, pure white, and most delicately scented. For associating with other plants in pots in floral decorations it is more elegant than the shorter, denser spiked varieties we like to see out-of-doors, and its odour is not so overpowering in a room, an advantage which many will appreciate.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

SCHENLEY PARK CONSERVATORY.

THE munificent gift of Mr. Henry Phipps, Jr., to the city of Pittsburgh, Pa., is without doubt the most extensive conservatory ever built in the United States. It is located in Schenley Park, opposite the Carnegie library, and is under the management of Supt. A. W. Bennett, formerly of the famous Melrose Park, Flatbush, L. I., the private estate of Mr. William Brown, which was laid out and managed for over six years by Mr. Bennett, to the entire satisfaction of Mr. Brown and the public who visited the annual displays held there. It is only four months since the Schenley Park conservatory was opened, and in that short space of time Mr. Bennett has ably shown his skill as a manager and is to be highly complimented for the very fine collection of plants already gathered.

For the following description of the conservatory and for the illustration here shown, we are indebted to Messrs. Lord & Burnham Co., of Irvington-on-Hudson, N. Y. The plan of the conservatory consists of a centre Palm house 60 ft. wide, 132 ft. long and 60 ft. high. Running from the ends of this house are two houses each 30 ft. wide by 104 ft. long. At the end of these houses are two octagonal domed roof houses, each 52 ft. in diameter. From the sides of these and at right angles with the other houses, extend four houses, each 35 ft. by 84 ft. In the rear of the Palm house is an elaborate fire-proof office building, 32 ft. by 53 ft.

These houses are capable of a great variety of treatment, and are intended as Palm house, show, or exhibition house, flowering plant house, tropical or stove house, general aquatic house, Victoria regia house, Fern house, and Orchid houses.

The length of the conservatory is 454 feet, while it covers an area of about 34,000 feet of ground. The glass surface is over 60,000 square feet. It is equipped throughout in the most practical and thorough manner, and has been called the finest example of horticultural architecture and construction to be found anywhere. The construction is iron throughout. The staging is all of slate and iron; the ventilating apparatus is of the most approved type; the glass the very best; the walks throughout the houses are cement. The heating is by means of steam, with boilers fitted to burn both coal and gas, the latter being now in use. The foundations are fine cut Amherst sand stone.

The office building is of the same stone, well executed. Its interior is fitted with offices, work rooms, etc., and is finely finished. Underneath this building is a storeroom, cold storage space, and the steam boilers. Water is delivered at every faucet, both cold and hot; The ponds for Lilies are heated with jets of hot water from the water supply system. In fact, nothing is omitted to make a model range of glass.

The following is a short account of some of the plants now in the conservatory:

In the Palm house the walks are gracefully curved and surrounded by a well arranged rockery, highly ornamented with fine specimens of Palms of various kinds, the same of Marantas, Dracaenas, Pandanus, Ferns, Musas, Ficuses, Fittonias, and Lycopodiums; the whole forming a picture not soon to be forgotten.

The stove house contains many fine specimens of Marantas, Dracaenas, Dieffenbachias, Costus, Malortieas, Curmeria Wallisii, Pritchardia grandis, Cyanophyllum magnificum, Sphaerogyne latifolia, and quite a fine collection of Crotons, embracing all the best varieties, together with monstrous specimens of Adiantum in variety, beautiful Alocasias, Anthuriums, and other beautiful plants.

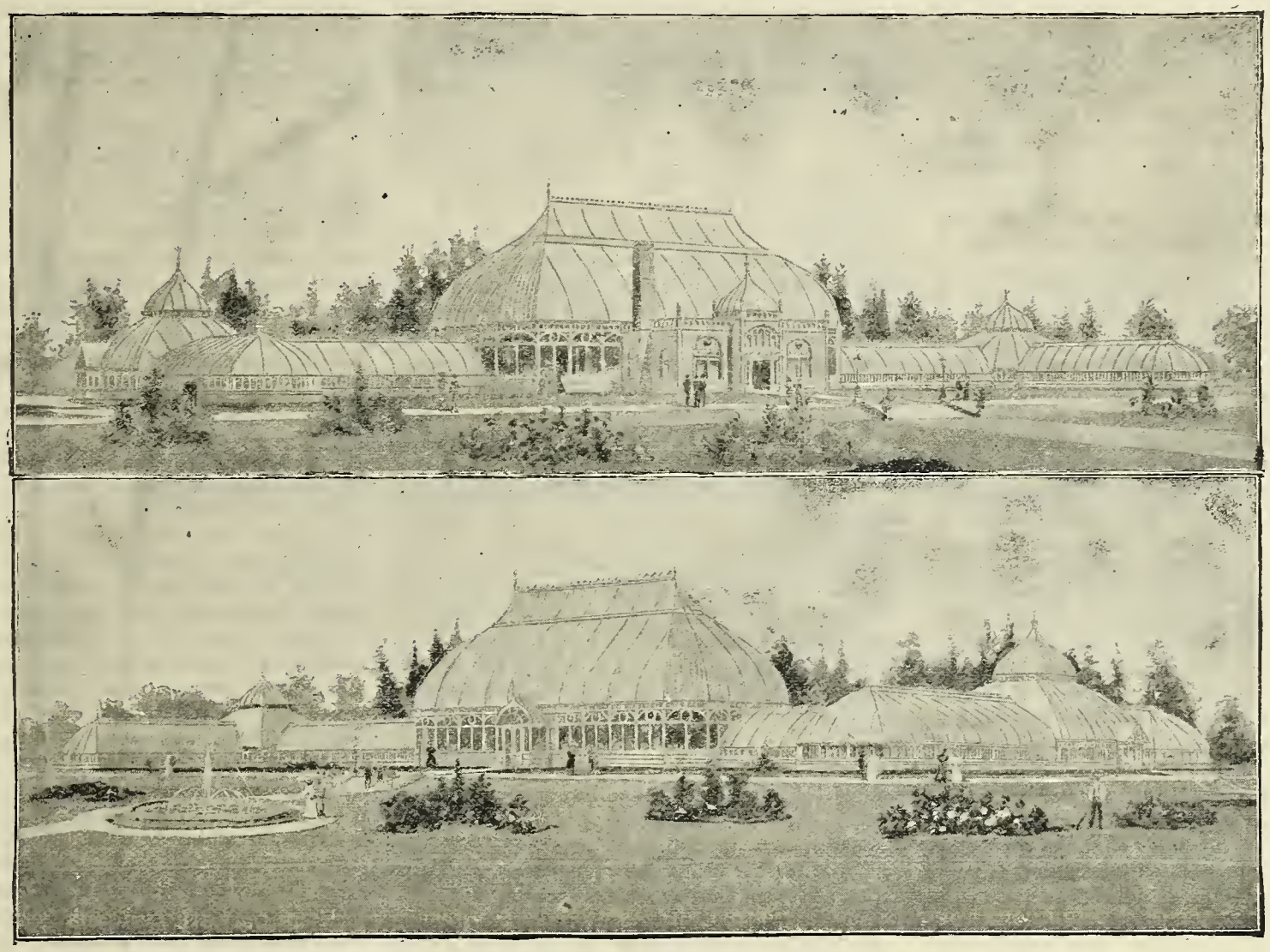
Next, the cool Fern house, the chief attraction of which is the Australian tree Ferns, Dicksonia Antarctica, supposed to be the largest under cultivation. Other remarkable features in this house are the enormous specimens of Platyceriums, better known as Stag's Horn Fern; they are growing on the trunks of trees and measure 5 ft. in diameter. With this group of plants are two Todea barbara, being the finest specimens in the world. There are also elegant specimens of the Bird's Nest Fern (Asplenium nidus), Gleichenias, Lomarias, and Blechnums. The cool dwarf Ferns are arranged in a very effective manner, surrounded with rockery work, giving them an unique appearance.

I will next mention the Azalea house, where hundreds of this lovely class of plants, all fine specimens and loaded with bloom, made all Pittsburg rejoice at Easter. The Cineraria and Cyclamen houses contain thousands of plants, were visited one Sunday by over four thousand people. Next is the Calceolaria house, in which there are a thousand or more of healthy plants that will make a gorgeous show in due time.

In the Aquatic house the central part is devoted to sunken tanks in the "natural style," which have a very pleasing effect. Hundreds of choice Lilies, including Victoria Regia, are growing here and are sure to be a source of much enjoyment to the visitors of Schenley Park next summer.

For summer bedding out a fine collection of Geraniums, Cannas, Coleus, Achyranthes, Alternantheras, Echeverias, Cactuses and general bedding plants are raised. It will take several hundred thousand plants of this description, for Mr. Bennett intends to have the Schenley Park flower garden second to none in this country.

The Easter display consisted of grand specimens of Azaleas of many varieties, Marguerites, Genista canariensis and plumosa, Freesia refracta, Lilium Harrisii, Cinerarias, Hydrangea otaksa, and a variety of fancy flowering Pelargoniums. On the middle of the show table was a fine specimen of Azalea Van der Cruyssen, a lovely pink. It was raised on a pedestal, some four feet high, around which was a group of Lilium Harrisii, in oval form; a band of the Lilies was carried around the table. On each side of the centre-piece were two mounds of Azaleas in various colours, the centre-pieces being good specimens of Azalea Cocorde Orange, the surrounding plants tapering neatly from the centre. At one end of the table was a mound of Marguerites, and at the other of Genista plumosa; the centre plant for the Marguerites was a well-formed specimen of Azalea Ceres, white striped red; and of the Genistas, Azalea Bernhard Andreas alba.—*John A Boyle, in American Gardening.*



FRONT AND REAR VIEWS OF THE SHENLEY PARK CONSERVATORY.

A RAMBLE ON BEACHY HEAD.

Happy are those who, though pent up in towns all the week, yet live within easy distance of that bold headland in Sussex known as Beachy Head, and lying a little to the west of Eastbourne. Almost immediately on leaving the town the ascent of the chalk cliffs is commenced. It is an easy afternoon walk for those who are light of foot, and the journey may be made by the carriage road which ascends by easy stages, or the traveller may choose to walk over the top of the Downs the whole way, and though the first rise is rather abrupt it is capital exercise unless the day is uncomfortably warm and still. On the other hand a bracing breeze is very frequent in those parts, and under those conditions the necessary exertion is exhilarating ratber than otherwise. Provided tbe sea is ebbing the journey can be made along the narrow and rough gravelly beach till the perpendicular cliffs of Beachy Head are reached. There are several well-worn pathways by which the ascent from the shore to the heights may be made in the course of the journey, and also steep grassy slopes that can safely be surmounted by those who care for alpine climbing. In any case the ascent must be made some time before the perpendicular cliffs are reached. Wbichever way is taken, will all depend upon the object the traveller has in view. Those in quest of wild plants will find it convenient to vary the journey up or down, wherever appearances give promise of finding something rare, beautiful or interesting.

On leaving Eastbourne by the sea margin, the cliffs rise rather rugged and perpendicularly, but at various period of the year tbe botanist will find much that is interesting even if beyond reach in many cases. Such is the case with the Wallflower, as a rule, and this is now bearing seeds abundantly to be scattered over the chalk cliffs presently. Over three hundred years ago this plant was known by the English name of Wall floure or Yellow Gillofers. In the last name the reader will probably recognise the name of Gilliflower as applied to Carnations. In those days the name was also applied to Stocks; and at the same time the Wallflower was known by names signifying the Yellow Viola in Latin, Italian, and French. The Auricula-leaved Sea Lavender is fairly plentiful, growing out of the bare chalk or sometimes dangling by tbe roots from the same. The Yellow Toad Flax is very conspicuous in many places, for its large yellow flowers have an intense orange palate. The field Rest Harrow is very plentiful and still producing its rosy flowers freely. The beautiful blue of the Viper's Bugloss is attractive wherever it occurs. I am surprised that it should not be more universally cultivated in gardens. Three hundred years ago it was also called Oxtongue, and that is really a translation of the word Bugloss and refers to the roughness of the leaves. Most of these old names have a meaning, and we find in tbe learned D. Rembert Dodoen's "New Herbal," dated 1578, a hint of the meaning of the first part of the name Viper's Bugloss. Here he says:—"The small Buglosses have greate vertue against all the venim of savage and wilde beastes, and specially against the poison of serpents and vipers, howsoever it be taken whether in meate or drinke, or whether it be carried about you." Elsewhere he says:—"Tbe physitions of our time do affirm that the floures steeped in wine or made into a conserve, causeth such to rejoyce and be gladde as were before beavie and sadde, full of anger and melancholique beaviness." This is a statement that applies to a great many of our wild plants tbat were formerly used in medicine. Dodoens spoke as if he did not altogether believe it, for he says the physicians of our time do affirm, etc. As there are no vipers in England now, the efficacy of the Viper's Bugloss or otherwise is a matter of no consequence to us.

Farther westward the sea bank is more sloping, and in some places, corn or bay fields come to the very brink of the perpendicular cliff, the base of which is almost washed by the sea at full tide mark. Here vegetation is more varied, and one meets with Lucerne and White Mustard, tbe latter 3 ft. to 4 ft. high and both probably escapes from cultivation. The Giant Knapweed with its great purple heads is very plentiful, as is the case generally in chalky districts. Tbe common Marjoram is now pretty and engaging with its rosy purple flowers. The field Scabious and the Dove's-foot Scabious attract tbe casual observer by tbeir pale blue or blue-purple flowers. The steep and grassy slopes well on towards the promontory are simply charming, at the present time with wild flowers that give the turf a checquered and many-coloured hue. Besides several of the plants already mentioned there is the Musk Thistle with its great, purple and fragrant heads, the Carline Tbistle with its bright yellow and shiny bracts glistening in the sun like a yellow Sea Anemone having its arms spread out on all sides, and tbe wild Carrot often with pink buds, white flowers, and purplish fruit. The Stemless Thistle with one to six dark purple flowers from a single crown is also a feature that arrests the attention whatever burry the beholder may be in. The Squinancy-wort, a plant allied to the Woodruff enlivens the turf everywhere; but the most conspicuous and interesting plant, because quite uncommon away from chalky downs, is the Round-headed Rampion with its dense head of dark blue flowers. The grass literally swarms with it; but the plant is generally confined to a single stem, although as many as six may sometimes be found. Mingling witb the above are the yellow and white flowered species of Bedstraw, and numberless others which are more common. Looking over the cliffs, one can see the tufts of Seakale springing out from the crevices of the chalk, and producing healthy masses of deep glaucous blue, fleshy leaves and often large, branching clusters of fruit. Mingling with it are vigorous plants of the Horned Poppy witb its yellow flowers and long, curved pods. In other places the Lady's Finger or Woundwort is still producing its yellow flower heads in clusters of one to three.

Here truly is a bit of wild nature and however delighted the farmer and commercial man may be to see fields waving witb golden grain or green with Turnips or Mangels, he could hardly fail to appreciate a bit of nature like this and as yet untouched by the hand of man. The day being bright but very windy on tbe occasion of my last visit the Butterflies and day flying Moths kept low down amongst the grass in sheltered places but particularly in the hollows to prevent their being blown over the cliffs; but quite a cloud of them continued to rise on being disturbed. The Painted Lady witb its black, brown and orange-red colours and white spots was conspicuous for its size, while the small Heaths the meadow Browns and various otbers mixed with sportive groups of Blues, whose Argus-like spots on the wings when seen at rest were even as charming as the soft blue with the silvery appearance of the upper surface of the males, while the ladies in the same group wore a garb of more sober brown. Here also the Burnet Moths have a home, and are charming in their blue-black hue spotted with crimson-red. Here too grows the Burnet in abundance, which, when one sits down upon it, smells like Cucumbers or the foliage of Meadow Sweet; or according to our old author of 300 years ago, "of savour and smell most amiable or pleasant."

The grassy slopes stretching down from the Coastguard station to the edge of the precipices, consist of a dense sward of closely cropped herbage, no doubt kept dwarf to a great extent by the exposed and windy situation of the place. Here the plants are very dwarf, witb the flowers studding the turf and scarcely rising from it. Sweet smelling Tbyme, Ling, Betony, Eyebright, two or tbree species of Scabious, black Knapweed, Bird's-foot Trefoil, Squinancy-wort, the Thistles already mentioned, and other plants are remarkable for their dwarfness, and render the turfy carpet beautiful and interesting. The Autumn Gentian forms dense tufts about 1½ in. high, or even less, and grows down almost to the edge of the precipice. Half way down the cliffs the Sparrow-bawk, the most daring and spirited of the British hawks, was suspended in mid-air, and often apparently almost motionless while looking for its dinner on the grassy cliffs below, and heedless of the buman eyes looking down upon it from above.

Beyond the Coastguard station, and on the landward side of Beachy Head are broad stretches of Furze, intersected by alleys from which the shrub has been cut, while in other places the bushes have been burnt apparently with intention to get a young growth. In these comparently open spaces, wild plants grow with much greater luxuriance than on the drier and steeper, seaward cliffs. In addition to many plants already mentioned, are fine tufts of the Clustered Bellflower, luxuriant patches of the large form of the Wild Thyme, the fragrant Wild Basil, tbe common Pimpernel, or Bipinnula of old autbors, the Cut-leaved Mignonette, the Burnet Rose, witb red berry-like galls upon the leaves, and the field Sow Tbistle, with its large, showy, and golden flower beads. Here also the Cowslip and hairy Violet flower in spring. The dwarf Spurge is very much dwarfed and crippled by the rusty cluster cups of a fungus with which it is infested. The White Horehound is by no means a common plant, but is here seeding abundantly. The Rigid Inule or Ploughman's Spikenard is rather an ungainly plant, but the shining, reddish-purple bracts render it interesting. The above is by no means exhaustive of the flora of the district, but this article is already too lengthy. Tbe pleasure of such a walk cannot, however, be overrated, and it is a thousand pities such places are not more plentiful near the great centres of population. Even Beachy Head, however, is destined to disappear, although not in our day. Tbe pbrase we occasionally hear of, namely, the "everlasting hill," loses all significance in presence of tbe crumbling chalky cliffs of our coast, and Beachy Head is no exception, for many are the refts, cracks, and slips to be seen even in the steepest portions, which are gradually being undermined by the sea, and disintegrated by the air, rain, and frost. Tne water of the sea all round the cliffs is at all times white with the crumbling chalk brought about by the restless action of the waves, whether in calm or storm.—*Rambler.*

STOKING.

This is a subject usually associated with sharp weatber, frost and snow, and the spring of the year, when forcing may be said to be in full swing; at this season the tbeme may to some seem out of place, premature as it were, although ere long I expect to see a well-known firm advertising the reminder, "Look to your boilers, winter approaches!" But in most gardening establishments, at least, those of any size and pretensions, stoking, to a certain extent, has to be carried on all the year round. This season has not been like the last—all fair weatber and sunshine—when most stoking could be safely dispensed with. This year the weather has been so variable, dull, and quite cold at times, accompanied by plenty of rain, so tbat it has not been at all advisable to discontinue the use of fires.

When I notice the carelessness and apparent apathy displayed by some young men of the present day in their stoking, I wonder how they would have fared under some of the strict and good old gardeners of forty years ago. I am afraid many of them would—as the Yankees say—have to "make tracks" to fields afresh and pastures new. In many gardens, and especially small ones, the stoke-hole is a regular muck-hole, with no cleanliness or tidiness belonging to it, though I must admit that some heating apparatuses are situated in queer places. I can call to mind two that had no protection whatever—the sky only for a roof, and where it was a difficult matter sometimes to find the fuel after a snowstorm—such places are a disgrace to any garden and ought never to exist. Small wonder is it that they get stoked and looked after in a balf-hearted manner.

In tbe present day, thanks to the perfection to which heating by hot water has been brought, stoking is a pleasure to wbat it was years ago, when heating by flues was in vogue. It was then a laborious task requiring careful manipulation, for I bave heard my father mention that a nobleman's place in the Midlands about forty-five years ago he had no less than nineteen fires to do at night in the spring of the year. What a vast difference to the present day! Now they would heat the whole by one or two boilers. But in many gardens where the glass has been erected a number of years it lacks uniformity of arrangement; it looks as though a house was built at a time and a separate fire allotted to each. What tons of fuel tbey must have wasted in the good old days!

At the place from which I write there were eight houses beated by flues and eight fires so recent as a decade ago! But I am pleased to state that it is altered now; we have more glass, hot water, and two fires only. It is an old saying, "that a clean stoker makes a good forcer," and certain it is that those who take a pride in stoking are the men to be trusted with the charge of glasshouses; even if the outside temperature falls to zero they will look after it. Some, to whom night duty is a bore, will go round tbeir fires and make them up witbout even

troubling themselves to go into the houses to note the thermometer. A good stoker will do that, and by placing his hand on the pipes, or even putting his nose inside a house, can tell whether the fire needs a little driving, or if he can bank it up without.

Where coal is used the flues around the boiler often require sweeping, and the stoke-hole should be cleaned out once a week—Saturdays being the usual day for such work—running the ashes through a sieve, thereby economising the cinders; have a separate heap outside for clinkers and ashes. The latter will be handy for the bottoms of pits and frames, plunging material, or they may be dug into the kitchen garden if the soil is stiff and tenacious. —*Pathfinder.*

STRAWBERRIES IN POTS.

When preparing to raise a stock of Strawberries for forcing, a consideration of the first importance is the selection of healthy free-bearing plants, for unless these are secured partial or total failure will be the result. It is now generally recognised that Strawberries will become barren, and it frequently happens that these flowerless crowns send out numerous strong and healthy runners, which unfortunately prove, like their parents, barren and unfruitful. Before commencing to layer any runners it is better to have a look over the quarters and weed out all these barren plants and any which are not true to name. Then go along the rows, select the most promising runners, clear all surplus ones away, and make sufficient holes round the plants to receive the 3 in. pots intended for the runners. Let these holes be of sufficient depth to leave a space of an inch or more below the bottom of the pots. This allows the surplus water to drain away and will serve to keep the plants from rooting into the soil when the roots get through the drainage holes.

If good fibrous loam can be had, use it in a rough state without drainage, but if, as often happens, inferior sifted soil is used, drainage will be necessary. Use perfectly clean pots, and having them filled and placed in position, proceed with the layering by securing the runner either with a peg of birch from a disused broom, pebbles, or a strip of raffia. This latter method is, to our way of thinking, the neatest and quickest method of the three, and as I think it is not very generally known, a line of explanation may be acceptable to some. Have the raffia cut into 2 in. lengths, pass it over the stems of the runner close up to the crown and press its ends closely into the soil of the pot sufficiently firm to hold it tightly. One great advantage is that there is nothing when the plants are severed from the stools to clear away. Pegs also take much longer to make and pebbles to collect, in addition to the time expended in clearing them away.

Water the layers freely as this causes them to emit roots quickly; and on no account should they be allowed to become dry, as nothing weakens them more than this. Look over them frequently to see if the roots are coming through the bottom of the pots, because as soon as this happens the plants should be removed at once with a view to re-potting them, for if they get matted round the pots, a check is given which causes delay, The fruiting pots should be thoroughly well washed if they have been in use before, and if new well-soaked before being used. What are generally know as 32's are mostly used. Some use a size smaller for very early work, and for late work, I have known No. 24 used for British Queen with the most satisfactory results. But this large size takes much longer to get well filled with roots, and unless the pots are full of roots the crowns will not ripen as they should do, and the flower stems will come weakly and scanty in number. Use for potting good fibrous loam which has been stacked up two or three months. To three barrowfuls add one of well-rotted stable manure and a few shovelfuls of bone meal, mix well together and pot very firm. Allow nearly an inch for water, so that when watering is required a thorough soaking can be insured. Avoid getting the crowns either too low down in the soil or elevated above it, just resting upon its surface is the right position.

When potted, either place them on slates or boards, or else on a good thickness of coal ashes in a sunny position. A better plan is after placing them on a thick bed of ashes at a sufficient distance apart to allow room for the proper development of foliage to fill in between the pots with some plunging material. This keeps the roots at a more equable temperature, and is a great saving in watering. Give a good syringing every dry evening, and see that they never suffer from lack of moisture at the root. When the pots become fairly filled with roots give a watering every third or fourth time with weak liquid manure. Among the artifical manures tried I have found Beeson's one of the best for Strawberries. As winter approaches discontinue the use of the syringe and keep them drier at the roots. Keep all runners and small crowns that form at the base of the plants persistently removed. When winter fairly sets in cover up the surface of the pots with dry ashes, and if they have to remain in the plunging bed from want of better accommodation some light litter thrown over in case of intense frost ought to be provided.

The old plan of stacking them against a wall is, I think, most objectionable, because of the balls shrinking away from the sides of the pots when they become dry, leaving the roots exposed on the upper sides to frost and air. I have seen them plunged four and six pots wide in beds, and a wooden shutter span-shaped fixed over them at just sufficient height to allow of their being watered. This sheltered them from excessive rains and answered in all respects most admirably, leaving pit room which might otherwise have been occupied with them free for other things.

Forcing may be commenced with the earlier sorts from the first layerings by the middle of December, but the first week in January is early enough for most people; should they be wanted by any particular date it must be borne in mind that it generally takes from eleven to thirteen weeks from the date at which they are started till they are finished off, the difference of one or two weeks arising from the favourable or adverse conditions of the weather during the time. When selecting for the earliest crop choose the plumpest and best ripened crowns, remove all dead foliage, see that the drainage is right, and remove a portion of the surface soil, and top dress with a mixture of sifted horse droppings and loam, pressing it down firm, then plunge the pots in a bed of fresh leaves in a pit quite near the glass, from which frost must be excluded. Give a watering to settle the new soil, in all likelihood not more than two or three more waterings will be requisite before the flower spikes appear, which if the pit is kept close they will soon do, when they should be selected, taking the most forward first. Wash the pots and remove to a forcing house, placing them again near the glass. Where a large quantity are grown and a constant succession is kept up, successive batches of plants should be worked through in this way every week or two. A temperature of 45° to 50° at night with a rise of 10° by fire heat during the day and another rise of 5° to 10° with sun heat during the time they are in flower, increasing it gradually from the time the fruit is set to 60° at night with a corresponding rise in the daytime.

As the earliest crops come into flower pass a camel's hair brush over them when the pollen is dry till a fair crop is secured; later in the season when there is more sunshine passing the hand lightly over the bloom or a slight syringing will be sufficient. When enough crown fruits are secured thin all out to about a dozen fruits of an equal size so that all may ripen together, and remove all surplus growths that the energies of the plant may be directed to the perfecting of the fruits. Syringing twice a day will usually be required till they are in bloom, during which time a drier and more buoyant atmosphere should be aimed at till the fruit is set then a more free use of the syringe must be resorted to till the ripening process commences, but in these matters some judgment must be used, and ventilation and moisture regulated to some extent according to the variations of the weather. Air-tight houses ought when the plants are flowering and ripening fruit to have a little air on at night whenever possible.

The careful watering of Strawberries in pots is of vital importance, for any stagnant water which may arise from defective drainage or careless watering on the one hand and excessive dryness at the root are both highly injurious. Never give a little which will penetrate but a little way down, but when water is required give enough to soak through the balls of the plants, and from the time the fruit is set till it commences to colour, water with liquid manure twice a week; avoid wetting the foliage flowers or fruit with it as far as can be avoided by pouring it in at the sides of the pots. Red spider and green fly are the chief insect foes of forced Strawberries, but the free use of the syringe does much to keep them at bay. At the same time, smoking has generally to be resorted to and is better done just before flowering commences, doing it two evenings in succession and repeating it after the fruit is well set. During the colouring of the fruit, expose it well to the sun and when necessary peg back any foliage which shades it from the sun.

Our best early crops have been from Vicomtesse Hericarte de Thury, though Keen's Seedling is still a great favourite with many. This requires special care in selecting the runners because it is so liable to produce barren plants. Sir J. Paxton and President have both been extensively grown by a market friend, who stands them on the floors of narrow, low, span-roofed houses with remarkable success. He, before arranging the plants, gives the soil on which the plants are to be stood a good sprinkling of Beeson's manure; the plants root through the pots and get most of the stimulant he gives them in that way. For late work, considering size and flavour, we have never seen British Queen beaten. Auguste Nicaise will produce enormous fruits, presenting a splendid appearance, and if for any especial reason monster fruit is desired some of it should be grown. Sir C. Napier is a beautiful-looking fruit somewhat acid, forces and bears well. —*W.B.G.*

SNOWDROPS.

The well-known and ever-welcome appearance of the modest-looking Snowdrop with its nodding or drooping snow-white flowers in mid-winter tells of the forthcoming of spring and summer. Their chaste and beautiful flowers are capable of producing a greater effect when associated with the winter Aconite, Glory of the Snow, or the early purple and yellow Crocuses planted and mixed by the fifties or hundreds indiscriminately in round or circular beds, in irregular lines bordering carriage drives, on the borders of herbaceous or Rhododendron beds, on banks, on rockeries, or when planted in grass on the lawns. In such situations the Snowdrop has neither equal or rival. The imposing effect created by such planting is undescribable.

The Snowdrop, inexpensive as it is, should find a place in all gardens. It is not suited only for the garden, but may be used with great advantage and for effect in window boxes, pots, fancy vases, etc., for room and conservatory decoration, where they brighten up the shadowy and dull places occupied by foliage plants. They are not at all capricious as regards soil, though they increase with greater rapidity and flower with more vigour when planted in deep, rich, and rather sandy material. On heavy clayey soils they do not succeed or seem at all happy, and have a peculiar way of disappearing altogether. In heavy soils I would recommend lovers of the Snowdrop to dig out a portion of the aforesaid soils, and replace it with fibrous loam, coarse sand, and a little peat, so as to form permanent beds in a position where they can remain undisturbed for several years. The site to choose, if available, would be a bank slightly on the incline and where they can have the shade of trees, and revel among their roots.

The Snowdrop has become quite a general favourite as a cut flower, and is used to a great extent in bouquets, buttonholes, etc., as well as for table decorations. When cut in bud and allowed to develop in water they last for a much longer period than when allowed to develop on the plants; lasting oftentimes from ten days to a fortnight. Perhaps the most showy and most useful of all Snowdrops is "Elwesi," from Asia Minor, with large globose outer segments, and deep green inner segments; "Plicatus" from the Crimea, very distinct, "Latifolius," from the Caucasus, with distinct broad bright green leaves; "Imperati," large flowers, tall grower, very handsome. The common Snowdrop Nivalis, and its double form are well enough known and need no description. Of all flowers the Snowdrops are deservedly worth cultivating in large quantities, as they afford a wonderful amount of interest, and require little attention.—*W. L.*

SOME NOTES FROM JEDBURGH.

Being in Jedburgh, Roxburghshire, the other day I was greatly charmed with the beautiful display of flowers over the business premises of Mr. T. Smail, Bookseller and Newsagent, in the High Street of that town. The projecting ledge immediately over the shop and just under the windows of the flat above is taken advantage of as a means of forming one of the most artistic and well-arranged window, or parapet gardens, it has ever been my lot to see. Many and varied attempts have I seen made at window gardening, but this excels them all. As if by a magnet drawn your correspondent found himself gazing in open admiration at the pleasing sight, a sight, alas! too rare even in our small country towns. A passing glance did not suffice, so I carefully noted down the chief features of this wonderful display, and had not been long so engaged when I was joined by the amiable proprietor himself. It is said, and that truly, "that one touch of Nature makes the whole world akin," and so it was in the present case, for I was pleased to make the acquaintance of such a keen enthusiast, brimming over as he was with love for his pets, and while enjoying to the full his own pet hobby, he is also beautifying the good old town he loves so well, and that with plants that are within the reach of even the humblest aspirant.

Mr. Smail has apparently found by experience what will best suit his purpose, and lays his plans accordingly. Too many forget this while following fashions over and around the windows.

The common Virginian Creeper formed a capital background with such subjects as Calceolarias, Pelargoniums, Petunias, Matricaria inodora flore pleno, Tropaeolum, etc., along with Sweet Peas, Campanula isophylla alba and other varieties of Tropaeolum, hanging over the edge in graceful profusion, the whole arrangement testifying in no uncertain way what is possible to do with these subjects when properly handled. I was pleased to learn from Mr. Smail that for many years he has had an equally fine display, and has on more than one occasion carried off the highest honours in open competition, decided by means of photography, that honour in itself, though great, is yet small in comparison with the pleasure derived in tending to and caring for the wants of his flowers.

Mr. Walter Laidlaw, the custodian of Jedburgh Abbey, is famous for many accomplishments. He is a noted historian, a poet of some repute, and not least a most successful and enthusiastic grower of hardy flowers. In fact, he is a man amongst his fellows. I had the pleasure of spending a short time with him too, and amongst his flowers, where he is generally to be found, when not engaged in showing visitors round the famous old abbey. A very fine row of Hollyhocks in all the best colours, was certainly a treat in itself, not to speak of his herbaceous collection which is replete with all that is worth having, and grown as the plants are to a high standard of perfection. The following, amongst others, I noted as being specially fine, Achillea Eupatorium, Coreopsis grandiflora, Helianthus Soliel d'Or, Hyacinthus candicans, Malva moschata alba, Monarda didyma, Phlox Etna, Lychnis vespertina fl pl, Rudbeckia laciniata grandiflora, Valeriana Coccinea, veronica longifolia, Veratrum nigrum, Yucca filamentosa, also a very fine lot of Statices in variety. They are all well cared for and reflect the highest credit on Mr. Laidlaw, who, if not a gardener made, is certainly a gardener born.—*W.O.*

BRIGHTON FLOWER SHOW.

The Third Annual Summer Show in connection with the Brighton and Sussex New Horticultural Society was held in the Dome and Corn Exchange, Royal Pavilion, on Tuesday and Wednesday last. There were ninety-three classes provided in the schedule, and no less than 650 entries were made in them. Brighton is fortunate in having such a splendid place to hold its shows for there are few such buildings in any town in England as those in which the grand displays were set up. Some three years ago the old Society got into difficulties so the present one was formed on more popular lines, and from the long list of patrons together with the able Committee of workers there can be little doubt of its becoming the Chief Society in the South of England. When we find that such valuable prizes are offered, there is little doubt of the competition being very keen, as such was the case in several of the classes, notably amongst the Grapes, groups, tables of plants, and Melons.

The groups were particularly fine, especially that exhibited by Mr. E. Wills, Winchester Road, Southhampton, occupying a space of 150 ft. Second, Mr. G. Miles, Victoria Nurseries, Brighton; third, Mr. J. McBean, Cooksbridge, Lewes. For a group arranged in a space occupying 80 ft., Mr. Turner, gardener to Sir J. Smythes was first; and Mr. L. Budworth, gardener to Chas. Hill, Esq., Rockhurst, West Hoathly, second; and for a group of Ferns Mr. J. Adams, gardener to the Rev. Sir G. Shifner, Lewes, was first; and Mr. Miles, West Brighton, second, Of table plants arranged for effect, there were nine lots, the first prize going to Mr. McBean, Cooksbridge; the second to Mr. G. Miles, Dyke Road, Brighton. For eight stove and greenhouse plants, four foliage and four in bloom, the first prize, £5, went to J. Warren, Esq., Hand Cross Park, Crawley, and the second, to Mrs. Armstrong, Withdean. Six stove and greenhouse Ferns, first, J. Warren, Esq.; second, Mr. W. Miles. Six Crotons in not less than three varieties in pots not to exceed 8 in.:—First, J. Warren, Esq.; second, Mrs. Armstrong. Six Dracaenas:—First, J. Warren, Esq.; second, Mr. Wills, Southampton. Six Palms, distinct:—first, W. Miles; second, J. McBean. Six Ferns:—first, Mr. McBean; second, Mr. L. Wickens, Chichester House, Brighton. Six table plants:—first, Mr. W. L. Bastin; second, E. Laurence, gardener to T. Oliver, Esq.

For twelve stove and greenhouse flowers there were six lots staged all in splendid condition, the first prize going to Mr. Offer, gardener to J. Warren, Esq.; second to Mr. W. L. Bastin, gardener to Captain Pringle, Digswell, Welwyn, Herts; and the third to Mr. Horscroft, gardener to T. Potter, Esq., Hampstead House, Ardingly. For twenty-four Roses there were four lots staged, the first prize going to Messrs. Perkins, Coventry; second, Mr. Will Tyler, Osborns Nurseries, Hampton; third, Mr. Durrant Young, Eastbourne. Twelve Roses: First, Mr. H. Harris, gardener to Mrs. Eversfield, Horsham; second, Mr. E. Lawrence, gardener to T. Oliver, Esq., Horsham. For a collection of eight dishes of fruit, Mr, J. Bury, gardener to W. C. Bager, Esq., Forest Hill, was first; Mr. Budworth, gardener to G. Hill, Esq., Rockhurst, West Hoathly, second; the third going to Mr. J. Gore, Polegate. Grapes, Black Hamburgh; Mr. J. Bury, first; Mr. T. Fains, gardener to R. Clowes, Esq., Hassocks, second. In this class there were no less than fourteen lots staged, For the heaviest bunch of Grapes, Mr. Ambrose, gardener to —. Blinkherne, Esq., Broadwater, Worthing, was first, with a bunch of Alicante, nicely finished, weighing 4lb 6ozs., the second going to Messrs. Johnson and Crook, Worthing. Grapes, Black, three bunches; first, Mr. J. Bury; second, Mr. C. Turner, gardener to Sir J. Smythe, Hove, Brighton. In this class there were eight lots set up. Grapes, white: first, Mr. J. Bury, for three fairly good bunches of Muscats; second, Mr. Thos. Fairs. Melons, Peaches, Peas, and Apples were all good, and vegetables were plentiful and good, particularly Carrots and Potatos, the first for a collection going to Mr. Mitchell, Cuckfield.—*X.*

BANANAS.

Both in London and New York, Bananas of good quality sell in the open market at an average of 8s. a bunch, and at Covent Garden very large bunches have fetched as much as 15s., while clusters of the finest sorts have been known to fetch as much as a guinea or 23s. It is obvious, then, that the Banana trade is one which is well worth the attention of merchants and the public alike. Recognising the great future there is in store for this delicious fruit as a marketable commodity in the temperate zone, the authorities at the Royal Gardens, Kew, have devoted the entire issue of their August Bulletin of Miscellaneous information to "a summary of information relating to 'Bananas aud Plantains,' with descriptions of the species and principal varieties of Musa grown for use and ornament." If we are to measure the importance of Bananas by the space devoted to them in this most useful of botanical publications, then they must be very important indeed, for the Bulletin is this time at least donbie if not treble its usual size. Apparently, the only difference between Bananas and Plantains is the size of the fruit, for we are told that "There are no characters that can be clearly defined as separating the two," the sweet Bananas being referred to by some authors as musa sapientum, and the vegetable-like fruits or Plantains as musa paradisiaca. The former appellation, according to de Candolle, is derived from the practice of ancient sages to repose beneath the shade of the tree and eat the fruit; the latter another version of the story of Eve's temptation in Paradise. So far as botanists have carried their investigations, all the known varieties seem to have been derived from a single species. Originally, southern Asia is believed to have been the home of the Banana, but it is now found within the tropics all round the world, and in climates favourable to its growth may be cultivated between the latitudes of 31 deg. N., and 35 deg. S. On the American side of the Atlantic the culture of the Banana dates no further back than about three centuries, de Candolle being of opinion that it did not exist in the whole of the eastern part of the Continent when America was discovered. The richest regions in Bananas are the Phillipine Islands and the Indian Archipelago, where there are as many as fifty-seven varieties, Ceylon standing second with forty-seven. Musas are the largest of tree-like herbs, often growing to a height of from 25 ft. to 40 ft., and in appearance have been compared to "gigantic leeks." What we are acquainted with in this country is the Banana or sweet Plantain, which requires no cooking. In the West Indies the small delicate fruits are known as Fig-Bananas or Figs, and the French call the fruit "Bananes des sages," or "Figue Banane." The Plantain or cooking Banana is the paradisiaca variety. Rochefort describes them as being from 12 in. to 13 in. long and nearly as thick as the arm, the trees producing only twenty-five to thirty fruits on the raceme, and these are rather laxly placed. They have a hard and dry flesh, which is only fit for cooking, or roasting in ashes.—*Morning Post.*

GARDENING MISCELLANY.

BOUVARDIAS OUTSIDE.

If it were generally known how easy it is to manage this very useful and pretty plant, I am sure many more would possess it than now do. If you can strike a Fuchsia you can root a Bouvardia, of course, choosing spring time for the work. Keeping them nicely moving under glass till the end of May, when they should be shifted into their flowering pots, and 5 in. is the size we use. A deep frame well ventilated and exposed to full sun is the next place to put them in. Get them to grow freely and towards the middle of July they will be ready for their final stopping. They should then be plunged to the rim on a sunny border, when till growth has well started again water should be used sparingly. Of course, a high or low position has everything to do with this. —*J. G. Pettinger.*

HEDYSARUM MULTIJUGUM.

Notwithstanding the enormous number of species of Hedysarum known to science, very few of them are ever seen in cultivation. Hitherto the French Honeysuckle (H. coronarium), has been the best known and most widely cultivated. That under notice is a much more graceful plant and has, comparatively recently, been introduced from Mongolia. It is a sub-shrub about 2 ft. high, or the stems and branches may be longer, but they arch over in a graceful way, which reduces their height. The branches are slender, flexuous and furnished with pinnate, glaucous leaves and small oval leaflets. The pea-shaped flowers are dark purple with darker lines on the standard, and are borne on long axillary racemes. The plant has already found its way into several collections, and to all appearances will make a useful subject for the front lines of shrubberies or for planting in small beds upon the grass where it is seen to the best advantage.

Chrysanthemums and their Culture. By Edwin Molyneux. Sixth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher Gardening World, 1, Clement's Inn, Strand, London, W.C.

VEGETATION AT SOUTHEND.

It is interesting to note the particular trees, shrubs, and other plants that succeed well where exposed to the saline-laden air and ozone of the seaside sphere. What strikes the stranger most at the pretty and interesting watering-place (Southend-on-Sea) is the long avenue of black Italian Poplars and Sycamores, which, although only planted a few years back, are now rendering a needful and welcome shade to the thousands of visitors that daily during summer throng the parade. The Sycamore we all know is a valuable tree for the seaside, but here the Poplar far outvies it in that particular respect, as the peculiarities we have just referred to distinctly point out.

Along each side of the Victoria Avenue and High Street the Eastern Plane does remarkably well, and would form a good object lesson for those to whom the work of beautifying the squares and streets of a seaside town is entrusted. Nearly every garden contains its handsome bushes of the Euonymus, Europeus, Lilacs, Clematis, Boortree, and Tritoma—the latter flowering beautifully where its foliage is almost lashed by the sea-spray. The brooms and furze, the Hypericum and oval-leaved privet seem all at home with brightest and healthest of foliage; while one native Clematis, or Old Man's Beard, clambers about the mounds and bushes in lovely irregular tangled masses. The Sea Holly, too, is in all its beauty of burnished steel, and adds a rich charm to the sandy wastes by the seaside.—*A. D. W.*

SOCIETIES.

Royal Horticultural, *28th August.*—There was a very marked falling away in the number of exhibits and also in the attendance on Tuesday last; but this is of usual occurrence towards the end of August, when many people are out of town. Orchids, nevertheless, were a very prominent feature. Stove and greenhouse plants were also prominent as well as Phloxes, China Asters, and annual Chrysanthemums grown in the open air. A Silver Flora Medal was awarded to Messrs. Hugh Low & Co., Clapton, for a large group of Orchids, amongst which Cypripedium Shuttleworthii was again the most prominent feature, their being about 130 flowers open besides many others in buds, Saccolabium coelesti superbum was also notably highly-coloured and fine. Lilium auratum with a branching stem was a curiosity, while L. nepalense and L. Lowii magnificum were also in fine condition and attractive. The whole were set up with Palms and Ferns. A Silver Flora Medal was also awarded to Messrs. F. Sander & Co., St. Albans, for a group of Orchids and other subjects. The most attractive feature of the former were several pans of Habenaria carnea, H. c. nivosa, and H. militaris, with flesh-white and scarlet flowers respectively; Habenaria Susannae was very striking. Cattleya hybrida Kienastiana, C. Dowiana aurea and Laelia elegans nobilis were also handsome and very attractively coloured. Several Orchids were exhibited by Thos. Statter, Esq. (gardener Mr. R. Johnson), Stand Hall, Manchester, and amongst them were Dendrobium album, Cattleya callistoglossa and Laelia monophylla. A hybrid Cypripedium named James Veitch with magnificent flowers was exhibited by Messrs. J. Veitch & Sons, Chelsea. Several interesting things including Cypripedium The Pard, Stenia, Chestertonii, Maxillaria fucata and M. Hubschii were exhibited by Sir Trevor Lawrence, Bart. (grower Mr. W. H. White) Burford Lodge, Dorking. A fine piece of Miltonia Lubbersiana was shown by Messrs. Horsman & Co., Colchester. Cattleya blessensis and a finely-flowered plant of Ixora Duffii were staged by Messrs. B. S. Williams & Son, Upper Holloway. J. S. Moss, Esq. (gardener Mr. Bazeley) Winters Hill, Bishop's Waltham, exhibited Laelio cattleya elegans var. Mossiae. Cattleya Hardyana Selwood var. was shown by G. D. Owen, Esq. (gardener, Mr. Mark Watts), Selwood, Rotherham, who also had a tall plant of Laelia Oweniae, and a piece of Cattleya Gaskelliana virginalis.

A large group of stove and greenhouse plants including Palms, Dracaenas, Crotons, Caladiums, Tradescantia Reginae, T. elongata, and other subjects in good condition was exhibited by Messrs. J. Laing and Sons, Forest Hill. At one end of the group was a small collection of Bertolonias without bell glasses or any other covering. Some Begonias and Lilies were also sprinkled through the group. A Silver Gilt Medal was awarded the collection. A Silver Banksian medal was accorded to Messrs. Dobbie and Co., Rothesay, Scotland, for a large collection of late flowering Phloxes, and single Cactus Dahlias, some of the best of which were Ivanhoe, Novar, Guy Mannering, Meg Merrilees, and Alice Lee. They also showed a Carnation named James Anderson. Mr. F. Clarke, Lowther Castle Gardens, Penrith, showed two boxes of Carnation blooms. A Silver Banksian Medal was awarded to Messrs. H. Cannell and Sons, Swanley, for a collection of China Asters, Helichrysums, Scabious, and double and single forms of Chrysanthemum carinatum, the latter being very fine. A new single Dahlia named Watford Gem was shown by Messrs. Wm. Cutbush and Son, Highgate. Some fine varieties of Anthurium Scherzerianum including A. S. rotundiflorum sanguineum, were exhibited by the Hon. Frederick Smith, M.P., (gardener, Mr. H. Perkins), Henley-on-Thames. Marigold Legion of Honour was shown by Mr. Herbst, Kew Road, Richmond, Surrey. Fine foliaged Begonias, Sonerillas and Saintpaulia ionantha were staged by Messrs. F. Sanders and Co., Spiraea japonica, Anthony Waterer and Oxydendron arboreum were shown by Mr. A. Waterer, Knap Hill, Woking. Some Dahlias were shown by Mr. George Humphries, Chippenham. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited Lilium nepalense, L. neilgheriense, some Pompon Dahlias and a Cactus variety named Mrs. Francis Fell with white flowers. A collection of seedling Gaillardias was set up by Dr. P. H. Emerson, Claringbold, Broadstairs. Half-a-dozen different kinds of Montbretia, including a magnificent orange-coloured one of large size, and named M. c rocosmiaeflora aurea imperialis, were exhibited by Sir Trevor Lawrence, Bart., (gardener, Mr. W. Bain). He also had a fine bunch of Exacum affine. Some prizes were offered for Gladioli, but only one exhibitor turned up, namely Mr. D. Whitlaw, 22, High Street, Brechin, N.B., whose spikes were very fine, and were accorded first prize.

At a meeting of the Fruit and Vegetable Committee a Silver Knightian Medal was awarded to Messrs. S. Spooner & Sons, Hounslow, Middlesex, for a collection of Apples and Plums, some of the former of which were finely coloured. A Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons for a very varied collection of Apples, also Pears, Figs, and a large assortment of Plums of all sizes and colours, with excellent samples of several varieties of Damsons. A collection of Apricots, Plums, Pears, and Gooseberries was shown by Mr. J. Chinnery, gardener to A. R. Broughton Knight, Esq., Downton Castle, Ludlow. He also had a collection of vegetables, including Onions, Potatos, Dwarf Beans, and Peas. Melons were exhibited by Mr. J. Barkham, Longford House, Isle of Wight; by Lord Foley (gardener, Mr. Miller), Ruxley Lodge, Esher, who also had Peaches; by the Duke of Northumberland (gardener, Mr. G. Wythes), Syon House, Brentford; by the Earl of Shrewsbury (gardener, Mr. E. Gilman), Ingestre, Stafford; by Mr. E. Hart, Fairlawn, Totteridge, Herts; by Mr. G. Dyke, Stubton Hall Gardens, Claypole Station, Newark; and by Mr. J. Hawthorn Kitson, The Gardens, Elmet Hall, Leeds. Tomato Owen's Perfection was shown in fine condition by Mr R. Owen, Castle Hill, Maidenhead. A brace of Cucumbers, Hurst's Selected Black Spine, was shown of great length by Messrs. Hurst & Son, 152, Houndsditch, London. A box of Tomatos was shown by Mr. Farr, Spring Grove Gardens, Isleworth.

QUESTIONS AND ANSWERS.

Names of Plants.—*T. W.* The so-called Australian Dock, is Polygonum cuspidatum, a native of Japan. *Edward*: 1, Monarda fistulosa alba; 2, Helianthus rigidus; 3, Sidalcea candida; 4, Achillea Millefolium roseum; 5, Physostegia virginiana; 6, Oenothera odorata; 7, Helenium autumnale; 8, Lysimachia clethroides; 9, Solidago Virgaurea variegata; 10, Pulmonaria saccharata. *H. W.*: 2, Ceanothus dentatus; 4, Trachystemon orientale, often grown under the name of Borago orientalis.

Excrescences on Conifer.—*E. Fowler*: The Silver Fir shoot you sent us was in a slightly gouty condition and covered with little bladders filled with a clear liquid resin. We failed to find any insects, but it is possible they may have been washed off with the heavy recent rains, or compelled to take shelter in more secure places. Abies nobilis, A. amabilis and possibly others are liable to be infested with a woolly Aphis allied to that which produces the American blight. You may be able to detect the creature either now or earlier in the summer. The best remedy hitherto found for it has been Fir-tree oil, so that you might try that in June and July. After some applications of this, the trees have been found to develop healthy growth. We should advise you to examine the tree from April onwards next year to see whether you can find the woolly insects; then syringe the tree with diluted Fir-tree oil.

Best Raspberry.—*Omega*: Within recent years the variety named Superlative has proved to be a heavy cropper, good also for autumn fruiting when treated with that object in view, and excellent generally for all purposes. An older one is Fastolf, which in various places all over the country has given abundant satisfaction on account of the large size of the fruits and the heavy crop. You might well give both a trial to see which does best in your locality.

"Mummy" Pea.—*W.O.*: The story is, of course, down-right humbug, and one can but marvel how it lives. There is plenty of seed of it in this country without going to Egypt.

Communications Received.—E. A. S.—H. G. H.—H. J. C.—W. H. E.—J. W.—B. D. & Co.—A. M.—E. C.—G. B.—J. C. S.—Amateur (next week).

LONDON SEED TRADE.

August 28th, 1894.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report, with the continued wet weather the harvest proceeds slowly and but little land has been cleared for the autumn sowing. Trifolium is still exceedingly cheap. Tares from all districts reported a big crop, but sound samples are scarce. Pending reliable information regarding continental crops, no marketable movement has taken place in Clover Seeds. Canary dearer. Rape firm.

COVENT GARDEN MARKET.

August 29th, 1894.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	5 0	Melons .....each	1 0	2 0
Cherries, per hlf. sieve	0 0	0 0	Peaches & Nectarines, per doz.	2 0	8 0
Blk Currants, hlf. sieve	0 0	0 0	Pine apples.		
Red ,, ,,	0 0	0 0	—St. Michael's, each	2 6	6 0
Filberts, per 100 lbs.	22 6	25 0	Strawberries, per lb.	0 0	0 0
Grapes, per lb.	0 6	1 6			

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 3	0 4	Lettuces ...per dozen	2 0	3 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 8
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Ferns, small, per 100	3 0	6 0
—specimen plants, each	5 0	15 0	Foliage Plants, doz.	12 0	60 0
Balsums, per doz.	3 0	6 0	Heliotrope...per doz.	3 0	6 0
Calceolaria, per doz.	3 0	6 0	Hydrangea...per doz.	9 0	18 0
Cockscombs, per doz.	2 6	4 0	Marguerites, per doz.	6 0	12 0
Companula, per doz.	6 0	9 0	Mignonette, per doz	3 0	6 0
Cyperus .....per doz.	4 0	12 0	Nasturtiuns, per doz.	1 6	4 0
Chrysanthemums, per doz.	4 0	15 0	Palms in variety, each	2 6	10 0
Dracaena term., doz.	18 0	36 0	Palms, Specimen ...	15 0	63 0
Dracaena viridis, doz.	9 0	18 0	Pelargoniums, per dz.	6 0	9 0
Evergreens, invar. doz	6 0	24 0	—scarlet.....per doz...	3 0	6 0
Ferns, invar., per doz.	3 0	8 0	Rhodanthea, per doz.	4 0	6 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	3 0	Lilium Lancefolium doz. blms.	1 0	1 6
Asters, English, doz. bchs.	3 0	6 0	Maidenhair Fern, 12 bs.	3 0	6 0
Asters, French, per bch.	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	1 0	3 0
Carnations...per doz.	0 6	1 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Carnation, doz. bchs.	2 0	4 0	Pelargoniums 12 sps.	0 4	0 6
Chrysanthemums, doz. blooms	0 6	1 0	—scarlet.....12 bchs.	2 0	4 0
,, doz. bunches	3 0	6 0	Poppies ...doz. bchs.	0 6	1 0
Cornflower, doz. bchs.	1 0	2 0	Pyretbrum doz. bun.	2 0	4 0
Eucharis ...per doz.	1 0	2 0	Primula, double, bun.	0 6	1 0
Forget-me-Not, doz. bchs.	1 0	2 0	Roses .....doz. bchs.	3 0	9 0
Gardenias 12 blooms	1 0	3 0	Roses, yellow, dozen	2 0	4 0
Gypsophilta, doz. bchs.	2 0	3 0	— Red..... doz. blms.	0 6	1 0
Heliotropes, 12 sprays	0 3	0 6	— Saffrano...per doz.	1 0	1 6
Lilium Harrisii, doz. blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
			Sweet Sultan doz bchs	1 0	3 0
			Tuberoses, per doz	0 4	0 6

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FLOWER SHOW FIXTURES, 1894.

SEPTEMBER.

4, 5, 6.—Aquarium Flower Show.
7, 8.—National Dahlia Show at the Crystal Palace.
11, 25.—R.H.S., Drill Hall.
11.—Woodstock Show.
12, 13.—Royal Caledonian Horticultural Society's Show.

OCTOBER.

9, 23.—R.H.S., Drill Hall.
10, 11, 12.—N.C.S. at the Royal Aquarium.

NOVEMBER.

2, 3.—Chrysanthemum Show at the Crystal Palace
2, 3.—Battersea Chrysanthemum Show.
6, 7.—Leeds Paxton Society's Chrysanthemum Show.
6, 7, 8.—N.C.S. at the Royal Aquarium.
7, 8.—Bournemouth Chrysanthemum Show.
7, 8.—Hereford Fruit and Chrysanthemum Show.
7, 8.—Wolverhampton Chrysanthemum Show.
8.—Buddleigh Salterton Chrysanthemum Show.
9.—Exeter Chrysanthemum Show.
10.—Crewe Chrysanthemum Show.
13, 27.—R.H.S., Drill Hall.
13, 14.—Kingston Chrysanthemum Show.
14, 15.—Aylesbury Chrysanthemum Show.
14, 15.—Birmingham Chrysanthemum Show.
14, 15.—Bristol Chrysanthemum Show.
14, 15.—Hull Chrysanthemum Show.
14, 15.—Tunbridge Wells Chrysanthemum Show.
15, 16, 17.—Edinburgh Chrysanthemum Show
16, 17.—Bolton Chrysanthemum Show.
16, 17.—Bradford Chrysanthemum Show.
16, 17.—Stockport Chrysanthemum Show.
16, 17.—Sheffield Chrysanthemum Show.
20, 21.—Chrysanthemum Show in the Town Hall, Manchester.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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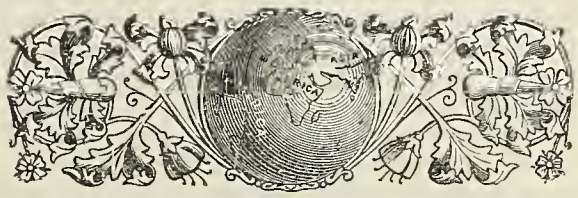

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 10th.—Trade Sale at Mr. H. B. May's, Upper Edmonton.

Bulb Sales at Protheroe & Morris' Rooms, and every day in the week.

TUESDAY, Sept. 11th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.

Trade Sale at Messrs. B. Maller & Sons, Lee.

WEDNESDAY, Sept. 12th.—Trade Sale at Mr. J. Fraser's, South Woodford.

THURSDAY, Sept. 13th.—Trade Sale at Mr. J. Maller's, Enfield Highway.

Sale of Lilium Harrisii and Palm Seeds at Protheroe & Morris' Rooms.

FRIDAY, Sept. 14th.—Trade Sale at Messrs. Gregory & Evans', Sidcup.

Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 8th, 1894.

ANOTHER THEORY OF EVOLUTION.—The discussions raised by Charles Darwin's theory of natural selection seem to be raging as fiercely as ever, and as far as we can see to very little purpose. One could almost wish that the great naturalist were still alive and adding to his stock of knowledge and experience, as well as giving his opinions on the various discussions that have been raised for and against his theory. Professor Weismann accepts the theory simply because he cannot conceive of any other, but neither he nor any other has been able to prove it from actual observation. From time to time Herbert Spencer records his opinions in the *Contemporary Review*, dwelling much upon the inadequacy of natural selection and criticising the views of Professor Weismann as detailed in the same periodical, yet who confesses "that it is really very difficult to imagine this process of natural selection in its details."

A small book of eighty-eight pages has just been published entitled "Nature's Method in the Evolution of Life." The author does not give his name, but declines to accept the theory of natural selection, and, in fact, devotes nine-elevenths of his book to a record of his reasons for refuting the theory. Very little space is therefore left for holding forth his own proposition. In all of these discussions animals come in for the largest share of attention, so as to explain the process of the evolution of new species. The anonymous writer seems on less stable ground when he undertakes the discussion of plant life. He says that in highly cultivated farm land, not only is there a good crop of corn, but weeds disappear. The fertile soil, which is so invigorating to the cereals, is positively harmless to the indigenous weeds. The author gives away his case when he says directly after that the weeds resume their former vigour when cultivation ceases. The whole matter is simply a contrast between an indolent and a diligent and active farmer. The latter will often take a fair crop off relatively poor land, while the indolent one looks on with lazy indifference while the Thistles, the Poppies, the Corn Marigold, the Charlock, and other weeds are ousting the cultivated plants in the struggle for existence and rendering the fields purple, scarlet, or yellow with the predominance of the flowers of vigorous native weeds. The land may not cease to be fertile when it goes out of cultivation; in fact, it retains the greater part of its general fertility, and the weeds thrive immensely because they have the soil to themselves, because man ceases to wage war against them, and because no tall densely sown nor broad-leaved cultivated plants exclude nor obstruct the light of the sun, so absolutely essential for their vigorous development.

It is sheer fallacy to say that fertile soil is noxious to native weeds. They simply luxuriate in it when allowed to take full possession. We have seen more than one well-tilled garden allowed to lie waste, and in two years' time have witnessed a cloud of the parachute-like fruits of the Ragworts, Dandelions, and Thistledown coming over the fences in a breezy summer day. In fact, these fertile and moderately fertile soils in a remarkably short time become an interesting field for the botanist. What is more, we have examined several London rubbish heaps, which after having lain for a year or two became covered with a luxuriant mass of vegetation, both native and exotic. The British plants especially attained quite a phenomenal vigour. What then is the value of science that makes use of statements to the effect that "fertile soil, so stimulating to grain, is positively noxious to the indigenous weeds." That seeds remain dormant in the ground while cultivation is continued is another misleading statement. They remain dormant because they have been too deeply buried to germinate, and if not turned up by the plough or spade, others are imported by wind, by birds, and other animal agency, so that in a short time the bare ground is fully re-occupied.

The author goes on to say that the inference to be drawn from such observations is "that changed conditions in general lead not so much to the alteration of creatures then in possession of the soil, as to the increase of others which until the favourable moment were kept under." This is obvious enough, but when he launches out into wild speculations, he drifts away completely from the anchor of facts. When the anonymous author at last condescends

to promulgate his own theory as to the genesis of new species, his leading or principal contention is that "all evolution is the result of forces acting from without and superimposing modifications." We fail to see anything strikingly new or original in this theory. On the other hand, it seems another way of expressing much about the same thing as older and quite respectable propositions. It is merely a case of putting the cart before the horse, but cart and horse remain the same, although a little awkwardly placed with regard to one another. Naegeli suggested that in living organisms "there is an inherent tendency to a higher organisation, so that each succeeding generation represents an advance, though it may be a slight one, on its predecessors. The idioplasm of every organism tends to become more and more complex; that is to become more and more completely differentiated physiologically and therefore also morphologically." Then the seat of all this change resides in the protoplasm which alone is capable of being moulded and altered into other forms when acted upon by external forces as the anonymous author has it. If the protoplasm were incapable of modification or alteration, no amount of external forces would have the slightest effect upon it. The process, nevertheless, is very slow, and writers in many cases are too apt to generalise upon the hasty observations made during a relatively short period of time. The life of a man is but a very small unit of time during which to observe any changes that may be taking place in the forms of either plants or animals.

United Horticultural Benefit and Provident Society.—The Annual Dinner of this Society will take place on Tuesday, October 9th, at six p.m., at the Cannon Street Hotel, when Mr. Arnold Moss will preside.

The St. Neots' Chrysanthemum Show is announced to be held on Monday, November 5th.

Royal Horticultural Society.—The next meeting of the Society will be held in the Drill Hall, James' Street, Victoria Street, Westminster, on Tuesday, September 11th. At 3 p.m. Mr. A. Pettigrew will deliver a lecture on "Lord Bute's Vineyards."

The Merchandise Marks (Prosecution) Act, 1894.—Notice is given in *The London Gazette* that the Board of Agriculture, with the concurrence of the Lord Chancellor, propose, on or after the 11th day of October, 1894, to make Regulations providing that in cases which appear to the Board to relate to agricultural or horticultural produce, and to affect the general interests of the country, or of a section of the community, or of a trade, the prosecution of offences under the Merchandise Marks Act, 1887, shall be undertaken by the Board of Agriculture, and prescribing the conditions on which such prosecutions are to be so undertaken. Copies of the Draft Regulations may be obtained at the Board of Agriculture, 4, Whitehall-place, London, S.W.

Apple Crop of Nova Scotia.—The Agent-General for Nova Scotia has received the following cablegram from the Premier, the Hon. W. S. Fielding: "Trees blossomed most abundantly. First of June rain, and a night frost prevented full setting. Long drought in July and August checked swelling, and caused fruit to drop. Present condition in export fruit region (King's and Annapolis countries) as follows: 100 representing a full average crop—Baldwin, 90; Ben Davis, 88; Blenheim Pippin, 77; Bishop Pippin, 72; Golden Russet, 84; Gravenstein, 84; King Tompkins, 80; Nonpareil, 64; Northern Spy, 73; Ribston Pippin, 73; Rhode Island Greening, 65; Roxburg Russet, 62. No variety up to average in quantity, but quality expected good, as fruit is swelling from recent showers, and will colour well."

The Banana Importation.—Judging from the great importation of bananas, it would appear that this luscious fruit is growing very rapidly in favour with the British public. It is not long ago that the first consignment of any pretensions arrived in Liverpool, and now, says the *Liverpool Post*, it is not an uncommon circumstance for the steamers arriving in Liverpool to have their thousands of bunches on board. Messrs. Elder, Dempster, and Co., of Liverpool, were the first to ship the Grand Canary bananas which are now in so much favour, and their weekly consignment now amounts to about 2,000 bunches. One steamer, the Angola, which is due at Liverpool in a few days, has on board about 1,500 bunches of bananas to their consignment. So many bananas are now arriving that they are sold retail from 6d. to 1s. per dozen.

Autumn Flowers.—What a wealth of these we have; at present the borders are gayer than at any other period of the year. Spring and summer flowers are charming, but for variety and quantity we cannot beat early autumn. Unfortunately the weather is very unsettled, and for some time we have had little sun. Without sun our autumnal flowers are lost, they needing bright and fine weather more than any others. Dahlias are coming on in a most promising manner, Roses are still with us, and in some cases as good as at any period of the present season. Roses, and especially dark ones have been in grand form. Perennial Sunflowers are coming in, Poppies abundant, Cornflowers, Phlox, Delphinums, Coreopsis, Gallardias, and an immense variety of bedding plants are gay all through the autumn. Then we have Gladiolus, Lilies, Michaelmas Daisies and others coming on rapidly, while summer Chrysanthemums and the earliest of others have no such blank between autumn and winter as we used to experience.

The Kentish Fruit Season.—The warm weather of the past week has made the Kent fruit growers very busy. Owing to the continued rains the Cherry season fell far short of the anticipated results, but of the hard fruit there is an abundant crop. This is especially the case with regard to Plums, with which the trees are literally loaded. But this very abundance is acting prejudicially to the grower, for while it affords the public an opportunity of enjoying the luxury of good fruit at a cheap rate it yields but a small return by way of compensation for the expense and trouble entailed in picking, packing, and placing on the market. Cases have been known within the past few days in which fruiterers have only been able to obtain three shillings per bushel, and out of this sum has to be deducted the cost of picking, etc., and carriage, which leaves a very slender margin of profit. Many fruiterers in the Sittingbourne district say that they have more Plums than they will be able to pick, while others maintain that the present low prices will not pay them to pick the whole crop. Heavily-freighted fruit trains are leaving Sittingbourne and adjoining stations for London and the North every day. Pears are also a heavy crop this season, but Apples are short.

Plants Certificated in Holland.—At a meeting of the Dutch Horticultural and Botanical Society, held at Amsterdam, on August 11th, the Floral Committee awarded First Class Certificates to, Mr. Egb. Kloosterhuis of Veendam, for Berberis vulgaris alba spicata Krynsi; Berberis vulgaris atropurpurea Egberti; and Sorbus Aria aurea argentea; To Messrs. E. H. Krelage & Son, Haarlem, for Gladiolus hybridus Lemoinei, varieties Tricolore, Manzoni, and Sceptre d'azure; Gladiolus hybridus nanceianus varieties—Dr. L. Wittmack, A. R. Smith, and Colonel Archinard; Canna hybrida Königen Charlotti, Tigridia pavonia rosea grandiflora, Begonia tuberosa Surprise, and Begonia Beaumanni carminea. Awards of Merit were accorded to Messrs. E. H. Krelage and Son, for Cactus Dahlias; Mrs. A. Peart, Lord Nelson, Centenary and Oban; Montbretia crocosmaeflora, varieties Vesure, Brilliant and Californie; Begonias Henshaw Russell, Brilliant and Pride of Bexley; Gladiolus hybrida Lemoinei Tartarin and Guy de Maupassant and G. h. nancieanus, Robert Lindsay; to Messrs. Groenewegen & Co., for Cactus Dahlia Blanche Keith.

Culture of the Grape Vine.—A small pamphlet has been written on this subject by Mr. J. W. Nunn, who has had fifty years' experience in this branch of gardening on open walls and under glass, and in converting the fruit into champagne and other wines, as well as in the manufacture of British wines. The work is not intended for experienced gardeners, but for the amateur and cottager who may wish to grow vines. A calendar of operations is given, extending from April to December, the first three months being omitted, apparently as no operations are needed during that period. The directions are simple, concise, and such as the intelligent amateur could readily understand. Directions are also given for the making of a vine border, together with a descriptive list of five varieties of Grapes best suited for open walls in this country. Vine culture under glass is also dealt with, though not at great length. The second part of the pamphlet discusses the manufacture of champagne and other wines from home-grown Grapes. The methods of manufacture will doubtless be interesting if not useful to those who have no knowledge of the subject, as ripe and unripe Grapes are discussed in relation to the requisite treatment for wine making. Champagne from green Gooseberries, Orange wine, Raisin wine, Frontignac, Red and Black Currant, Raspberry, Sloe and Damson, Ginger and Elderberry wines are all separately treated, and the receipts for making them given in a way that the readers may put them into practice for themselves.

Terrible Forest Fire.—The appalling fire which swept over the great Pine forest region in the States of Minnesota and Winconsin, in the United States of America, is probably the worst on record, both in the extent of the forest that has been devasted and the loss of human life and property. No rain had fallen for nine weeks, the forests were almost as dry as tinder, the land baked, and the lakes almost dried up. There had been several fires on a small scale, but they were easily subdued and the people again acquired confidence and probably became careless. On the 31st ult. several fires broke out almost simultaneously, and soon attained a volume which defied all human effort to cope with them. Then the people cleared areas round their homesteads, but the flames easily overlapped the belts and burned up the wooden dwellings as if they had been tinder. Whole villages and the town of Hinckley and several other towns were more or less completely destroyed, many of the inhabitants perishing in the flames in the vain endeavours to check the progress of the fire. About 800 men women and children have perished as far as can be estimated while we write. A train loaded with people escaping from the fire was caught up by the flames, and narrowly escaped being entirely destroyed. No estimate can yet be given of the damage to property, but the Cornell University, an agricultural experimental station, whose trials of plants and vegetables we have frequently recorded, has lost millions of dollars' worth of timber on its estate at Minnesota.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects received Awards of Merit from the Royal Horticultural Society on the 28th ult.

Caladium Gurupa.—This variety was introduced from Brazil, and has not yet attained full size although its general characteristics can easily be determined. The leaves are sagittate-cordate, and dark crimson or blood-red in the centre with a broad green margin. Exhibited by Messrs. J. Laing & Sons, Forest Hill.

Croton M. E. Fourner.—The leaves of this new variety are oblong-ovate, and inclined to be three-lobed in the same way as C. Disraeli, but faintly so and scarcely noticeable. They are yellow in the centre, with that hue often running along the veins, while all the rest is of a rich green. Sometimes a leaf will be almost wholly yellow and spotted with green towards the margin. Exhibited by Messrs. J. Laing & Sons.

Anthurium Scherzerianum rotundiflorum sanguineum.—The leaves are lanceolate, leathery, and deep green. The spathe is roundly cordate, shortly and suddenly pointed, very leathery, and of a dark, crimson-red. The spadix is orange and twisted in the usual way. Exhibited by the Hon. Frederick Smith, M.P. (gardener, Mr. H. Perkins), Henley-on-Thames.

Melon Fairlawn's Empress of India.—The fruits of this variety are nearly globular and pale or lemon and netted; occasionally the skin is quite gray. The flesh is very thick, pale green, almost white towards the rind, very juicy and sweet. Half-a-dozen fruits were shown, each about four pounds in weight. Award of Merit. Exhibited by Mr. E. Hart, Fairlawn, Totteridge, Herts.

THE TRANSPLANTING OF HARDY FLOWERS.

This is a most important operation at the present time, and if we neglect the matter for a few weeks, or even days, the results next spring are not likely to be satisfactory. Wallflowers, Sweet Williams, Forget-me-Nots, Primroses, Pentstemons, Pansies, Antirrhinums, and many more that we shall need for early and late flowering in our beds next season, need due care and attention now. We must always be looking forward; in fact, one of the chief items towards success is to keep looking ahead. To leave the seedlings in the seedling bed until the time for transplanting comes round is folly. They are seldom far enough apart to form stocky little plants, nor do they ever transplant so favourably as when they have been set into prepared soil a short time previously.

It does not take much time to prick off a considerable number of such seedlings, and seeing we can thus ensure a far more even bed, the time is doubly well spent. One point that needs attention is to place them in a more or less sheltered position, according to their hardiness. Penstemons, for example, need some slight protection during winter, and although it is not necessary to place them in frames; a light soil beneath the shelter of a wall should certainly be accorded them. But it is not the distances and positions suitable for the many subjects which come in so useful when properly grown at the first that we would dwell upon, so much as to take the present opportunity of calling attention to the need for prompt measures in the first stage towards success.—*P.*

TOMATO NOTES.

The closing season has been anything but a good one for profitable Tomato culture. It is, therefore, exceedingly difficult to pass sentence upon new varieties. However, I will give my experiences of three new sorts, two of which are of this season's introduction, the third being a little older, My one aim in writing these notes is to warn the inexperienced grower against the new varieties that regularly turn up each spring.

To begin with, I think no Tomato ever came out with such a character as did Duke of York. A beautiful coloured plate was given, showing a dozen or more fruit of the true Perfection type. The fruit is nearly as coarse as the Old Red, very large and totally different to the description given of it, its last and most particular fault being that it is a bad setter. Comet, the second variety, is a trifle better, being of good colour, market size and shape, but, like Duke of York, no cropper. The third, Ilfield Gem, was to embody everything that makes a good Tomato. This turned out to be of indifferent size and shape and a bad cropper. The only point in its favour is its flavour, which is really good.

Now, if instead of growing these I had planted Challenger or Prelude, I should have been pounds in pocket—even in a bad season like the present. These two sorts carry three times the quantity of fruit that any other variety does. Besides—being of such excellent quality—they command 3d. per pound more than the coarser varieties. The house they are grown in is a splendtd span-roof, running north and south, and possessing every quality appertaining to a trial house. To those who want a good Tomato for another season, I can confidently recommend Challenger. It has every point in its favour from a market grower's point of view. Prelude Improved is a good selection of Horsford's variety. It is distinct in character to any Tomato I have ever seen. It is like Challenger in shape, rather smaller in size (although this does not lower its value in any way,) and of a beautiful bright red colour. The fruit trusses instead of being (as in most Tomatos) straight, split into two distinct growths,—each bearing from twelve to fifteen fruits. The plant atttains a height of sixteen feet, and if well fed will produce as good fruit at the top as at the bottom.

Seedsmen cannot be too careful what sorts they recommend to men who get their living by Tomato growing. They will not always submit to be gulled, and although seedsmen may for a time have things their own way, they may in the end expect to be the losers.—*J. G. Pettinger, Strawberry Dale Nurseries, Harrogate.*

NEW ROSES OF 1893-94.

Many of us do not grow the majority of new introductions. Nor can we wonder when we note the large number, and also the fact that so many are very far from being of the least service compared to existing varieties. Why raisers continue to send out so much pure rubbish, as several of our continental growers do, is somewhat puzzling. I know that where a dozen British firms used to purchase their sets there are not more than two or three who still follow that plan. Let us pay more, if need be, for a sterling novelty, and not have them mixed up in the manner at present prevailing. Now we must buy them all or wait until some have been exhibited by the larger growers, because we cannot depend upon the foreign descriptions. One would imagine we had come into a nest of glorious novelties to read the superlatives attached to almost all new Roses, no matter whose list we pick up. But it is not so, and we seldom find more that one in twenty that retain a position after being grown sufficiently upon our own ground.

This is the reason why I give a few notes upon those which I know to be good during the season 1893-94. Many, in fact most of them I have grown, and the others have been noted at the various Rose shows, or in nurseries during the past two summers. It is not enough that we should have a distinct break in colour, we also need a vigorous constitution and freedom of blooming. Unless all these are combined the variety cannot be deemed worthy of a high position among the vast number of very beautiful Roses we already possess. However, there are some few which must have mention, although they do not possess all three of these desired characteristics. First I would name

Captain Hayward, a Rose of much promise for garden work, but perhaps not often sufficiently double to come into the exhibition tent. As a bud it is perfect; deep carmine-crimson, long petals, and very free flowering.

Charles Gater is also very vigorous, but is intensely double, and of a deeper crimson than any other Rose, so deep in fact, that I have seen it described as a brownish crimson. This is not a very taking colour on paper, but it is much clearer than the term implies generally.

Marchioness of Londonderry has pleased me this season, although the weather can scarcely be said to have been favourable. It is large, immense is perhaps a more appropriate term, and of good shape. My own plants have entirely escaped mildew so far, so that the claim of mildew prcof is probably correct. Not a clear white, but very taking. A good grower, and excellent upon maidens.

Clio is splendid for pot work, and I also believe we shall find it one of our most valuable autumnals. A grand doer, beautiful leafage, and with the most distinct combination of flesh and rosy pink. All who saw this at the Temple Show will remember its exceeding beauty.

Lorna Doon is a late Bourbon, and gives us a shade of colour much needed at that time; it is magenta, carmine and scarlet combined. Very sweet and very large; not quite so good a grower as one might desire, but by no means delicate.

Duke of York is one of the most variable China Roses we have. At the Temple it was surprising to note so complete a change as some plants and blooms presented. Its freedom of growth and bloom are its chief recommendations.

Marchioness of Downshire is one of the gold medal Roses for 1894, and well deserved the honour, seeing it could be shown in such form during a far from good season. I did not test its scentlessness, but it is said to be deficient in this respect. Almost all Roses are described as sweet, or highly perfumed, and seeing that the raisers omit any mention in this case I fear it is one of our few scentless Roses. None the less it is a grand thing, and as I have it budded I hope to know more about it next year. A good grower, free bloomer, and of a new shade of satiny pink or rose.

Mrs. Sharman Crawford is another that won the gold medal this season. I have seen this Rose before, and it is really good. Habit of growth and floriferousness are excellent, while shape and size are also good. A peculiar colour, rosy pink with pale flesh shavings, and a lighter centre. Another gold medal variety for 1894 is

Crimson Rambler, but I am not going to dilate upon the merits of this superb Rose. It is quite unnecessary after the number of notices it has received and the magnificent manner in which it has been shown. No aspect or spot can be wrong for it. There is a very pretty little Rose called

Alister Stella Gray, and which was shown at the N. R. S. metropolitan meeting this summer. It blooms as freely as a Noisette, is of good habit, and a tremendous grower. Briefly described as a miniature and rather pale William Allen Richardson; or as a paler Perle d'Or but of totally distinct growth and even more floriferous.

Beauté Inconstante is also very pretty, good, and exceedingly changeable in colour. Sometimes carmine, others yellow or coppery fawn; while it may be a flower of one shade only.

Corinna is one of our most distinct novelties. Colour a rosy, coppery flesh. Large, of good form and a vigorous grower.

Medea I also like very much. This is a self yellow of pale canary shade. It is not a '93 Rose, but should really come among these novelties.

Mrs. Harkness has been good upon both the stock plants and maidens, especially the latter. Early, exquisitely sweet scented, distinct in colour and a good grower. A delicate, clear blush, sometimes with a light silvery shade. I have not quite decided if Paul's Early Blush is the same as this, but it looks very much so with me.

Climbing Souvenir de la Malmaison I have not seen growing, but if it is only a climbing form of this grand Autumnal Bourbon it is a splendid addition to its colour. How good the old form is again this autumn, and in fact every autumn, we all know, and this novelty is described as very vigorous and hardy.

Maman Cochet is carmine with a flush of salmony yellow; a good grower, and very free and full in flower.

Pierre Mercadier is also worth growing for some time longer, and will, I think, stamp itself as one of our best Teas of its year. Large, creamy-yellow with a shade of copper and fawn.

Princess May is good with me this autumn, but not so nice as I have seen the raisers stage it. A splendid grower, thoroughly hardy and of a unique shade in soft shaded pinks.

Kaiserin Augusta Victoria is one of our finest H. Teas, that race so much discussed of late, and which so many do not know where to place. Large, full and of most exquisite shape. A splendid pot Rose and beautiful during a dry autumn in the open; almost a pure white with a lemon centre.

Bridesmaid is well worth growing, and is the exact counterpart of Catherine Mermet except in colour; it is certainly much brighter as a whole, nor have I once seen the dull and pale pink found in C. Mermet so often, but I have seen a C. Mermet as bright now and again. However, Bridesmaid is worth including in this list of good new Roses for in no single instance is it inferior to Mermet."

Souvenir de Mme. Levet is a 1892 Rose but little known and very beautiful. Unfortunately it is a poor grower compared to W. A. Richardson, a variety it somewhat resembles in colour, only it is much deeper and constant to the deep orange shade.

Celestin Port is a most peculiarly shaded hybrid perpetual, large, of good form, and vigorous. Velvety-crimson and deep vermilion-scarlet, with a distinct shade of warm-copper towards the centre. In Mr. Prince's

Clara Watson we have a beautifully tinted hybrid Tea, salmon and pink are the prevailing colours, and it is very free blooming and vigorous.

Violet Queen somewhat resembles a faded Charles Lefebvre in colour, only the purple shading has not the same staleness. I must not omit to mention the splendid new Sweet Briers coming from Salisbury this autumn. Of course, I have not grown them yet, but it was my privilege to see them in full growth late in June last, and I can say confidently that our old Sweet Brier is not in it for perfume. If to this we add variety of colour and form, much improvement in size, and even greater hardiness, I feel little more need be said. Many of us have seen them at the various shows, but none can form a correct idea of their exceeding beauty when staged in a cut state. We can have the white with a very pale blush of Flora McIvor; the lovely rose of Amy Robsart; the deep crimsons of Anne of Gierstein and Meg Merrilies; the soft fawn of Lord Penzance; or the

beautiful metallic-copper of Lady Penzance, and many more shades. Imagine plants some 12 ft. to 15 ft. high, very dense, and clothed with trusses of these sweetly-scented garden Roses.

A very large number of Roses that may perhaps be heard of yet are perforce omitted from this list, but I must not close without a word for Paul's Carmine Pillar, a most intense crimson and carmine, and a prodigious grower. A hybrid Tea called Marquis of Salisbury is too old for this list, but is one of our very best dwarf crimson Roses of semi-double form.—*A. P.*

TRENCH DIGGING.

This common place operation is sometimes done in a manner that is attended with results which are far from satisfactory, and mainly so because in doing it too much of the raw unfertile subsoil is brought to the surface. In this, nothing will grow till it either gets enriched by having heavy dressings of manure incorporated in it, or a portion of the top spit is again brought to the surface. Where soils are shallow and it is desired to increase the depth of the staple, it may be done gradually by trenching the soil every two or three years and bringing about a couple of inches of the subsoil to the surface each time it is trenched. Break up the bottoms of the trenches well with a fork; this results in the mixing of the better soil with the crude earth at the bottom of the trench, and together with breaking it up makes it in a better condition for bringing it to the surface at the next trenching. All old Cabbage stalks and any other vegetable matter buried in the bottom of the trenches will gradually decay and be a storehouse of food, which the roots of the crops will lay hold of, and will often help them considerably during a drought, and during heavy rains renders tenacious soils much easier to work, because they help to drain away the excessive moisture.—*W.B.G.*

ORCHID NOTES AND GLEANINGS.

The undermentioned Orchids were certificated at the meeting of the Royal Horticultural Society, on the 28th ult.

Cypripedium James Veitch, *Nov. hyb.*—This grand Cypripedium is well worthy of its parentage, namely C. Curtisii as the seed bearer crossed with the pollen of C. Stonei platytaenum. The effect of the former is seen in the one-flowered condition of the dwarf scapes; in the upper sepal, which is ovate and creamy shaded with green along the centre and furnished with numerous lines of dark purple spots; and in the shape of the lip which is dark purple. Even in those characters however the effect of both parents can be traced, for the lines of the upper sepal are green in C. Curtisii. The effect of C. Stonei platytaenium is more decidedly evident in the petals which are oblong or strap-shaped, 4½ in. long by ¾ in. wide, white tinted with pale green, and densely spotted all over with crimson purple except at the tips. They are also strongly ciliated on both edges with long, black hairs and have a thin line of black warts along the upper edge. The staminode is reniform, pale and netted with green in the centre. The leaves are oblong and pale grayish green, faintly tessellated with darker markings. Altogether it is very handsome and valuable. First-class Certificate. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cattleya hybrida Kienastiana, *Nov. hyb.*—The large flowers and soft, pleasing colours of this hybrid, render it very choice and handsome. The seed parent was C. speciosissima and the pollen bearer C. Dowiana aurea. At present the pseudo-bulbs are 3 in. to 6 in. long, slender and compressed, and the leathery, oblong leaves, dark green. The sepals are soft pink, while the elliptic petals are wavy at the edges, and slightly darker but still of a soft, clear pink. The terminal lobe of the lip is very wavy and rich purple with a lilac edge extending round the margins of the side lobes with a rosy border. The orange yellow eye spots are here of great size and extend across the lip meeting in the centre, and also covering a large area of the side lobes. The interior of the tube is crimson with radiating pale yellow lines. First-class Certificate. Exhibited by Messrs. F. Sander and Co., St. Albans.

Habenaria Susannae.—This beautiful species was originally introduced from India in 1834, and has received other names, such as H. gigantea and Platanthera Susannae. The upper sepal is roundly oblong, reflexed at the sides and pure white; the lateral ones are creamy, reflexed behind and rolled together. The petals are linear, very small and white. The lip is the most imposing organ, deeply three-lobed and pure white; the lateral lobes are fan-shaped, and deeply cut into long, narrow fringes while the middle lobe is oblong, narrow and undivided. The stem is about 20 in. high with oblong-lanceolate stalkless deep green leaves on its lower half and smaller ones upward. First-class Certificate. Exhibited by Messrs. F. Sander and Co.

Laelia elegans noblis, *Nov. var.*—The sepals of this fine variety are dark purple with a few crimson spots towards the top. The petals are similar in colour with a few spots near the edges. The lip has a pale or creamy tube, deepening to rose at the margins; the side lobes are obliquely triangular and deep purple on the inner face; the middle lobe is cuneate with a broad claw, deep crimson-purple with a narrow rosy margin, and the darker colour runs down with a band to the base of the tube. The young leaves are spotted with purple but this may not be constant. Award of Merit. Exhibited by Messrs. F. Sander and Co.

Saccolabium coeleste Superb, *Nov. var.*—The sepals and petals of this beautiful variety are white, tipped with blue. The lamina of the lip is of an intense and rich blue, while the hooked spur is blue at the tip. The true name of this should be Rhynchostylis coelestis Superb. In the typical form the tip only of the lip is rich indigo-blue, the lower half being white. Award of Merit. Exhibited by Messrs. Hugh Low and Co., Clapton.

Cypripedium, The Pard. *Nov. hyb.*—The parents of this hybrid were C. concolor and possibly C. superbiens, the former being the seed bearer. The upper sepal is round, tinted with green along the centre and dotted with purple in faint lines. The petals are oblong, blunt, punctate with crimson-purple and slightly tinted with pink on a white ground. The lip is white, tinted with pale purple in front and deeper round the edges of the pouch and more so on the infolded sides of the claw. The staminode is reniform and purple, netted with deep green in the centre. The leaves are similar to those of C. concolor, deep green above, and tessellated with gray but wholly green beneath. Award of Merit, Exhibited by Sir Trevor Lawrence, Bart., (grower Mr. W. H. White), Burford Lodge Dorking.

Chondrorhyncha Chestertonii.—This curious but pretty Orchid was first described by Reichenbach, in 1879. The narrow leaves arise directly from a fibrous rootstock. The pointed sepals are narrow, somewhat twisted and pale yellow, while the petals are oblong-elliptic, fimbriate, erect and parallel with the column and pale primrose. The lip has an erect, thickened yellow base, spotted with crimson especially in a transverse band in front of the three-ridged crest; the rest of it is reflexed and constricted in the middle, making the whole organ somewhat fiddle shaped, and deeply lacerated in to branching fringes all round the sides. All this upper portion is thin and of the palest primrose. The species is very closely allied to C. fimbriata. Botanical Certificate. Exhibited by Sir Trevor Lawrence, Bart.

Cattleya Hardyana Selwood, var, *Nov. var.*—The sepals of this handsome Cattleya are rose. The petals are slightly folded along the middle, crisped and wavy at the edges, bright rose, and marked with slender forking white veins. The large lip is very wavy at the margin, intense crimson and paler towards the edges; the golden eye spots are large and prominent the tube is deep purple externally and lined with yellow on a crimson ground internally. Award of Merit. Exhibited by G. D. Owen, Esq., (gardener Mr. Mark Watts), Selwood, Rotherham.

Laelia elegans Oweniae. *Nov var.*—The sepals of this variety are dull, deep purple, but the petals are much brighter in hue. The terminal and side lobes of the lip are rich crimson purple, but the tube is white both outside and in. Award of Merit. A large plant with stems about 2½ ft. high and bearing seven flowers in a raceme, was exhibited by G. D. Owen, Esq.

Dendrobium album.—Lindley's name of D. aqueum is held by many to be the correct name of this plant, which was originally introduced from Bombay in 1842. The flowers are moderate in size and white with exception of a small yellow spot on the lip. By way of compensation for their size they are developed in company with the leaves. Botanical Certificate. Exhibited by Thos. Statter, Esq., (gardener Mr. R. Johnson), Stand Hall, Manchester.

THE FLOWER GARDEN.

Cleanliness should now be the order of the day in this department. Nothing detracts so much from the beauty of good plants as unfavourable surroundings, and the presence of weeds and decaying leaves are of all circumstances the most unfavourable. Where practicable it is advisable to pull the larger weeds out by hand. A Dutch hoe may then be used for the smaller ones and in places where hand picking is not possible. Attention should be paid to the cutting of the grass edges. If left too long it soon becomes a matter of difficulty to use the edging-shears, and weedy, untidy flower beds and walks will be the inevitable result. The mowing-machine and the scythe too will need to be kept pretty frequently in use.

Dahlias and Perennial Asters should be looked after for staking. Their growth is very rank this season, and in the case of heavy storms of rain and rough winds visiting us (which they generally do during the autumn months), they will be sure to suffer if not properly secured.

Cuttings of Pelargoniums, Calceolarias, etc., should by this time have been taken. Give the beds a good overhauling and remove old blooms and decaying and yellow leaves. This will preserve their beauty for some weeks to come, always supposing King Frost does not make his appearance, which he generally does before the close of September.

Fresh turf may now be laid if required. The warm dewy nights so common in September are especially favourable to its growth, and if the operation be properly performed it will get well-established by the time winter makes its presence felt in earnest.

Such bulbs as Scillas and Narcissi may be planted in lawns and shrubberies. Batches of these beautiful children of spring peeping up through the grass at the commencement of the year form very pleasing objects for the eye to rest upon, and when thus planted give little or no trouble as they practically take care of themselves. When planting a hole may be made in the turf with a crowbar, a little fine soil dropped in, the bulb placed on the top, afterwards filling up with soil.

Hardy Fernery.—Every garden should boast of a place particularly devoted to the culture of hardy Ferns. Amongst the hundreds of kinds which are perfectly hardy with us may be found very many that for difference of colour and variety of cutting quite equal those of warmer climes. Those who are the proud possessors of a hardy Fernery may take advantage of the present time to make any necessary alteration or to shift any plants thought necessary. A top dressing of old leaf soil may be given with advantage, for although Ferns will exist under very unfavourable conditions, they respond readily to generous treatment, and always repay any extra trouble that may be taken with them by increased beauty. A sufficiency of water is the great essential to success in the culture of hardy Ferns.

THE HARDY FRUIT GARDEN.

Apples and Pears.—Attention must be paid to the gathering of such fruit as is fit. Care should be taken when picking, that none of the fruits are bruised. A little hay, clean straw, or dry moss, should be laid on the bottoms of the baskets and the fruit should be carefully laid in. The baskets should not be filled too full before they are emptied, as bruising is often caused by this means, especially if the fruit be very ripe. It is also advisable to place a layer of hay upon the shelves of the store house, which are to receive the fruit.

Protection should be afforded those trees whose fruit is not yet ripe. Where practicable, trees should be netted over to preserve their crops from the ravages of birds, which are very fond of pecking holes in both Apples and Pears,—the finest fruit too always falling victims. Traps may be set for wasps by hanging up bottles containing some sweet mixture (sugar and water or sugar and vinegar are as good as anything) in the branches of the trees. All nests must be destroyed as soon as discovered. The existence of every wasp's nest means the destruction of many a pound of good fruit, consequently the destruction of each nest means the preservation of much that would otherwise be destroyed. Earwigs

may be entrapped by placing pieces of bean-stalks amongst the branches infested with them. If these are looked over every morning and evening, and their contents removed—earwigs will not cause a great deal of trouble.

PLUMS.—In most districts these are a very plentiful crop. The long continued wet of July and August has, however, caused a great deal of the fruit to crack. In localities where cracking is very prevalent, affected fruit should be gathered, used at once for domestic purposes, as if left upon the tree too long they will only fall victims to wasps, wood-lice, etc., and their appearance render them useless as a dessert fruit. Although often a shy bearer, the Washington is this year carrying heavy crops

PEACHES AND NECTARINES. — The succession shoots of such trees as have been stripped of their fruit will now require attention. If too crowded they must be thinned out, and those which are to be left, neatly nailed or tied in. Tying in too much wood is an error into which gardeners (especially young gardeners) often fall, but it is a great mistake to do so nevertheless. The garden engine should be brought into requisition, and all wall trees from which the fruit has been removed should receive copious syringings as often as possible.

GOOSEBERRIES AND STRAWBERRIES.—Gooseberries on a north wall may be (if netted) preserved for a while yet, although they will deteriorate in flavour. Ground may now be prepared where new plantations of Strawberries are to be made, and planting may be carried on in dull weather preferably. A good dressing of manure should be applied, and the ground trenched to the depth of at least two feet. In planting, the distance from plant to plant, as well as the amount of space between the rows, must be governed to a certain extent by the variety which is being planted. Thus such large leaved varieties as Keens's Seedling and President will need more room than the smaller leaved sorts, such as Sir Charles Napier. A space of 2 ft. between the rows, and from 18 in. to 20 in. between the plants will, however, be amply sufficient in a general way. If the young plants are in pots they will experience but little check from the shifting of quarters. When they are planted in the open ground in nursery beds, as is often the case, more care will be needed. Lift the plants with as good balls as possible, and carry them on a hand barrow to their destination, planting as soon as possible with a spade or a trowel. Avoid having too many plants out of the ground at once, and do not plant too deeply to cover the heart of the plant. Give a thorough watering when the operation is completed.—*A. S. G.*

FRUIT UNDER GLASS.

VINES.—The earlier houses will now be cleared or nearly so of fruit. They should be thrown right open to assist in the ripening of the wood so necessary if a good crop is expected next year. Where ripe fruit is hanging a sharp look out must be kept for bad berries. These should be cut out with the scissors as soon as noticed as one bad berry soon makes two. Where wasps prove troublesome it is often necessary to cover the bunches with fine netting. The late vinery will need a minimum night temperature of 60° Fahr. rising to 80° by day with sun heat. Plenty of air should, however, be given as this will materially assist the colouring of the berries and improve the flavour of the fruit as well as affording egress for injurious exhalations. To keep up the requisite temperature and at the same time maintain such a circulation of air, fire heat will be necessary during the night as well as the day in dull weather.

FIGS.—These will require a plentiful supply of water. If the growth be not too rank, liquid manure may be given to assist in swelling the fruit. As the fruit ripens less water will be necessary, but neither the border nor pots must be allowed to get dry.

PEACH HOUSES from which the fruit has been picked will need to be freely exposed to the action of the sun and air to mature their growth. In the latter houses any leaves shading the fruit should be pushed aside to allow the sun's rays to perform its work in ripening, or the fruit will be comparatively poor with regard to flavour. This is especially the case with Royal George and Barrington. The former usually ripens about the beginning, the latter towards the middle and end of September. Both are alike, however, in needing free exposure to the sun to develop the flavour of their fruit.

MELONS.—As the month wears on so will the natural heat of the sun diminish. The houses should therefore be closed early and more artificial heat given. Where fruit is ripening the supply of water may be reduced, although in bright weather an occasional sprinkling of the foliage with the syringe will do no harm. The laterals should be kept closely pinched out so as to throw all the vigour of the plants into the work of swelling and ripening of the fruit.—*A. S. G.*

THE VEGETABLE GARDEN.

Globe Artichokes.

HEADS of these will now be getting scarce, and all but the latest batch of suckers that were put in last spring will have ceased to throw up flower spikes. All those from which the heads have been taken should be cut down and the ground between the plants cleaned. In some gardens it is the practice to blanch the young growth to be used as a substitute for Cardoons, and where the plants have grown freely blanching may be commenced. This is done by drawing the foliage together with straw bands, then covering with soil to exclude the air. Quite six weeks should be allowed for them to blanch thoroughly, for if this be not well done they are of but little worth. The young growth when blanched is called "Chards."

Arrears of Work.

THE late glorious weather has done much to help forward the work in the kitchen garden, as owing to such a long dull showery time there has been much difficulty in keeping down the weeds, for in spite of constant hoeing they still seemed to get the upper hand. Last week, however, was a good time to free all growing crops of them, so that the plants may have the full benefit of the sun. It has also been a good time for ripening and gathering in seeds, and for taking up and storing Potatos. Much as such work demands attention, it should not be overlooked, that all young crops also require constant care, and as these are to form the supplies for future use they ought to have the first thought bestowed upon them. The plants from the first sowing of cabbage seed will by this be large enough to transplant in their permanent quarters, and if this cannot be done at once they should be pricked out to prevent them becoming drawn. Onions sown last month must be freed from all weeds, and have a gentle sprinkling with water each evening so long as this hot weather continues to prevent them receiving a check. For if this happens now they will not grow strong afterwards. Last season when the weather was so dry some of those sown in August formed bulbs about the size of marbles, they were planted out in October, and in the spring started into growth, but they did not make anything like such fine bulbs as those which received no check.

Both Lettuce and Endive must be transplanted as the plants become large enough to handle, and the late sowings of Turnips and Spinach will need thinning. Such then is the pressing work in the kitchen garden, and with so many other tasks just now all crying out for labour, the gardener is put to his wits' end to know what to do first, but as time overtakes all things so will it overtake the arrears of work, though it may be not till too late for the full benefit of our labours to manifest themselves this season. The Mushroom house, too, is often neglected, owing to the press of other important work, for while during the summer months when it has been empty, all necessary repairs might have been done without hindrance, such are often neglected till the house is wanted for making up the first beds. Where any such work is needed no time should now be lost in getting it done.

The store house too, should receive attention. The walls ought to have a coat of lime wash to make the place sweet, and if any of the shelves require repairs, this should be put in hand without delay. All old lights should be repaired and got ready for covering, as frost will soon be upon us. There is now an abundance of French Beans, and if these are picked off and put into earthen pans and sprinkled with salt they will keep good till Christmas. Avoid putting too many together or they will become heated. When the pans are filled they should be covered over to keep out the dust.—*Kitchen Gardener.*

Gleanings from the World of Science.

A Plague of Caterpillars.—Evils and misfortunes as a rule do not happen singly, but in companies. After the plague had been raging for some time in Hong-Kong, coolie labour became scarce owing to the numbers that had left the place. To this succeeded a plague of caterpillars which threatened to completely destroy the Pine trees and thus undo the labours of the Forest Department. Nevertheless, an offer of five cents for every catty ($1\frac{1}{3}$ pound of our weight) of the caterpillars was too good to be neglected, for a large number of coolies set to work, and collected, according to the report, nearly twenty-five tons of caterpillars. This had the desired effect and the insects appeared to be exterminated, but doubtless many have escaped by passing into the pupa stage, and some will be sure to have been overlooked. In any case the process should be repeated next year in order to still further reduce the numbers of the troublesome moth.

The Mummy Pea Again.—Two years ago come December next a gentleman obtained nearly twenty seeds of the Mummy Pea in Egypt and sent them home to a friend who distributed them to the gardens of Mosfennan, Spittalhaugh, Netherird, and amongst the villagers. The seeds were said to have been taken from the hands of a mummy, where they had been deposited about 3,000 or 4,000 years ago. One would like to have the mummy's version of this and similar stories which continue to be received by the ubiquitous traveller and others in all good faith. For many years past there have been sufficient quantities of the Pea in this country to overburden all the mummies of Egypt. The villagers were delighted with the beauty of the flowers, the strong growth and peculiar habit of the plant. The stem is stout, fasciated, and bears the flowers in a cluster at the top, and the pods are small, containing only a few seeds. In short, the curiosity is simply a fasciated, but otherwise very little improved variety of the common garden Pea, which has probably been cultivated in Egypt for centuries past. As far as beauty is concerned we consider the flowers of the field Pea, grown for feeding horses and cattle, far darker in colour and superior in point of beauty, while its stems are more graceful and the pods larger. The story of the seeds keeping alive for 3,000 or 4,000 years ought to have been as dead as the mummy from which the seeds were said to have been stolen.

Felling trees with electricity.—There is no end of work to be done in the future by electricity when the methods have been discovered. Amongst some of the more recent purposes to which it has been applied, is that of felling trees. A platinum wire is stretched between two poles, and is then heated till it becomes incandescent. It is then drawn tightly round the base of the tree, into which it penetrates by burning its way. The tree is thus brought to the ground in about one-eighth of the time necessary for felling it by the usual method of sawing.

Cherry-trees on the house tops.—During the rainy weather some time ago it was discovered that the gutter on the roof of a house on Ludgate Hill was choked. A man was sent up to ascertain the cause and clear it, when he found four or five healthy young Cherry-trees growing in it. How they got there was ascertained upon remembering that a party of sight-seers on the Royal Wedding day of the previous year, sat upon the house-top to see the procession pass and while waiting, regaled themselves with cherries, the stones of which were allowed to drop there, thus explaining the strange position of the trees. Birds might have done the same thing, but the absence of cherry orchards in the neighbourhood precludes the idea.

Nitrates in Egypt.—Some months ago a deposit of nitrate bearing beds were discovered in Upper Egypt, and since then more exact information has been obtained regarding the same. The beds are 50ft. to 60ft. thick, and consist of thin layers of socene marl with veins of white gypsum, crustations of common salt and some sulphate of sodium. The nitrate occurs at the rate of one to 17 5 per cent, but doubts are still entertained as to whether the discovery is sufficiently valuable to pay for working. In the meantime about forty tons of the crude material have been sent to Cairo to ascertain their full value before finally pronouncing upon them.

HARDY HERBACEOUS PLANTS IN FLOWER.

PHYSOSTEGIA VIRGINIANA.—The stems of this hardy plant vary from 3 ft. to 5 ft. in height or more according to circumstances, so that it should be placed well back in the herbaceous border. The rosy purple flowers are paler within on the lower lip, and sometimes almost white, striped with purple. On account of these distinctions it is well worthy of a place in the border when yellow Composites are all too prevalent. The root-stock may be multiplied by division in the autumn after the flowering stems have been cut down.

LYSIMACHIA CLETHROIDES.—Many still continue to regard this species as the best of the genus for border culture, and in many respects they are doubtless right, for the dense, nodding spikes of pure white flowers are conspicuous and well shown off by the dark green foliage. The plant is not particular as to soil provided it does not get too dry in summer, for in light sandy soil during a droughty period we have seen the leaves flagging and the flower stems stunted. Propagation is most easily accomplished by division.

LILIUM TIGRINUM.—The glory of this Lily in August and September can hardly be overrated, and it is moreover most easy to cultivate. There are several forms that flower at different times and altogether keep up a display for six or eight weeks. The single form of L. t. splendens and L. t. flore pleno are perhaps the most common in cultivation, the former being by far the best and much more handsome than the double one, which we consider lumpy and ungainly. We do not consider double forms an acquisition either among the members of the Amaryllis or Lily family. The Tiger Lily in its various forms, flowers during July, August and September, and is therefore a late species. The large and widely expanded orange-red flowers are richly spotted with large dark-purple or almost crimson markings. They are borne in triangular racemes, and every flower hangs with its face downwards. It makes a handsome subject in the herbaceous border, with its dark stems and black bulbils in the axils of the leaves.

HELENIUM AUTUMNALE.—This differs from the well known H. a. pumilum chiefly in its greater stature and smaller flower heads. The latter measure 1½ in. to 2¼ in. across and are of a clear bright yellow. The leaves are lanceolate, dark green, and decurrent upon the stems forming wings. The stems themselves vary in height, from 3 ft. to 6 ft. according to soil and the season. Considering its size, it is a very neat plant, moreover, and flowers much later than H. a. pumilum. It should be planted in the back line of the border, because when it gets properly established, and in wet seasons it gets very tall but is perfectly upright, branches very little if any, and takes up but a small amount of space.

MONARDA DIDYMA.—The Oswego Tea plant is a highly ornamental subject, and certainly the best of the genus both as to its dwarf habit and the rich colour of its scarlet flowers and bronzy red bracts. The plant grows about 18 in. high, and the stems being relatively stiff, no staking is required. Division is easily effected either in autumn or in spring before growth has made much progress.

SIDALCEA CANDIDA.—When planted in fertile and fairly moist soil, this plant keeps growing on and flowering great part of the summer season. The late growths come into bloom in succession when the early ones have become quiescent or are ripening seed. It is a much neater and more compact growing plant than S. oregana and different in the colour of the flowers. The latter are white with red anthers but very thin between the veins, the effect of which is to give them a satiny appearance. We are surprised that this neat plant is not more commonly cultivated.

ACHILLEA MILLEFOLIUM ROSEUM.—The typical wild plant still keeps flowering away as grandly as ever, indeed it is a question whether it does not flower better in the cool days of early autumn than in the heat of summer. The beautifully coloured variety under notice behaves in a similar manner. The flowers now expanding are from late developed stems, and are as brightly coloured as ever. The plant may be propagated with the greatest facility by cuttings in early summer or by division.

HELIANTHUS RIGIDUS.—Owing to the abundant moisture which we experienced during the summer months this plant has not ripened off so early as it sometimes does. In some well situated gardens it is still very handsome. Being dwarfer than most other species of Sunflower, it may be accommodated in small gardens where the late flowering and tall growing ones would be inadmissible.

ORIGIN OF THE SWEET PEA.

COULD any of your readers give me any information as to the origin of the Sweet Pea (Lathyrus odoratus) of gardens? Perhaps it is asking too much, as I find that it was introduced to this country from Sicily about the year 1700, and therefore its origin may be lost in the mists of antiquity. My reason for asking the question is this, I heard a gentleman make the assertion the other day, that his Sweet Peas had all degenerated to common Tares. He tells me in good faith, that he purchased a packet of Sweet Peas from a leading English seed house, and the first year he had no Tares. He saved his own seed, sowed them the second year, result a few Tares, which he carefully pulled up. He saved the seed again, result nearly all Tares, thence his belief that the bees had turned all his Sweet Peas into Tares. Now is this really the case, or is it the result of foul seed, coupled with the belief that he had really pulled out all the weeds, when it was not the case. Tares are more prolific than Sweet Peas, and anyone with immature knowledge would naturally pull the pods where they where the thickest. However, it may be the case. A good many plants show a tendency to degenerate. Violas, for example, soon show a tendency to go back to the common Heartsease without proper precautions. I shall be glad if anyone can give the desired information, as I consider that crude ideas, the result of insufficient observation, should never be allowed to pass unchallenged.—*J. Holmes*

[The Sweet Pea is a native of Sicily, Crete, and probably other islands and countries bordering upon the Mediterranean. We do not think it has been much, if at all, altered by cultivation beyond the size of the flowers, and their greater variety in colour. Botanically it is Lathyrus ordoratus, while the Tare is Vicia sativa. Seeing that they belong to different genera, there is not the slightest chance of Sweet Peas reverting to Tares. We would sooner believe that an enemy came out and sowed them by night. The seeds of the two kinds are very similar, and eaily mixed by mistake, though they are in most cases sufficiently distinct to be separated by a keen observant eye. The seeds of Tares are somewhat flattened; those of the Sweet Pea are round. Tares often come in stable manure. You are quite right in saying that large garden Pansies degenerate in the course of a few generations to the Wild Heartsease; but this is only what might be expected. They are still Pansies, however small the flowers may be.—ED.]

PLANTS IN ROOMS.

IN our wandering from one home to another we have been much struck with the great differences between the health of plants in some rooms, and their state in others. In one they are evidently at home, in the other it is a struggle for existence—and not a long one at the best. In spite of the enormous circulation of garden literature, there are many homes where plants are treated in the worst possible way. We are induced to pen these few lines at the present time because we are fast approaching those lengthy autumnal and winter evenings when the fire sheds a pleasing glow, the pipe or cigar is brought forth and curtains drawn. Very soon the poor plant nearest the smoker is in more or less distress.

We do not say the fumes of tobacco are the sole cause of this, but the heated and smoke-laden atmosphere is not favourable to any plant. Add to this the fact that the next change—often following the other very closely—is to an extreme of cold draught caused by the maid opening the windows early in the morning, the very time when the atmosphere is keenest, and can we wonder at any plant failing to do so well as a neighbour's, who treats his pets in a more rational manner? No; we must give a little more thought to our room plants than is generally accorded them, or failure and disappointment will be the inevitable result. It will not do to give them so close a temperature that even we, amid our excitement, are apt to exclaim about the heat. When we not only do this, but afford a keen draught a few hours after, and while the room is still very warm, how can we reasonably expect the plant to retain any semblance of good health?—*Experience.*

A WALK IN THE COUNTRY (5).

(*Continued from p. 5.*)

WE parted last week on the Pilgrims' Way, a road which does not exist in its entirety at the present day though it may be traced from time to time by the still existent names such as "Pilgrim's Farm," "Pilgrim's Lane," &c. Yew trees also at places mark its course. The habit of using roads on the tops or sides of the hills does not seem to have been very new even in the time of the Pilgrims to St. Thomas A' Beckett's shrine at Canterbury, for twenty-five hundred years before then we find Deborah and Barak exulting saying, "In the days of Shanyar, the son of Anath, in the days of Jael, the highways were unoccupied, and the travellers walked through by-ways."

We still ascended and found the Rock Roses still in bloom, the stamens of which are most sensitive, for touched by a needle or the wing of an insect they at once lie down on the petals. The Carline Thistle and the Blue Fleabane we also gathered. At the top of the hill we turned our steps eastwards skirting the woods of Titsey Park, and beyond a fossil or two among the flints found nothing of interest till we reached a bye path, evidently at one time the high road leading from Oxted to Croydon, I would mention, however, that we found the Yellow Bedstraw which, common as it is in other parts, I have not met with hereabouts. The bye-way leads down from the summit of the hills through Titsey Park. and the trees on both sides of us were grand and picturesque. We began by finding a magnificent clump of Rose Bay in full bloom, certainly one of the most beautiful and stateliest of our wild flowers, and, hard by, a prize to any one with an interest in the rarer kinds—the Broad-leaved Helleborine. We had found Roman Snails and it was therefore but fitting that we should find the Roman Nettle, a somewhat rare species, bearing its fruits in clusters. Culpepper, in his own quaint way, says of the Nettles that as everyone knows them he need not describe them, but "if anyone does not know them, he will soon do so by feeling for them in the dark."

The Enchanters' Nightshade was growing very prolifically here, and the Bitter Sweet or Woody Nightshade was in flower and berry to be found everywhere, but we hardly expected to find the third of the Nightshades, the Deadly Nightshade, in these parts, but the unexpected often turns up, and we found as we descended the hill a fine bush of it growing some 3 ft. high, with sickly-looking flowers on some of the stems, and green and also black ripe fruit on others. This is a plant still used in British medicine, and I understand that fruits, flowers, leaves, and stems, root and branch, are all most poisonous. "Dwale" is the old English name of the plant, said to be akin to the French word *deuil* or mourning. I don't think we need go across the channel for a derivation, for it certainly is a devil of a plant.

It was meet that close by them should be growing a plant that had a very wide reputation for healing and all that is good. I speak of the Wood Sanicle. Here it was, though its virtues are not any longer recognised. *Celui qui sanicle a de mire affaire il na* is a very old French saying, and may be translated "He who has Sanicle has no need of the doctor." The name in itself would seem to show its meaning, *sain* being sane—sound or healthy, though there may be others I understand who give its derivation from its being a plant which was used by Saint Michel—a derivation which reminds me of one given by a dear old friend of mine of the word ostler, which he declared was merely a contraction of oat stealer. By the wayside the red berries of the Cuckoo Pint were showing in clusters, with a hint, too, that winter is at hand. The Flannel-leaved Mullein was standing with its upright stalk flowerless, and only its seed vessels left, but the Clustered Bell flower and the Harebells were still blooming luxuriantly amidst the verdure of the Small Woodruff with its tiny flowers.

In a chalk pit at the bottom of the hill we found growing in a disused kiln a plant with yellow flowers,

which caused us much amusement owing to its seed pods exploding at the slightest touch. No doubt it was a Balsam, but its flowers were much too small for our native "Touch-me-Not," which is, too, an extremely rare plant in the South. I have made enquiry and found that the plant in question is Impatiens parviflora, a native of Russia. How it became naturalised in Titsey Chalk-pit is, however, a mystery, and one by no means to be accounted for by any theory of seed coming with ballast on the line, for we found that we had something like two miles to cover before arriving at Oxted Station.—*J. C. Stogdon, Inglenook, Bellaggio.*

SOCIETY OF AMERICAN FLORISTS.

THE NEW PRESIDENT.

You will be pleased to hear that the American florists at their annual convention held at Atlantic City, from August 21st to 25th, have conferred the highest honour they have to bestow—the presidentship of their great Society—upon a former English gardener, but now one of our leading and most respected nurserymen, Mr. Edwin Lonsdale, of Chestnut Hill, Philadelphia. Mr. Lonsdale was born in the little Staffordshire village of Shenstone near Lichfield, and it was at Shenstone Moss, then the seat of E. Bagnell, Esq, where he commenced his gardening career. He subsequently went to Enville under Mr. Taplin, at a time when the late Earl of Stamford and Warrington took great interest in the place, and the gardening there was of the very best. Here he was associated with a number of young men of good calibre, who have since made names for themselves both at home and abroad.

Mr. Lonsdale went to America in the summer of 1869 in company with Mr. George Savage, another young man from the same gardens. On his arrival he found employment in the nurseries of Mr. Thos. Meehana, in Philadelphia. After making several journeys to California he paid a visit to his native village in 1874, and returning to America started in business on his own account in 1875 at Chestnut Hill, Philadelphia, and subsequently entered into partnership with another Enville man, his brother-in-law, Mr. John Burton. This partnership was dissolved by mutual consent in 1887, and the glass divided, and both have greatly prospered since. Mr. Lonsdale has always been well to the front with everything he takes in hand, and has been specially successful with Carnations, Chrysanthemums, and Roses. He has of late years taken up Orchids with great enthusiasm, and grows a good quantity. Just now a fine batch of the new Cypripedium Charlesworthii is attracting a good deal of attention. The plants are doing well, in fact, are extra good, and show some very distinct pieces. Many are now in bud. Other Cypripediums are also doing well, especially a fine batch of C. insigne montana; these are unflowered, so there is a possibility that something extra good may come from them. A big batch of C. Lawrenceanum is in good shape. The Dendrobes are a fine lot and are doing very well, making extra good growths; the sorts are principally D. nobile, D. formosum giganteum, D. Phalaenopsis Schroderae. Cattleya labiata, C. Trianae, C. Mendelii, C. speciosissima, and others are in good form, as are also Laelias in variety.

A large house of Beauty looked fine, and in other houses there were good stocks of Palms. We also noticed a fine batch of Swainsonia galegifolia albiflora. Mr. Lonsdale, we believe, was the first to popularise this exceedingly useful New Holland plant, and its value cannot be overrated by the florist who wants something in white that he can always cut a little from wherewith to make up. Carnations are an important feature, and many new seedlings and varieties are being tested. Mr. L. finds that planting them straight on to the benches is best for several kinds; Buttercup, among others, is being treated in this way.

Our friend is one of the kindliest natured and most genial of men, and needless to say it was his good nature and strict integrity that secured his election by a great majority. When I went to see him he met me at the depôt and drove me round to see many beautiful private places about Philadelphia, in fact, gave up a day to the entertainment of his guest. Most heartily do we wish him a successful year of office.—*Am. Cor.*

MR. EDWIN LONSDALE.

ABOUT TULIPS.

THERE is a no more striking instance afforded of the liability of civilised man to indulge in a craze of some kind than that of the Tulipomania which prevailed during the seventeenth century, when human folly surely reached the extreme height which it is ever likely to attain in connection with floriculture. The trade in new and scarce varieties of Tulips during that period was in reality a species of gambling of the most reckless description, and was at its height from 1634 to 1637. Three thousand florins were often given for a single root of a favourite variety, and once 4,600 florins, a new carriage and harness with two horses were agreed upon as the price of a single bulb. Down to the close of the eighteenth century, and the opening years of the present one, the Tulip was still held in high esteem, and bulbs of superior varieties commanded prices which, to those accustomed to buy Tulips at a few pence per doz. seem most astounding, £25 being asked for a single root of a new variety in 1792, and a few years later, £73 10 0 was offered and declined for a root of the same variety. Instances of high prices are on record up to the year 1838, the stock of one variety consisting of seven bulbs being sold for £140. The names of the various kinds and their purchasers are still on record.

The Tulip was introduced to England from the continent in 1577 it having been under cultivation in Germany in all probability for twenty years prior to that date. The parent of our florists varieties is a native of Asia Minor, and seems to have been introduced into Germany by way of Constantinople. The raising of new varieties from seed was largely carried on during the eighteenth century, many superb varieties being raised, which, while they continued scarce, realised high prices. Seedlings generally when they first bloom have flowers without any stripes or markings, during which stage in their development they were styled "breeders," and have remained, in some cases for years, with the exception of the bottoms of the petals being either white or yellow, in this condition, and have been multiplied sometimes to an enormous extent before breaking into flamed or feathered flowers.

They were divided into three classes: Bizarres, Bybloemens, and Roses. Bizarres have yellow grounds with marks of any colour; Bybloemens have white grounds with purple-lilac or black marks; and Roses, white grounds with pink, crimson, or scarlet markings. Feathering is the marking round the edges of the petals, which varied from the slight even feather, the broad, even one, the feather in which it ran down in a point towards the centre of the petal, and irregular or flamed feather. Flame is the coloured marking in the centre of the petals. Some flowers are flamed without any feathering; some are both flamed and feathered; and again, others are only feathered. The flamed and feathered flowers were highly esteemed, but it was most difficult to find them without the one running into the other, and so spoiling both. But there is such an amount of uncertainty about all this, for there may be two or three dozen bulbs of one kind in a bed and scarcely two flowers will come nearly alike, and what in one season will be a flamed flower, will in the next be feathered.

All this may have a charm in it, but this very uncertainty has had, we think, very much to do with the decline in popularity of the florists' Tulip. Any similar divergency of character among Dahlias would lead to similar results. Florist Tulips are still, however, to be had, and very beautiful they are. Those who care to do them well should select a well drained site, a good friable loam, not over manured, and trenched two spits deep; or any good garden ground similarly treated will answer very well. If soil has to be procured specially, the top spit from a meadow, laid up to rot for some time, and frequently turned to sweeten and clear it from grubs and wire worm, is most suitable without manure. In low, marshy places the beds should be elevated some six inches or so above the ground level.

Plant early in November, placing the bulbs from four to five inches down, and six inches apart. Nothing more is required till they appear above ground, which will generally happen during February, when the soil may be stirred and broken fine, and placed close round the stems. Protection from frost is desirable, and when the flowers show colour, shading is essential, for a few hot days' sun will often completely spoil the flowers, which, if properly shaded, will last in full beauty for two or three

weeks. At the same time use no more shading than is absolutely necessary, for the more light and air they can have without bright sunlight the better, and when the flowers fade, discontinue the shading, and let them have all the light and rain. By the end of June the stems will be ripened off, and then the bulbs may be taken up. The offsets should be planted separately, and if from a named collection, properly labelled.—*W. B. G.*

WEEDS.

How marvellously quick these seem to grow in comparison to crops of any commercial value. After the recent showers they are coming up as thickly as if carefully sown. It needs many years of tillage in the best form to get rid of the seedlings resulting from one season's neglect, and we would therefore direct attention to the need of prompt measures.

One of the most annoying traits in a neighbouring cultivator is when he allows a regular nursery of weeds to establish themselves to the great harm and trouble of all those who aim at cleanliness. The seeds of most obnoxious weeds are spread far and wide in every direction, and the extra labour thus caused is scarcely credited. Weeds are sure to choose the soil that suits them best, and wherever a piece of land that is fit for remunerative cropping exists there is quite sufficient battling to do without the almost ruinous tactics of one's neighbour.

A penny wise and a pound foolish is not more plainly exemplified in any phase of garden craft than in the neglect or otherwise of weeds. So long to get a piece of ground clear of these natural enemies, and so soon to fall back into a state worse than the first; for we must expect them to prosper with more than ordinary luxuriance if we allow them to gain a second footing upon land in good heart and well provided with all they can require. Once allow them to seed and the slightest movement in the air will do incalculable mischief. If we can get them hoed off as soon as they appear, we not only save the crop, but lessen the labour to such an extent that one man now is worth twenty in a few weeks' time. Therefore on no account neglect the weeds.—*P.*

A GARDENER'S DUTY TO HIS EMPLOYER.

In all professions there are those who grumble at their calling, thinking that the lot of others is happier and more enjoyable than their own. Visitors when looking round a well-kept garden at a season when it is gay with flowers, and contains a good supply of tempting fruit, are very apt to give vent to their feelings of admiration with the words, Oh! how I should like to be a gardener! Such an ejaculation comes natural, for they are looking on the sunny side of the profession; they are not aware of the anxiety and perseverance that has been exercised to produce these lovely flowers and luscious fruits they so admire; the many ills and insects the products of a garden are liable to, and the changeability of the climates to which gardeners are subject; the high moist temperature of forcing houses, and the many variations outdoors, which has gained for us the saying, "We have no climate, only a change of weather." Or again, the scheming and homespun contrivances that some gardeners have to adopt to produce a creditable display of flowers and plants, fruit and vegetables, for their employers' table at all seasons. Likewise the depression of recent years, for when retrenching has to be resorted to in an establishment, the garden is generally the first department that has to suffer by a reduction of hands. So taking into consideration that my latter observations are likely to produce cause and effect, you will admit with me that it is somewhat difficult to write a satisfactory exposition of a gardener's duty to his employer to please all and offend none.

Well, as soon as a gardener enters on a new situation he must, as they say, "take stock" of what he has taken to, as to whether his new charge is well abreast of the time of year or in arrears. If he is following a good man his task will be somewhat easy in that way; but if he has succeeded a man whose heart was not in his work, either as regards exerting himself or seeing that his subordinates—be they few or many—did their duty during the time—presumably a month—he has known of changing, then his task will be more difficult, but a great deal depends on the time of year that he takes possession. A gardener that knows his business and is not afraid of exerting himself will set about the task of making an alteration wherever necessary at its proper season. Some practitioners on taking possession are very apt to find fault with everything that has been done before, whether rightly or wrongly. Such a trait is to be regretted, and often shows a want of ability on their own part when they seek to piecemeal the labours of one who has worked as it were in the same field. I think you will agree with me when I say that the days of kid-gloved gardeners has departed. We live in more practical times, the gardener of to-day is expected to work with his hands as well as his head.

Much good has been done in the stimulating of horticulture by the excellent and cheap gardening literature, several of which are published at such a price as to bring them within the reach of everyone possessing a garden, and gardeners do well to use their influence in inducing employers to furnish a supply of gardening periodicals for the use of the young men in the bothy, so as to encourage them in their quest of knowledge, and to imbue them with a desire to make the best of everything that comes under their own manipulation and attention. For the success of the gardener depends in a great measure on the individual assistance he receives from his subordinates, for a gardener in a large establishment cannot give everything his personal attention, and that, perhaps, is one reason why those in small places achieve greater success with some speciality they take in hand, as it comes directly under their own charge.

Horticultural exhibitions—as well as horticultural literature—have done much to raise the standard and popularity of gardening, and promote a spirit of friendly rivalry as to who should emerge most honoured from the fray. But gardeners, on taking a new charge should make themselves acquainted with their employer's views on exhibiting, as some are very much opposed to it, not so much that they wish to hinder their gardener from placing specimens of his skill on the exhibition boards, as from the fact that some time or other exhibiting has been overdone in their establishments; very probably a speciality has been make of a few subjects, and other departments neglected. Such proceedings naturally bring exhibiting into disrepute with employers, which is a state of things to be regretted, as the gardener who takes a thorough interest in everything under his charge, treats all alike, he does not as it were make fish of one and flesh of another, and exhibiting in his case, would promote a desire to achieve greater results. I think some employers wrongly labour under the impression that exhibiting is detrimental to their gardens, possessing the idea that their gardener would be devoting his time to a few things, to the disadvantage of the garden generally. This unfortunately may be so in some cases, but for the credit of gardeners I trust they are very isolated. But my contention is that exhibiting stimulates a gardener with a desire to attain greater achievements, take for instance the grower that "goes in" for collections of fruit, he must pay attention to the whole to bring them to a state of perfection entitling his production to any chance of success. The same with the exhibitor of collections of vegetables; if their products are worthy of recognition on the boards, are they not so much better for the employer? In the case of plants an exhibitor may fall into the error of giving them more attention than the majority under his care, but as I said before I hope such cases are few and far between.

The gardener who has his employer's interest at heart will not only do his duty, but will take care that those under him perform theirs also, and to gain this end he should obtain the confidence of his employer, so as to be able to engage his own men, also have the paying of them, and should he then happen to obtain workmen unworthy of their hire he should be in a position to discharge them; that will in a great measure compel them to do their duty to the best of their ability; for it is very humiliating to a gardener to feel that he is not master of the situation, to have those under him treating him as though he had no authority over them, and merely occupied his position to bear the blame and tell them what to perform. I do not say that such a spirit is general among young gardeners, but it is often the case with labourers, especially in country places, some of them having probably been on the place all their life, they are apt to think every successive head gardener an interloper, and soon begin to enquire "where he comes from" and wonder "how long he's going to stop," at the same time not being slow to make any stride for their advantage if they can accomplish it. Gardeners should always make the best use of the materials at their disposal; cases have occurred where on taking a fresh situation the gardener started on too many alterations at one time and thus fell into a muddle. Or in making radical changes without first consulting their employer on the matter, perhaps felling some favourite tree or shrub, which they consider,—and probably is—not a thing of beauty, but which to their employers is an object of great interest—perhaps of family historical interest—and which a lifetime cannot replace, even the tree, let alone the traditions connected therewith.

Most gardeners have a partiality for some particular class of plants, and in some cases make a regular hobby of them, but, perhaps, their hobby-horse cannot be ridden in all places, cannot be entered for every race! Therefore they should be cast aside as though you had an antipathy to them if necessity requires; throw away your partiality for your old loves, and be on with the new—your employer's hobbies or special favourites. Another thing to which some employers have a decided aversion—gardeners showing their friends over the place, and also to giving away plants or cuttings, even though it may be done in the legitimate spirit of exchanging, so that the gardener will do well to make himself acquainted with his employer's views on these matters, so as to avoid any misunderstanding ultimately. I was once asked by a gentleman, when having an interview as a candidate for his situation, "I hope you are not in the habit of taking things away in your pockets?" Such an expression pointed its moral. It is always advisable and necessary to success for a gardener to keep his work in all its various departments well abreast of of the time of year, never putting off till to-morrow what can be done to-day. Procrastination in garden operations often causes failure. Work should be done thoroughly and with method; nothing pays that is done by halves, and for the well being of the garden and the employer's interests no gardener should be working with the spirit of "Oh, it will last my time!" such a feeling is not only detrimental to a garden, but it is like laying a trap for your successor. If a gardener is dissatisfied with his "digging" he should resign his appointment. But changes ought never to be lightly or rashly made; it is always better to endeavour to mitigate grievances, for at the present time there is such great competition in our calling that if one gardener resigns there are scores ready and eager to fill the vacancy. And it is a sad result of hasty policy to have to look back with regret at the green hills you have left behind when you find the world more rough and rugged in some new locality where all is not as fancy painted.

Then again, no garden ever figures at the top of the tree where changes are frequent, for what one practitioner does with an ultimate aim in view his successor probably undoes; it is similar to a man building on another's foundations. In conclusion, I may say that in these days it behoves everyone to study economy, and to obtain value for capital expended, so that a gardener should have his eyes open to all work that is undertaken in his department by tradesmen, whose "cutting" contracts are sometimes made to pay by scamping and poor materials. Some may regard it outside the province of a gardener to interfere in such matters, but it is his duty to his employer, and also to himself, as if he does not it may jeopardise the employer's confidence in his gardener's ability and integrity when such work requires frequently to be done.

The gardener that thoroughly understands his business and studies his employer's interests should be encouraged with due consideration as to his comfort and welfare, and though he may in all his actions be like Cæsar's wife—above suspicion—he will be lucky if he is blessed with the power of pleasing everyone; but the main thing is to please his employer, and remember the advice, "Sow thick, thin quick, and keep friends with the cook," for it has been said that a good kitchen gardener will make headway where an Orchid grower would go to the wall.—*Pathfinder.*

PRESERVATION OF FORESTS.

The address of Professor J. B. Balfour at the Oxford meeting of the British Association has scarcely received the attention it deserved. The subject of forestry generally has both a local and a general interest to Englishmen. It has a local interest, inasmuch as we are annually paying foreigners some eighteen millions sterling for forest produce, much of which might, with advantage to British agriculture, be produced at home. It has a general interest, inasmuch as a timber famine would be felt as severely by Great Britain as by any country in the world.

Experts have long seen the importance of this question, but there has been little, if any, development of public opinion; and, as Professor Balfour said, botanists have not sufficiently directed their attention to the encouragement of planting and the instructing of practical men in the scientific care of forests. In the United Kingdom there was more planting zeal of an enlightened character at the close of the last and the beginning of the present century than there has been since. In many parts of the world the destruction of forest without fresh afforestation has been immense during the latter half of the present century; while it is probable that in no considerable country has the area freshly afforested very much exceeded that over which the forests have been cut down. A great part of the timber supply of the last half century has been derived from the clearing—not merely the cutting down—of forests. Such areas are not now producing timber for future consumption. This work of forest destruction has been going on, not only in lands that have been newly colonized and where the clearing of a great part of the land is a necessity, but also in Russia and other European areas which have hitherto sent large supplies into the world's timber markets. There has been, and is still, much careless destruction of forests over areas where a scientific arboriculture would have insured a re-afforestation and a constant supply of timber in the future. Person who form their opinion upon the subject from the present cheapness of timber fail to take into account the fact that the demand for timber inevitably induces the irresponsible owners of forest land, especially in newly-colonized countries, to rush their timber into the market without regard to the consequences that must result from a wholesale and permanent destruction of forests. Unless the Governments of the world interfere much more than they are now doing to prevent it, irresponsible private owners will go on thus filling the market with timber without providing for future supplies, until suddenly the supplies are stopped because no more timber exists. Not only do trees take many years to grow into timber, but when forests are once destroyed it is not easy—in some cases it is impossible—to reproduce them. The southern and eastern seaboards of the Mediterranean have been converted into arid wastes by the destruction of forests by the ancients. The northern seaboard of the same sea has also, in many places, suffered from the same cause. Were the areas of existing forests in North America, Russia and elsewhere to become disforested such fresh climatic conditions would be set up as would both be disastrous to those countries and would make the work of re-afforesting practically impossible, except at an exceedingly slow rate.

That the threat of a timber famine within a measurable distance of time is no idle one can be easily proved by a few figures. If the forest area of Europe and the United States be taken at 1,400 million acres and the annual consumption of timber of all kinds clears the timber off 23 million acres the whole would be used up in two generations, unless an equal quantity was being continually reproduced. But at present nothing like an equal quantity is being reproduced. This calculation has not taken into account the supplies from the forests of India and Australasia nor the untouched resources of Siberia. But the Australasian forests are rapidly disappearing before the axe of the colonist and the careless lumberman, and the development of the Indian and Siberian supplies will be largely used up in the constantly-increasing demand for timber all over the world. It may be imagined that the use of iron and other substances in the place of timber has diminished our need of timber, but it is not so. The United Kingdom now consumes five times as much timber as it did a century ago, and the difference is not due solely to the increase of the population, for the percentage per individual has nearly doubled. Thus, what with the clearing of forests for the purposes of colonization, the reckless and unnecessary destruction of forests where the land is not wanted for agriculture, the ever-growing consumption of timber, and the neglect in many countries of securing any adequate reproduction of timber, the relation between the demand and the supply of timber is yearly becoming more and more critical.

So far the only thing considered has been the bare supply of timber. But there are other and very important questions connected with the preservation of forests. Many districts, without their forests—or, at any rate, without some considerable areas of forest land—would become arid, uninhabitable wastes. In France the re-afforesting of the hill-sides has in many parts been found necessary to protect the surrounding districts from drought on the one hand and floods on the other. One important office in nature performed by masses of trees is that of holding the balance between drought and floods. But to enlarge upon these points would be to go too far into the technical details of forestry for our purpose here.

Something must be said as to the domestic interest which the inhabitants of the United Kingdom have in the subject of forestry. There is, first, the question of having to buy of the foreigner what we might to our advantage produce at home. No country is better adapted to tree-growing than the British Isles. If left to themselves for a couple of generations they would again be what they once were—lands of dense forests. There are considerable areas now under timber culture which do not pay for their cultivation. They were forced into cultivation in the beginning of the century and at various times since by the temporary high prices of agricultural produce. Those high prices are, and will remain, things of the past. The world has become one great farm, and no fiscal regulations can for any length of time prevent the free interchange of produce between the nations. It will be a century or more before the population of the new countries consume the whole of their agricultural produce. Until then the agricultural value of poor lands in England must be low. The best thing to do with such lands is to plant them. Several collateral advantages would be obtained were this done. At present the modern system of draining agricultural land carries off the rainwater only too rapidly, producing excessive flooding of the lower levels and an unnecessary drought on the higher levels in such seasons as marked last summer. Woods act as sponges, retaining the rains and allowing the water to permeate the soil and fill the springs instead of rapidly flowing off, while the roots of the trees act as so many subsoil drains. Woods judiciously planted would also screen the adjoining areas.

The great difficulty, of course, is to be found in the fact that planting is for many years almost unremunerative. As is often said, a man plants for his heirs. But we are the heirs of former planters, and should have been in a poor plight if our ancestors had cultivated only those crops that were immediately remunerative. Moreover, nature has now no room to plant for us, as she had in the past. This financial difficulty makes it necessary to call in either State aid or to adopt an extensive system of co-operation among landowners. As Professor Balfour said, the State can do something by way of example on its own lands. This example would stimulate private planters, but such stimulation would scarcely be sufficient to effect all that is desired. Some system of State loans, repayable as the woodlands become remunerative, could be adopted. Certain kinds of planting would very soon give a return. Osier growing is remunerative in two or three years. We import an enormous and ever-increasing quantity of Osiers, most of which we could grow at home on land otherwise of little use. The growth of the fruit culture has largely increased the demand for baskets, and other industries are doing the same. In the case of the timber woods, some return would be obtained in the course of a few years, and local industries would spring up near the larger tracts of woodland, utilising the thinnings, &c.

It is indispensable that the planting be undertaken under skilled superintendence, and that a sufficient body of trained foresters be obtainable. Forestry ought to take the place in English education which it takes in France and Germany, and ought also to have its prizes to attract a high class of students. We should do for home forestry what we are doing for Indian forestry. But before all this is likely to take place a well-informed public opinion must be created.—*A Botanist, in the Times.*

GARDENING MISCELLANY.

SENECIO GALPINI.

From the warmer and drier parts of Africa we get some strange and curious forms of plant life including that under notice. Although classed by modern botanists with the Ragworts, it is as diverse in appearance from the common Ragwort (S. vulgaris) or any of its nearer allies, as it might possibly be, although structurally as far as the flowers are concerned they are the same. The foliage and all parts of the plant before it comes into bloom, remind one of a Cotyledon or Echeveria such as C. secundum glaucum. The leaves are spathulate, slightly channelled and keeled, stalkless, fleshy and very glaucous. Those on the upper parts of the stem of old plants are rather broader. The flowering stems vary from 6 in. to 2 ft. according to the strength of the plant, and develop numerous leafy, elongated branches bearing a single flower head of large size at their apex, seldom more. The head is large and rayless, that is, consists entirely of slender, tubular florets which are five-lobed at the mouth. The species was introduced from the Transvaal about four years ago and several specimens may be seen flowering in the Heath House, Kew. The large plant is at once showy and very curious. The form of the leaves and their fleshy character shows what a dry climate can effect in a long period of time. Several other species of Senecio from Africa have terete or cylindrical leaves which are smooth as in S. Galpini or hoary, with tomentum, as in those species which are generally known in gardens under the name of Kleinias.

HOYA CARNOSA.

Seeing the note upon this plant in your number for August 4th, it may interest your readers to hear of one, which was in an Orchid-house I had charge of, when foreman. The house in question is an old three-quarter span-roof, the back wall of which is covered thickly with Ficus repens and small ferns. Intertwining amongst this and obtaining its nourishment from the wall through roots emitted by its stems, is a specimen of this interesting plant. Several of its shoots reach the wires under the roof, twine round them, and run the length of the house. They look very pretty when clothed with the pendent umbels of wax-like flowers. The plant was originally fastened to the wall in a cork pocket. This I removed two or three years ago, and since then the plant has derived all its nourishment from the wall.—*A. P.*

THE SWAN RIVER DAISY.

This pretty little composite, Brachycoma iberideri-folia, looked very charming and attracted much attention in a group of plants arranged by Mr. W. Chambers, of the Westlake Nursery, Isleworth, at the local flower show held on the 14th ult. in the grounds of Spring Grove House. It has, as its name implies, the light graceful foliage of the Candytuft when well grown and is of dwarf habit. The flowers are of a pleasing shade of blue, and borne in profusion on erect, slender pedicels. Its adaptability for table decoration was also demonstrated on the same occasion, the flowers being very effectively used by a lady.—*A. P.*

LILIUM HENRYI.

Botanically this is closely allied to L. speciosum, and flowers contemporaneously with it, but although the structure of the two is closely similar, they are very distinct for garden purposes and produce a totally different effect. L. speciosum when grown out of doors is dwarf (2 ft. to 3 ft. as a rule), and however much coloured and spotted, the ground colour is always white. On the contrary, L. Henryii is more decidedly erect, attaining a height of 3 ft. to 7 ft. or more, according to the strength of the bulb, the soil, and the nature of the season. Amongst Lilies it may always, like L. speciosum, be considered a late summer flowering one, coming in

during August and September. The flowers are similar in shape to those of L. speciosum, and may be, if anything, a trifle smaller, but the difference in that respect is not very appreciable. They are of a beautiful orange-apricot, fading with age, but not liable to bleach white in the same peculiar way as those of L. Hansoni, which are, of course, earlier and subjected to a greater amount of glaring sunshine. The lower half of each segment is strongly tuberculated on each side of the middle line, and more or less striped with crimson.

LARGE v. SMALL POTS.

There seems to be a tendency among amateurs to repot a subject when it does not appear to be doing so well as they wish. Many instances have come under my notice during the past few weeks where the plant would have been better off, or at least quite as well, in a much smaller pot. This is not the only object, for weight alone is no inconsiderable item when handling a large number of pots if a size or two above what is necessary be used. We see ample proofs that plants can be well grown in small pots by the good-shaped and beautifully-finished Palms, Crotons, Dracaenas, etc., to be found in the market establishments. Turning to flowers. What exquisite plants of Cyclamen, Calceolaria, Cineraria, etc., we find in pots that are only about half the size many amateurs would use for plants of the same dimensions; nor would they get the same grand results. Of course, a larger selection of soil and more compost can scarcely do harm; but still there are some instances where a smaller amount of rich soil is far preferable. Use a good compost, see that drainage is efficient, pot firmly, and attend to their water supply, when we may have better results with less labour and expense, to say nothing of the greater usefulness of such plants when decorating.—*P.*

LYCORIS AUREA.

The species of the genus Lycoris are closely allied to the Hippeastrums, whose flowers vary from pink to rose and crimson as a rule, and, in one case, at least, are beautifully tinted with blue. The bulbous plant under notice has golden-yellow flowers borne in umbels of five to ten. The segments are wavy and all directed upwards, reminding one of a Nerine, but they are united at the base into a tube ½ in. to ¾ in. long. The flower scape varies from 1 ft. to 2 ft. long, and the glaucous, strap-shaped leaves are just appearing, but do not reach perfection till May or thereby. The species is a native of China, from whence it was originally introduced in 1777, but could never have become very common. Bulbs were imported from Hong-Kong this year and have been flowering beautifully for some time past in the Begonia house at Kew. Though the flowers require a higher temperature to develop them than in the case of the Nerines, yet it would seem possible to keep them under the same conditions while in flower; at all events, it would be desirable to associate them together for the contrast of colours in similarly formed flowers.

THE BERRY BEARING ALDER.

The popular name of this shrub is somewhat misleading in this instance, since the plant has no connection either with the Alder or Elder. It is more nearly allied to the Ceanothus, of which a considerable number of American species and garden varieties are now cultivated. The Berry-bearing Alder or Rhamnus Frangula is a British plant and still exists in widely separated localities, especially where virgin wood forest or untilled scrubland still exists. The greenish white flowers are small and produced in clusters in the axils of the leaves, but are scarcely conspicuous enough to be ornamental. They, however, commence to bloom in May and keep on till September, provided the bush is healthy, and are succeeded by berries that at first are green, then turn red, and finally black. All these stages from the flower to the black berries may be seen upon the plant at the same time and render it highly ornamental, especially in association with the shining, deep green leaves. For these reasons the the shrub might well find a place in shrubberies. Birds do not seem to molest the berries, at least during the summer months so that they long continue in perfection. The wood is used by gunpowder makers under the name of Black Dogwood.

CANKER IN MELONS.

This dread disease has been more prevalent this season than usual, owing, no doubt, to the sunless weather, and the low temperature which we have experienced for some time past, and which has made Melon growing rather difficult. I have several varieties growing in unheated pits, all of which have suffered more or less from its effects, with one exception—I have a six-light pit planted with Sutton's A 1 which seems to bid defiance to its attacks. Having examined plant after plant without finding any trace of canker, and having grown this variety for several seasons, I have found it to be proof against this disease. Fresh slaked Lime applied to the affected parts is one of the best remedies I have yet tried for canker.—*Jas. Barkham, Longford House Gardens, Haven Street, Isle of Wight.*

ROYAL AQUARIUM SHOW.

An early exhibition of Chrysanthemums, Dahlias and Gladioli, was held in the Royal Aquarium, Westminster, on the 4th, 5th, and 6th inst. The Chrysanthemums were very much the same as on former occasions of the earliest show, the Pompons being most in evidence. Dahlias, and especially the Cactus varieties, were undoubtedly the great feature of the show, being largely represented. The Gladioli were also showy, though the exhibits were not numerous. The first prize for twenty-four bunches of Chrysanthemums was taken by Mr. E. Vince, Highgate Cemetery. Quite a third of his bunches consisted of large flowering sorts, such as Souvenir de Madame Menier, Sam Henshaw, Vice President Hardy, and Madame Desgranges. The Pompons were generally good. The second award went to Mr. E. F. Such, Maidenhead, whose flowers, even of the larger kinds, were smaller, but in most cases fairly fresh. Mr. T. S. Ware, Hale Farm Nursery, Tottenham, took the third place with smaller bunches. The best twelve blooms of Madame Desgranges in the exhibition were those shown by Mr. B. Calvert, gardener to Col. Archer Houblon, Hallingbury Place, Bishop's Stortford, Herts; Mr. E. Vince was second; and Mr. John Wright, Middle Temple Gardens, E.C., took the third place. He, however, had the best six bunches of that variety, and the best six bunches of yellow varieties of Madame Desgranges. Mr. E. Vince was second for six bunches of the white form of the latter.

In the class for twelve blooms of any large flowering kinds except Madame Desgranges the first award was made to Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, who had fine blooms of Madame Edward Rey, Beauty of Exmouth, W. H. Lincoln, and Bridesmaid; Mr. J. Agate, Havant, Hants, took the second place, with some fine blooms of Madame Harman Payne and President Borel; Mr. B. Calvert was third with blooms of George Wermig only. Miss R. Debenham, St. Peters, St. Albans, had the best twelve trusses of pompon Chrysanthemums; and was followed by Mr. E. Vince with smaller blooms. Mr. W. Wells was awarded the first prize for six bunches of large flowering varieties, as well as for six distinct blooms, the latter being by far the best. In the amateurs' classes the first prize for twelve bunches of Chrysanthemums was awarded to Mr. Thos. W. Lester, 90, Alexandra Road, Hornsey, N. Frank Bingham, Esq., 6, Bethune Road, Stoke Newington, had the best six blooms of Madame Desgranges in this divison; Mrs. W. Smith, Como Street, Romford, Essex, had the best epergne of Chrysanthemums. Some prizes were offered for a collection of Gladioli spikes, and the first award was accorded to Messrs. J. Burrell & Co., Howe House, Cambridge, who were the only exhibitors, but whose collection was both extensive and imposing.

The first prize for forty-eight blooms, comprising not less than thirty-six varieties of show and fancy Dahlias, was awarded to Mr. Charles Turner, Slough, for a very fine collection; blooms of such sorts as G. Rawlings, John Walker, Seedling, and Maud Fellowes were particularly good. The second prize was carried off by Messrs. Keynes, Williams & Co., Salisbury. Mrs. Foreman, Arthur Ocock, William Keith and Agnes, were some of the best varieties exhibited by this firm. The third prize fell to the lot of Mr. John Walker, Thame, Oxon, who had Colonist, Ethel Briton and Maud Victor very fine. For thirty-six blooms, distinct, Mr. John Walker, was first, with such varieties as Miss Cannell, Mrs. Langtry, Mrs. W. Slack, and John Wyatt, in very fine order. The second prize was taken by Messrs. Keynes, Williams & Co. with, amongst others good blooms of Eclipse, William Keith, and Mr. Charles; Mr. Charles Turner was third. Messrs. Saltmarsh & Son, Chelmsford, were awarded the first prize for twenty-four blooms, distinct, such sorts as John Walker, Shirley Hibberd, and Alice Emily, being well represented in this exhibit. The second prize went to Mr. G. Humphries, Kington Langley, Chippenham, and the third fell to Mr. J. R. Tranter, Henley-on-Thames. For eighteen blooms, distinct, Messrs. Saltmarsh & Son, were again first. Mr. Arthur Rawlings, Old Church, Romford being second, and Mr. G. Humphries, third.

In the Amateurs' and Gardeners' classes, Mr. J. T. West, gardener to W. Keith, Esq., Cornuwalls, Brentwood, took first honours for twenty-four blooms distinct, some of his best varieties being Alice Emily, Rev. J. Goodday, and Duchess of York. The second prize fell to J. Gurney Fowler, Esq., Glebe Lands, South Woodford, and Mr. James Stredwick, Silverhill, St. Leonards-on-Sea, coming in third. For eighteen blooms, distinct, Mr. J. T. West was again successful in gaining first honours with twelve blooms, distinct, Mr. Thomas Elagg, gardener to Mrs. Theobald, The Bedfords, Havering, near Romford, was awarded the first prize; Mr. Arthur Ocock, Rudgewick, Horsham, Sussex, taking the second. For six blooms, distinct, Mr. Arthur Ocock was first, and Mr. Thomas Elagg, second.

Pompon varieties were in fine form, and for twenty-four bunches, distinct, Messrs. Keynes, William & Co., were first, such varieties as George Brinkman, and Arthur West being among the best in this exhibit; second, Mr. Charles Turner, who had White Aster, Lilian, Favourite, and Isabel among the best varieties; third, Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley. For twelve bunches, distinct, Mr. J. T. West was first, Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, second; and Mrs. F. W. Seale, Vine Nurseries, Sevenoaks, third. For six bunches, distinct (open to amateurs and gardeners only), Mr. J. T. West was first; Mr. James Stredwick, second; and Mr. C. Osman, South Metropolitan District Schools, Sutton, third.

In the single variety classes, Messrs. J. Cheal & Sons were first for twenty-four bunches, distinct, having Golden Locks, The Bride, Rosebank, and Cardinal amongst their best varieties; second, Mrs. F. W. Seale. For twelve bunches, distinct, the first prize went to F. W. Girdlestone, Esq., Sunningdale, Berks, the second to Mr. Eric F. Such, Maidenhead, and the third to Edward Mawly, Esq., Rosebank, Berkhamsted.

The decorative and Cactus varieties were grandly represented, and in a fine class for eighteen bunches of six blooms each, distinct, the first prize was awarded to Messrs. J. Cheal & Sons, for a superb collection; second, Messrs. Keynes, Williams & Co., and third, Mr. Charles Turner. For twelve bunches of six blooms each, distinct, Messrs. J. Burrell & Co. came in first, Mrs. F. W. Seale, second, and Mr. Eric F. Such, third.

In the Miscellaneous Class a Silver Medal was awarded to Mr. H. J. Jones, Hither Green, Lewisham, for a group of Chrysanthemums, consisting of the larger bloomed varieties of the early kinds, which were fine. A similar award was made to Mr. J. H. Witty, Nunhead Cemetery, S.E., for a group of Chrysanthemums backed up with Cannas and fronted with Ferns. A showy and imposing collection of cut flowers of Zonal Pelargoniums, set up with Maidenhair Ferns, was set up by Mr. H. J. Jones, who was awarded a Silver Medal. A very imposing and effective arrangement of all the leading types of Dahlias was made by Mr. T. S. Ware, who secured a Silver-gilt Medal. The Cactus varieties in the centre formed a fine bank. Bamboos and Eulalia gracillima lightened up the group. A Silver-gilt Medal was also awarded to Messrs. J. Cheal & Sons, Crawley, Sussex, for an effective arrangement of Apples, Pears, Plums, also cordon fruit trees, and the whole flanked with hardy herbaceous plants and Dahlias. The trees were heavily laden with fruit. An effective floral arrangement was set up by Mr. J. R. Chard, Brunswick Nurseries, Stoke Newington, for which he received a Silver-gilt Medal. A similar award was made to Messrs. H. Cannell & Sons, Swanley, Kent, for a large collection of Cactus and decorative Dahlias set up in bunches in their usual

neat fashion. Altogether this class was the most effective of any of the type in the show. A large collection of hardy herbaceous plants was exhibited by Messrs. J. Laing & Sons, Forest Hill, including Pentstemons, Phloxes, Asters, and Lilies, also Dahlias and Roses, for which they received a Silver-gilt Medal. Messrs. S. Spooner & Sons, Hounslow, had an exhibit of Apples, Pears, and Plums, the first-mentioned being very well represented and in good condition. A Silver Medal was awarded. A collection of Quilled Asters exhibited by Mr. R. Dean, Ranelagh Road, Ealing, W., was highly commended. The varieties were very neat and varied. A Silver Medal was awarded to Mr. E. F. Such for a collection of Dahlias and Chrysanthemums.

QUESTIONS AND ANSWERS.

ORCHID PLATES.—*W. T., Leeds*: The address you require is Messrs. H. M. Pollitt and Co., 42 and 48, Fann Street, Aldersgate Street, E.C. You can also get plates from *The Garden* office, 37 Southampton Street, Strand, W.C., and Messrs. Lovell Reeve and Co., Henrietta Street, Covent Garden, W.C.

FRUIT EVAPORATORS.—*C. H. Slater*: 1. Write for particulars to Mr. F. E. Clotten, 258, High Holborn, London, W.C., and Messrs. Ph. Mayfarth & Co., 16, Mincing Lane, London, E.C. 2 and 3. We have no information on these questions that would be of any value to you. The possibilities of the trade have not yet been sufficiently determined.

NAMES OF PLANTS.—*J. G. W*: 1, Dracaena not recognised; 2, Caragnato Zahnii; 3, not recognized; 4, Begonia coccinea; 5, 11, 12, 13, Crotons not recognized; 6, Begonia conchaefolia; 7, Dracaena striata-rosea; 8, Croton aneitense; 9, Nephrodium setigerum; 10, Maranta Leitzii; 14, not recognized. It is almost impossible to name Crotons from a single leaf, because they vary so much on the same plant.—*W. Milne*: 1, Oenothera fruticosa Youngii; 2, Solidago canadensis; 3, Helianthus decapatulus probably, specimen insufficient; 4, Potentilla argyrophylla var; 5, Lychnis Chalcedonica; 6, Hypericum quadrangulum, 7, Pulmonaria saccharata; 8, Epimedium pinnatum; 9, Alyssum saxatile; 10, Hibiscus syriacus; 11, no specimen; 12, Plumbago capensis; 13, Bougainvilla glabra.—*W.C.G.*: 1, Lysimachia ephemerum; 2, Physostegia virginiana; 3, Pulmonaria saccharata; 4, Pulmonaria saccharata or a slight variety of it.—*Wm. Ogg*: 1, Bocconia cordata; 2, Asplenium Ruta-muraria; 3, Hypnum sp; but we cannot undertake to name mosses.—*P.M.*: 1, Hemerocallis fulva flora pleno; 2, Hypericum calycinum; 3, Humulus japonicus variegatus; 4, Sempervivum Dorame; 5, Cryptogramme crispa also known as Allosorus; 6, Sibthorpia peregrina; 7, Croton Baron Rothschild apparently, but if so is badly coloured.

COLLECTIONS OF FRUIT TREES.—*Amateur*: You do not tell us at what reason you want them to ripen, whether in succession or at any given period. The following Peaches are six of the best for small collections, and ripen in the order named:—Alexander, Early Rivers, Doctor Hogg, Grosse Mignonne, Noblesse, and Bellegarde. The following excellent Pears ripen in succession:—Jargonelle, Williams, Bon Chrêtién, Beurré d'Amanlis, Louise Bonne of Jersey, Maréchal de Cour, and Easter Beurré. You can hardly keep up a constant supply with six varieties, but the above will cover a period from August to April. July Green Gage, Denniston's Superb, Green Gage, Purple Gage, Jefferson and Coe's Golden Drop are all excellent dessert Plums, keeping up a supply from July to the end of September. Amongst Cherries, Early Purple Gean, Black Tartarian, May Duke, Elton, and Bigarreau are choice varieties giving a succession from June to August. For culinary purposes or for dessert when dead ripe, the Morello should be included. The following dessert Apples usually bear well and are excellent in quality:—Devonshire Quarrenden, Gravenstein, Cox's Orange Pippin, Ribston Pippin, Lord Burghley and Boston Russet. Should you desire Apples, Pears, Plums or Cherries for cooking purposes more especially we could name them if so desired.

LIFTING LILIUM CANDIDUM.—*W. G.*: You cannot lift the bulbs too soon when the leaves on the old stems have mostly withered, because the new bulbs commence to develop roots directly, and with the autumn rains the winter leaves appear. By that time the roots are so numerous and so long that they cannot be lifted without breaking many of them. Your object then should be to move them when the roots are but yet as little developed as possible. No advantage is gained by keeping the bulbs for a single day out of the ground, as the young roots get dried up and the strength of the bulbs is wasted. The vigorous development of the winter leaves, is essential to the well-being of the Lily, and the chances of its flowering well next year. When planting, whether in clumps or lines, plenty of space should be left between every two bulbs for the off sets to grow without being disturbed for some years, as this particular species dislikes being disturbed very frequently at the root.

BEDDING VIOLAS.—*J. Herd*: Being perfectly hardy they require no protection in winter as far as mere frost and snow are concerned. The practice of putting the cuttings into frames in the autumn has several advantages to recommend it. Near smoky towns a glass covering serves to keep off the sooty deposit from the atmosphere. Secondly the soil does not get beaten hard with the action of rain, and a little protection serves to hasten growth, and earlier flowering. All this however, will greatly depend upon the climatic conditions, the surroundings, and the soil of your neighbourhood. We should advise you to make a trial under glass in winter, and in the open air to determine which method gives the best results.

BELLADONNA.—*J. Stubbs*: The berries are indeed highly poisonous, so that the plant should be grown somewhere out of the reach of children, or the berries may be pulled off while they are still green and not offering any temptation. The plant in itself is very quaint and old fashioned and doubtless earned its reputation chiefly from its medicinal properties, but still continues to find a place in collections of medicinal plants. It must be acknowledged that the plant is in its most ornamental condition when well furnished with glossy blackberries, so that you must at least guard it at that period from being meddled with by the inexperienced.

PROPAGATING AUBRIETAS.—*W. Cuff*: Spring or early summer is the usual time for propagating these useful, spring-flowering subjects; but they are very accommodating and may be increased at various periods of summer, but more particulary when the moisture is sufficient to cause vigorous growth. The plants may be divided now if you have a border where they would not be exposed to much sunshine till re established, or you may take cuttings and place them in cold frames, inserting them in boxes of light, sandy soil. Keep the frames close for a time to hasten the rooting process, and should the autumn prove mild you may plant them in the open ground before winter. The plants cannot be of great size nor particularly serviceable for bedding purposes next spring, although they might be utilised if planted thickly. The method, however, offers a ready means of getting up stock, and if properly looked after, would in many cases be large enough for division next autumn.

DISEASED TOMATOS.—*S. Warren*: The complaint you make is a very common one this year, and is largely due to the wet nature of the season coupled with the conditions of culture. When grown under glass, Tomatos require to be kept as dry as possible. When grown in pots a good deal of watering is necessary to keep up the vigour of the plants, but when planted out this may be reduced to a minimum after the plants have made a good start. Atmospheric moisture, on the other hand, should be avoided even in the early condition of the plants, as it has a tendency to make the leaves thin and very easily attacked by the disease. The fungus in this particular case is Cladosporium fulvum and cannot be eradicated when once established. You may remove and burn the worst leaves, and many of the fruits will yet ripen. Next year try the method of prevention by giving plenty of ventilation and by keeping the atmosphere dry at least after the plants are established.

NETTLES DISEASED.—*W.B.G.*: The specimens last sent were those of the common Nettle (Urtica dioica). The bulk of the leaves were black as well as the fruits; but as far as we can judge from appearances, the dark colour is due to the exudations and excrement of aphides or insects allied to them, and not to a fungus as the origin of the evil. We did find a few patches of mould on the under side of a few leaves, but they appeared to be more the result of decay than real attack. Moulds and other matters also grow on the upper surface of Rose leaves that have been badly affected with Aphides, and get covered with their black excrement. The Nettles seem evidently a similar case for the filth is chiefly confined to the upper surface. If the fungus of the Potato disease were in the leaves, it would cause them to shrivel up and rot directly. With exception of a few holes like the punctures of insects, the leaves are not in any way broken down.

VINES IN RAINY WEATHER.—*Omega*; So long as ripe grapes are hanging, our chief object should be to expel damp to prevent the grapes from getting mouldy and damping. A little heat in the pipes is necessary on such occasions, but particularly at night. The most of the ventilation or all of it in wet weather should be given at the top so that the vapour may escape. A little bottom ventilation may be given during the day provided it is not raining, and the air is not saturated with fog or vaporous moisture. The amount of ventilation required will always be determined by the condition of the atmosphere for the time being; it is a matter for the judgment of those on the spot and in charge of the houses. Even in the wettest times, the damp may be dispelled by gentle fire heat and top air, so long as the rain does not come in heavily at the ventilator. The roots will require water to prevent the ripe berries from shrivelling, but wait always until the border gets dry. Choose a fine day for the operation.

NAMES OF FRUITS.—*Jos. Holmes*:—The Fruits are all immature, and it would be unsafe to try to identify them in such a condition.

COMMUNICATIONS RECEIVED.—G. J. I.—A. N.—W. H. E.—E. M.—H. J. L.—D. W. T.—D. P. L.—W. I.—W. C.—J. B.—G. P.—H. W.

TRADE CATALOGUES RECEIVED.

W. DRUMMOND & SONS, Stirling, N. B.—Bulbous Flower Roots.

FOTHERINGHAM & KING, Dumfries, N. B.

LORD & BURNHAM CO., Irvington-on-Hudson, New York.—Conservatories, Greenhouses, Heating appliances, etc.

W. CLIBRAN & SON, Oldfield Nurseries, Altrincham.—Bulb Catalogue for 1894.

DAVID W. THOMSON, 25 Frederick Street, Edinburgh.—Dutch Bulbs and other Flower Roots.

FISHER, SON & SIBRAY, Handsworth Nurseries, Sheffield.—Bulbs and Flower Roots.

W. P. LAIRD & SINCLAIR, Dundee.—Spring Flowering Roots for Autumn Planting.

EDWARD WEBB & SONS, Wordsley, Stourbridge.—Dutch and other Bulbs.

DOBIE & DICKS, 66, Deansgate, Manchester.—Dutch Bulbs, and other flowering Roots.

ROBERT SYDENHAM.—Tenby Street, Birmingham, Unique seed list.

LONDON SEED TRADE.

September 4th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small demand for Trifolium incarnatum. New English Winter Tares and Rye offer on easier terms. Mustard and Rape steady.

COVENT GARDEN MARKET.

September 5th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	5 0	Peaches & Nectarines, per doz.	2 0	8 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	20 0	21 0	Plums .....half Sieve	0 9	1 3
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0
Melons .....each	1 0	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 3	0 4	Lettnces ...per dozen	2 0	3 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 8
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Ferns, small, per 100	3 0	6 0
—specimen plants, each	5 0	15 0	Foliage Plants, doz.	12 0	60 0
Balsums, per doz.	3 0	6 0	Heliotrope...per doz.	3 0	6 0
Cockscombs, per doz.	2 6	4 0	Hydrangea...per doz.	9 0	18 0
Campanula, per doz.	6 0	9 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz	3 0	6 0
Chrysanthemums, per doz.	4 0	15 0	Palms in variety, each	2 6	10 0
Dracaena term., doz.	18 0	36 0	Palms, Specimen ...	15 0	63 0
Dracaena viridis, doz.	9 0	18 0	Pelargoniums, per dz.	6 0	9 0
Evergreens, invar. doz	6 0	24 0	—scarlet.....per doz...	3 0	6 0
Ferns, invar., per doz.	3 0	8 0	Rhodanthe s, per doz.	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	3 0	Lilium speciosum doz. blms.	1 0	1 6
Asters, English, doz. bchs.	3 0	6 0	Maidenhair Fern, 12 bs.	3 0	6 0
Asters, French, per bch.	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	1 0	3 0
Carnations...per doz.	0 6	1 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Carnation, doz. bchs.	2 0	4 0	Pelargoniums 12 sps.	0 4	6 6
Chrysanthemums, doz. blooms	0 6	1 0	—scarlet.....12 bchs.	2 0	4 0
,, doz. bunches	3 0	6 0	Poppies ...doz. bchs.	0 6	1 0
Cornflower, doz. bchs.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Eucharis ...per doz.	1 0	2 0	Primula, double, bun.	0 6	1 0
Forget-me-Not, doz. bchs.	1 0	2 0	Roses .....doz. bchs.	3 0	9 0
Gardenias 12 blooms	1 0	3 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. blms.	0 6	1 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Saffrano...per doz.	1 0	1 6
			— Tea ..... per dozen	0 6	2 0
			Sweet Sultan doz bchs	1 6	2 0
			Tuberoses, per doz	0 4	0 6

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SEPTEMBER.

11, 25.—R.H.S., Drill Hall.
11.—Woodstock Show.
12, 13.—Royal Caledonian Horticultural Society's Show.

OCTOBER.

9, 23.—R.H.S., Drill Hall.
10, 11, 12.—N.C.S. at the Royal Aquarium.

NOVEMBER.

2, 3.—Chrysanthemum Show at the Crystal Palace.
2, 3.—Battersea Chrysanthemum Show.
5.—St. Neots' Chrysanthemum Show.
6,7.—Leeds Paxton Society's Chrysanthemum Show.
6, 7, 8.—N.C.S. at the Royal Aquarium.
7, 8.—Bournemouth Chrysanthemum Show.
7, 8.—Hereford Fruit and Chrysanthemum Show.
7, 8.—Wolverhampton Chrysanthemum Show.
8.—Buddleigh Salterton Chrysanthemum Show.
9.—Exeter Chrysanthemum Show.
10.—Crewe Chrysanthemum Show.
13, 27.—R.H.S., Drill Hall.
13, 14.—Kingston Chrysanthemum Show.
14, 15.—Aylesbury Chrysanthemum Show.
14, 15.—Birmingham Chrysanthemum Show.
14, 15.—Bristol Chrysanthemum Show.
14, 15.—Hull Chrysanthemum Show.
14, 15.—Tunbridge Wells Chrysanthemum Show.
15, 16, 17.—Edinburgh Chrysanthemum Show
16, 17.—Bolton Chrysanthemum Show.
16, 17.—Bradford Chrysanthemum Show.
16, 17.—Stockport Chrysanthemum Show.
16, 17.—Sheffield Chrysanthemum Show.
20, 21.—Chrysanthemum Show in the Town Hall, Manchester.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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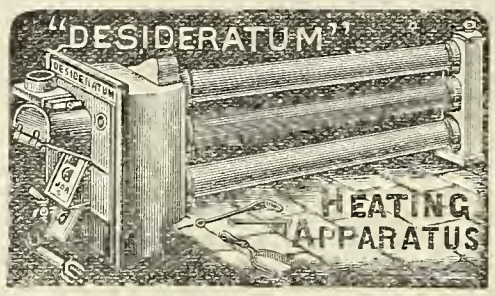

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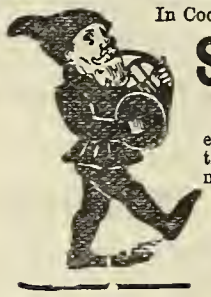

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For Index to Contents see page 46.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 17th.—Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.
TUESDAY, Sept. 18th.—Sale of plants at Welford Park, Newbury.
WEDNESDAY, Sept. 19th.—Sale of a Nursery Business at Plumstead, by Protheroe & Morris.
Trade Sale at Mr. R. Owen's, Maidenhead.
FRIDAY, Sept. 21st.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 15th, 1894.

THE NAMING OF NEW PLANTS.—Plant cultivators, and particularly those who have not had the advantage of a classical education, are often very much befogged and annoyed with the synonymous names with which a large number of plants are burdened. A plant may be grown for many years under a certain well-known name, till an edict goes forth that the correct name of it is something else, or till the cultivator receives an old friend obscured under a title of which he had never previously heard. All this is very annoying and ever tends to confusion, notwithstanding all efforts to rectify previous blunders. Two botanists, unknown to each other, may describe the same plant under different names, or a previously named and forgotten one may be re-described under a different appellation. The juvenile stage of plants is often introduced and appreciated by gardeners more than the adult stage, or the latter may be unknown, hence a new name is requisite. After many years of cultivation, the plant may flower or bear fruit and some botanist is almost certain to make the discovery that the plant is an old and previously named one, and rectifies the error, perhaps by making another. The creeping plant known by gardeners as Ficus repens is a case in point. No fewer than five species have had this appellation given them. The oldest description applies to a Ficus from the East Indies. The garden Ficus repens is now referred to F. pumila, a native of China and Japan, and was originally so described by Linnaeus.

Whether the nomenclature of plants will ever be reduced to a general uniformity all the world over or even in any one country is a question of the future; but even gardeners may assist in the consumation of this desirable accomplishment, by refraining from giving new names to plants that have hitherto been well authenticated. We do not of course refer to mere garden varieties of popular florists' flowers, for the fashion may call into existence hundreds of varieties which probably in many cases existed in bygone days, and became lost, both plants and names. In that case no confusion can be produced by re-naming things which may have previously existed. With wild and introduced plants the case is different. The cultivator may reply that the botanist is responsible for the existing confusion, and to some extent this is doubtless true; but as time goes on and every country gets thoroughly explored, and its plants described and specimens stored away in herbaria, there will be no excuse on the botanist's part for rushing into print with a new species till he has thoroughly ransacked his cabinets of old ones.

The modern botanist, with his descriptions, illustrations and specimens has something more tangible to work upon than the paleontological student, with his stony fossils, casts, impressions on stones, mud, slate or coal, and the like. The paleontologists of the future will have many corrections to make, for those now living are doubtless making many gross blunders. The Eozoon was formerly accepted as a well defined and perfectly developed foraminifer. Now, by general consent, it is dismissed as neither an animal or a plant, but a mere crystallisation. Quite recently M.M. Renault and Bertrand have described what might have been a disease producing germ under the name of Bacillus permiensis from the Peruvian rocks of Autun, that is, the strata overlying the coal measures. They describe the organism as consisting of straight rods, separate, or in pairs, sometimes in spirals or in chains. This would include characters belonging to different genera of microbes. After the fate of the Eozoon we may well choose to remain sceptical, for those organisms are too minute, watery and perishable to become fossilised even to oblige the paleontologist.

Mr. William Lunt has been appointed assistant superintendent of the Trinadad Botanic Garden.

Mr. James Packham, Ayton Castle Gardens, Berwickshire, N.B., has been engaged as gardener to Henry Webber, Esq., of Duxhurst, Horley, Surrey.

Crystal Palace Fruit Show.—Some difficulty having naturally arisen in respect to the ill-considered note 4 on p. 3 of the schedule of the Crystal Palace Fruit Show, on September 29th, October 1st and 2nd, the Secretary of the Royal Horticultural Society asks us to state that "the exact dimensions of the Grape stands fixed therein will not be rigidly enforced. Stands of any reasonable size may be used."

New Plants Certificated in Ghent.—At the last meeting of the Belgian Chamber of Horticulture, Certificates of Merit were awarded to Mr. Jules Hye for Miltoniopsis Bleueana gigantea, Cypripedium Météore (C. barbatum grandiflorum x C. belatulum Mariae), C. Anne Measures (C. Dayanum x C. belatulum), and Acineta species.

A New Seedling Rose.—A very handsome new, seedling Rose has been sent us by Mr. James Bryson, nurseryman, Helensburgh, N.B. It is seldom we hear of new Roses of this class being raised in Scotland. The seedling is a cross between Madame Isaac Pereire and Madame Berard, but the sender does not say which was the seed parent. The former variety is a hybrid Bourbon with vivid carmine flowers of the first size and is a vigorous grower. Madame Berard on the other hand is a Tea of vigorous growth with salmon-rose coloured flowers. The seedling has large and well formed ovoid or broadly conical flowers which should be very handsome in June and July. The outer petals are slightly revolute at the edges and the centre is perfectly full, at least in the condition in which we saw it. All are of a beautiful and uniform warm rose with exception of the outermost and small petals which serve to cover the bud in a young state and which are of a deep crimson-red. Furthermore, the flowers are deliciously scented like those of a Tea. The new variety will evidently have to be classed with the hybrid Teas, and should it be of vigorous habit, as both of its parents are, then we consider it an acquisition to this section of the universally popular flower.

Conference on Hardy Trees and Shrubs.—The Council of the Horticultural Society, being anxious to direct greater attention to the ornament and utility of the trees and shrubs which are to be found growing in the British Isles, and of which many were originally introduced by the Society's collectors, have decided to hold a Conference on the subject in the Society's gardens at Chiswick, on Tuesday, September 25th, 1894. The Council are particularly desirous that specimens in the shape of branches of trees and shrubs not generally known, and remarkable either for their economic value or ornamental aspect (or both), should be sent to Chiswick gardens, so as to add thereby a greater interest to the conference. In addition to the exhibition and conference on hardy trees and shrubs, there will also be a display of Orchids and hardy, half-hardy, stove or greenhouse plants, &c., as well as fruits and vegetables, such as are usually exhibited at the Society's fortnightly meetings in the Drill Hall, Westminster. The conference will be opened at 12.30 p.m., and the following papers will be read:—1, Mr. J. B. Carruthers, F.L.S., on "The Larch Disease"; 2, Mr. E. J. Baillie, F.L.S., on "Forest Trees for Commercial Purposes," being treated with reference to soil and aspect; 3, Mr. J. Simpson, on "The Utilisation of Waste Ground unsuitable for Agriculture"; 4, Mr. A, C. Forbes, on "The General Management of Woods, Planting, Thinning, Nurse Trees, Coppices, Hedgerows, &c."

Lord Kinnaird on Foreign Competition.—Speaking at the opening of the Dundee Flower Show, on the 6th inst., Lord Kinnaird said he supposed the sight of the beautiful exhibits brought together would send their thoughts to the question of how they were to meet as a country the competition which was coming upon them from abroad. That competition was not becoming less, and some of them who had to do with foreign countries knew that they were quite prepared to send them a great deal more than they had sent them in the past. What they had to do was to accommodate themselves to these circumstances. From a certain point of view it was rather trying to have to compete with foreign countries, but on the other hand they would find that competition just kept them in the forefront of the nations of the world, and that competition in the long run would benefit even those who compete, as well as certainly benefit those who get the advantage of the cheaper produce. Their society was a training-ground, and one of the best schools that they could have. They were talking at the present time about secondary schools and continuation schools, and he did not know anything that was more important for the industrial portion of the population in great cities, as well as those living in the country, which would be the means of bringing enjoyment to themselves, and cultivating that taste which their primary education gave them.

Proposed Revival of the National Potato Show.—Mr. A. Dean, 62, Richmond Road, Kingston-on-Thames, writes:—"Having heard many wishes expressed by persons interested in Potatos for a revival in some shape of the old Potato exhibitions, I have to ask your consent to allow me to make widely known that desire through your columns, and to invite the opinions of others equally interested in Potatos with respect to the suggestion. Should the coming great fruit show at the Crystal Palace become a permanent institution, no better opportunity or more convenient place would offer for the revival. That would at least show that in no sense was the proposal put forth in antagonism to the Royal Horticultural Society; indeed, the promoters would look for and no doubt secure the kind co-operation of the Royal Horticultural Society, as afforded to the old show committee, through the use of Chiswick Gardens for trials of new Potatos. I venture to voice the suggestion as to a revival of the old shows, because now I am absolutely independent of all Potato interests other than such as attaches to a love for the tuber that knows no abating. What I would ask, therefore, is of all persons desirous of seeing National Potato shows revived that they will kindly communicate to me early their opinions. If the verdict is for, then I think it would be most fitting to invite all favourable to a meeting, which I am sure the Crystal Palace authorities would readily find room for, on the first day of the great fruit show, viz., the 29th of the present month; and a duly representative committee could then be formed to promote the first exhibition next year."

TOMATOS FOR WINTER USE.

In a great many establishments where the Tomato is held in special esteem, a supply is expected to be forthcoming at all seasons of the year. It is true that, by cutting green fruits with a portion of the stem attached, from plants outside, after the season has too far gone to allow of them ripening properly there, and hanging them up in a warm room, or greenhouse, to ripen, a supply of fairly presentable fruit may be obtained until the middle of November. Still, it is absolutely necessary to have a house devoted to the growing of Tomatos for use during winter and early spring.

As the plants will need all the light obtainable, a span-roofed house is the most suitable, although I have seen good crops obtained from a lean-to, running east and west. A minimum night temperature of 50° Fahr. will be essential to success, and even then, growth will be a slow, and ripening of the fruit a still slower process. Young plants obtained, either from seed or from cuttings taken in August, should be potted on into 12 in. pots, a handy size for fruiting. A compost of three parts good loam to one part of well rotten manure or good leaf soil, with a sprinkling of river sand will be found to answer admirably. Some growers prefer to get their young plants from cuttings, as they consider these to be more fruitful and less inclined to too rank growth than those obtained from seed. But this is, I think, largely a matter of opinion.

I should recommend the single rod system of training, in preference to any other, as likely to yield the most satisfactory results. All laterals therefore, should be closely pinched out, and any large rank-growing leaves may be cut half way through. Hackwood Park Prolific, Hathaways Excelsior, and Ham Green Favourite are three of the most suitable red sorts. If a yellow one be needed, Sutton's Golden Queen is about the best. The Snowy fly is very partial to the leaves of Tomatos and will often cause a lot of trouble. Once it gets into a house it becomes a matter of extreme difficulty to get rid of it. Removal of affected parts or syringing with tobacco water are the best methods of keeping it under.—*A. S. G.*

MONTBRETIAS.

The Montbretias are a race of Iridaceous bulbous plants, natives of southern Africa, that might be more universally distributed than one finds them. They are almost hardy, requiring only the protection of a cold frame where the frost is excluded, or if planted at the foot of a south wall with a covering of cocoa-fibre or bracken until the frost has disappeared, say until the end of April. As their leaves make their appearance early in March, and are of such delicate texture any injury done to them would be impossible to amend.

The most suitable soil is a sandy loam and peat, and planted at a depth of from three to five inches. At the time of writing there is a grand display of these lovely flowering plants at Messrs. Barr & Sons Nurseries, Long Ditton, in a large frame and flowering most profusely. Of these, and which are of recent introduction, mention may be made of the most distinct, M. Crocosmaeflora Bouqnet Parfait, rich deep yellow, shaded vermilion, very handsome; M. D. Etvill de Feu, vivid vermilion red, spotted at base, very distinct; M. C. Phare, orange scarlet suffused golden yellow, small but very showy; M. C. Golden sheaf, very large, deep golden yellow flowers, of dwarf habit very distinct; M. C. pyramidalis, apricot, suffused yellow, erect grower, dwarf habit, very distinct; M. C. Aurea, large pale yellow flowers, freely produced; M. Pottsii was flowering in the open border very vigorously with branches of tubular-shaped crimson-scarlet blooms, and remarkably decorative, also, M. Crocosmaeflora, flowering equally well close by with orange-red flowers, centre pale yellow spotted base.

The bright red flowers of the Montbretias stand like torch lights above their spear-shaped leaves which tends to make them most showy and graceful subjects for the garden or conservatory. They are also valuable as cut flowers for table decoration, —*W.H.*

FILMY FERNS.

The Filmy Fern house at Kew is now open to the public, after being closed during the spring, and the greater part of the summer. Its inmates are now in a particularly flourishing condition, and in fact look happier than they have done for some time past. No one should visit Kew without paying this interesting little house a visit. Curiously enough this pretty class of ferns has acquired the unenviable distinction of being difficult to grow. And whilst no one can deny that they are very beautiful, very many fight shy of attempting to grow them from fear of failure. This a great pity, for Filmy Ferns are no more difficult to grow than any other ferns, (when you know how.) True it is that they have their likes and dislikes, just as most other plants have.

Certain conditions are necessary to their well-being, and if they do not have their requirements properly administered to, they will obstinately refuse to thrive. The essentials to success in Filmy Fern culture are shade, plenty of water at the root, and an atmosphere as near the saturation point as possible. Fire-heat is not necessary (except for those kinds that hail from the most tropical of climes,) indeed in most cases it is positively harmful. At Kew, where the collection is of a mixed character fire-heat is only applied at the most inclement seasons of the year, and this for the exclusive benefit of the tropical kinds. Some cultivators never give fire-heat at all, in houses where the cool ones are grown, and a few degrees of frost in the house will do the plants no injury whatever. This is all the more astonishing, when one takes into consideration the apparent delicacy and extreme fragility of the fronds.

When planting Filmy Ferns, some compost should be used that will remain sweet for a long time under copious and repeated waterings. For this purpose nothing is better, than pieces of rough fibrous peat (and loam, where necessary) with charcoal, sphagnum moss, and sandstone. To get the plant established is the most difficult part of the culture, for once this is accomplished, they will not cause a great deal of trouble. Filmy Ferns are a class of plants, that only need to be better known to become general favourites. They posses an indiscribable charm of their own—such as no other plant does, that cannot fail to render them most attractive to the true lover of plants, and to those who are capable of appreciating true beauty.—*A.*

DORONICUMS.

Little appears to be known of the true value of the "Leopard's Bane" as an early spring-flowering plant for conservatory decoration. Its large yellow, daisy-like flowers are much admired in the herbaceous border, where they never fail to produce abundance of flowers in almost any soil or position. But by removing them in clumps from their natural element in autumn, potting in a loamy soil, and placing them in a cold frame during winter, they will, by the end of January or early in February, be ready to place in gentle heat for a display of bloom that will repay for all the trouble taken with them. For this purpose, D. plantagineum excelsum is by far the best, having large golden-yellow flowers from 2½ in. to 3½ in. in diameter and produced freely. Two other varieties may be used but are not so handsome or showy as D. p. excelsum; they are D. austriacum and D. caucasicum. The Doronicums are also much prized for cutting, lasting well in water.—*W. L.*

CHINA ASTERS AT READING.

The Asters had a bad time of it last year on account of the long continued drought, and the difficulty of keeping them alive even hy artificial watering. The season now drawing to a close has been marked by an excess of rain which has favoured growth generally, but is detrimental to the fully expanded flowers, which are often laden with moisture all day long. Notwithstanding this fact, the collection of China Asters in the Portland Road Nursery of Messrs. Sutton & Sons, Reading, make a more effective display than last year, and have better foliage. The number of types is now very extensive, and of each type all the leading colours have been ohtained as a rule. All the sections may be divided into dwarf and tall kinds, which it is necessary to ohserve by those about to plant any given bed or piece of ground, particularly if several kinds are to be mixed together, or even planted alternately with one another.

Dwarf kinds.

The Dwarf Bouquet Asters commence to bloom much earlier than most other kinds, hut are still in perfection. They vary from 6 in. to 12 in. in height and run into numerous colours, such as white, carmine, carmine with a white edge to the head, blue and white and dark blue. They are very floriferous and choice for bedding. The Miniature Aster varies in a similar manner, but a blue and white variety was the evenest and most floriferous of the strain. All are slightly inclined to be quilled, and are notable even amongst dwarf kinds, inasmuch as they only grow 3 in. to 6 in. high with clustered flowerheads. With exception of Harhinger, the Dwarf German strain is the earliest of all the kinds. Light hlue, dark hlue, and bright crimson sorts are all floriferous, while the last-named is particularly so, and only 3 in. or 4 in. high. Sutton's Fire King whose fiery crimson-red flowers are conspicuous all over the trial grounds, can readily be singled out by the eye at a considerable distance. Probably no nearer approach to a true scarlet amongst Asters will be obtained. At all events we have still to look for it. Another strain named Little Gem grows about 6 in. or 8 in. high, and bears its large hlooms of white, peach hlossom, and other shades in flat-topped corymbs.

Of those useful either for bedding or exhibition purposes, Snowball takes a leading position. The hlooms consist of a semi-globular mass of pure white imbricating florets and cover over the top of the foliage. Sutton's superh bedding Asters consist of a carefully selected strain, admirably adapted for bedding pnrposes, on account of the mass of bloom they produce and the uniformly dwarf stature of the plants. Wonderful effects can be produced by the use of seeds of assorted colours, for they come very true to name and require no roguing when they come into bloom. The white, delicate rose, bright rose, scarlet, blue and lilac shades are certainly very telling at present. The Queen strain also runs into a great numher of shades, and the imbricate, reflexing florets have a sort of dimple at the tips. The whole bloom measures 3 in. to 4 in. across and is, therefore, large enough for any purpose. The dwarf Chrysanthemum Asters constitute an old and well-known strain, hut the number of shades into which they run in Messrs. Sutton's nursery is something remarkable, and debars us from entering into an enumeration of them. The plants vary from 6 in. to 9 in. high and the bloom is both massive and imposing. The plants of the dwarf Victoria strain are similar in height to the last named. They are equally numerous in their shades of colour and the large blooms are very handsome, particularly the dark blue, lilac-rose, scarlet and brilliant crimson kinds. The dwarf Paeony-flowered is also a very useful race, and when seen in perfection the blooms are models of neatness and very characteristic in form. The outer row of florets spread horizontally, forming a ray or guard, while all the rest are neatly incurved like those of an incurved Chrysanthemum. The shades of colours are numerous and the plants floriferous. An interestingly beautiful strain is that named the Dwarf Crown-flowered or Cockade. The principal varieties are rose, crimson, light hlue and violet; in each case there is a circular white patch in the centre of the blooms, giving them a very characteristic appearance; hence the application of the names Crown-flowered or Cockade. The Dwarf Diamond strain consists of varieties with semi-quilled or fluted florets either violet, carmine or crimson. The last of the dwarf sections we shall note is that named Sutton's Reading Beauty, of which there are several varieties all characterised by their neat, pyramidal hahit, and small but very neat quilled blossoms. This strain is useful as a succession to other kinds, for less than half of the blooms were expanded the other week; it is also highly suitahle for pot culture on account of the neat, and compact habit of the plants.

Pyramidal Aster Harlequin.

Tall kinds.

The earliest of all to flower is Harhinger, which was past its best on the occasion of our visit. There are several varieties of it. Sutton's Pompone is excellent for cutting, for the small heads of fluted florets are borne on long stalks. There are several beautiful shades of colour in the race, and the plants grow 12 in. to 18 in. high. Mont Blanc is similarly tall, and is notahle for its large, semi-glohular heads, which are very full in the centre. The Bride is a choice selection from it, and is notable for the full, compact, and neat form of its blossoms. Amongst the more recent strains that have come into notice the Comet Aster has already secured a great amount of popularity over a wide area in this country. The florets are long, linear, revolute at the tip, and almost remind one of a Lady Selhorne Chrysanthemum; they have also a glossy sheen upon them, best seen when the sun is shining on them. There are white, rose, light blue, rose with a white edge, and lilac varieties with a white edge, all of which are very choice from the size and beauty of their flowers. The strain named Jewel grows 12 in. to 18 in. high, and have bright rose and apple-blossom flowers so compact and evenly incurved that they resemble incurved Japanese Chrysanthemums. The Crimson Globe strain is similarly tall, and much branched with globular heads of fluted florets of different shades. Sutton's Quilled Victoria or Hedgehog consists of varieties of different colours, with beautifully neat, glohular heads of quilled flowers. Sutton's tall Victoria has very large heads, and differs from the dwarf strain chiefly in height. It is a very useful strain, and exhihits some fine shades of colour, such as rose and white, rosy carmine, fiery scarlet, vermilion, light and dark blue, and others. The Giant French type grows about 2 ft. high, is much branched, erect, rather late in coming into bloom, and exhihits many well defined colours. Here also Trufaut's French Paeony-flowered Asters, which have long enjoyed a considerahle reputation in this country. The plants are much branched and grow 18 in. to 2 ft. high.

The Washington Asters consist of a giant strain of the Victoria, ahout 2 ft. high, and having a stiff habit. The large blooms are white, carmine, silvery gray, and light blue, the latter being very fine. All are highly suitahle for exhihition. The Tall Crown-flowered or Cockade differs from the dwarf strain merely in heing taller. The Exhibition Globe type is a very beautiful, quilled strain, with large globular heads of various colours on branching stems. The Harlequin is heautiful to those who like various colours, mixed, mottled and striped in a fantastic way, all in the same head. The German Glohe strain is useful for cut flower purposes but not for bedding, because the long-stalked flowers diverge and hang about in a loose way, although individually the hlooms are sufficiently handsome. Bettridge's Quilled Asters must not be overlooked, particularly a soft, and clear distinctly yellow variety, with a white ray. Hitherto, yellow Asters have not heen prominent, but we do not see why a race of decidedly yellow varieties should not be developed by crossing and selection.

PLANTS RECENTLY CERTIFICATED.

At the Royal Aquarium on the 4th inst. First-class Certificates were accorded to the undermentioned subjects.

Dahlia Mrs. Francis Fell.—The flowers of this large, Cactus variety are creamy but within a shade of heing pure white. The florets are long and narrowly pointed as in the true Cactus type. The hloom is somewhat smaller than that of Mahala Sherriff and less pure, hut neater in form. These two with Mrs. A. Peart, certificated last year, now constitute a trio of white Cactus Dahlias, all of which were raised from the same batch of seed hy Mr. T. S. Ware, Hale Farm Nursery, Tottenham, who was the exhihitor.

Dahlia Katie Parnham.—The blooms of this pompon variety are of average size, very neat and

somewhat after the style of Germania which is still so popular, but is fuller in the centre. The florets have broad rosy purple edges, and the basal parts nearly white. Exhibited by Mr. T. S. Ware, Tottenham.

GLADIOLUS MAGNET.—The flowers of this new variety are large and salmon-rose heavily overlaid and striped with scarlet. Exhibited by Messrs. J. Burrell & Co , Howe House, Cambridge.

GLADIOLUS FRAMETTA.—In this case the flowers are soft salmony pink with light scarlet stripes especially on the three lower segments. The base of the lowest one is creamy. Exhibited by Messrs. J. Burrell & Co.

DAHLIA FRED LESLIE.—This is a single variety with large bold flowers and broad overlapping rays of a crimson red with white tips, the two colours being well defined. Exhibited by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex.

DAHLIA PHYLLIS.—The ray florets of this single variety are nearly white, suffused with purple in the centre and irregularly mottled all over with a paler hue. Exhibited by T. W. Girdlestone, Esq., Sunningdale, Berks,

DAHLIA PSYCHE.—The broadly imbricate rays of this single Dahlia are of a soft buff-orange or terra-cotta, and in some respects uncommon in this section. Exhibited by T. W. Girdlestone, Esq.

DAHLIA CANNELL'S GEM.—In this we have a Cactus variety of small size and very neat form. The florets are compactly arranged, narrowly pointed and scarlet. The unopened centre is tinted with purple. Exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

DAHLIA HARMONY.—The flowers of this variety are of average size for the Cactus type, with reddish salmon, and long, pointed florets, revolute at the sides. A few of the central ones are short and yellow. Exhibited by Messrs. Keynes, Williams & Co., Salisbury.

DAHLIA MAYOR HARKINS.—This also is a Cactus variety of large size, with long, pointed crimson-scarlet flowers tinted with violet. Exhibited by Messrs. Keynes, Williams & Co.

DAHLIA MRS. BARNES.—Amongst delicately coloured varieties of the true Cactus type, this is very choice, with large, rosy pink blooms having a few of the central florets of a creamy white. Exhibited by Messrs. Keynes, Williams & Co.

DAHLIA IONA.—Here we have a pompon of a soft, clear yellow, neat in form and of medium size, with closely arranged florets. Exhibited by Mr. G. Humphries, Kington Langley, Chippenham.

DAHLIA CHERUB.—This may be classed amongst show Dahlias, and has blooms of good average size, with closely arranged, slightly compressed florets of a deep buff yellow, fading slightly at the margins. The shade of colour varies somewhat according to the incident rays of light. Exhibited by G. St. Pierre Harris, Esq., Orpington, Kent.

FIRST-CLASS Certificates were awarded to the undermentioned Dahlias by the National Dahlia Society, at the Crystal Palace, on the 7th inst.

NOVELTY.—The blooms of this new fancy Dahlia are variously flaked or striped with deep pink or rose on a white ground. It is of good average size for the section to which it belongs. Exhibited by Mr. S. Mortimer, Rowledge, Farnham, Hants.

MABEL STANTON.—The blooms of this new show Dahlia are of a rich golden yellow, of large size and good shape. Exhibited by Mr. John R. Tranter, Henley-on-Thames, Oxon.

MRS. FRANCIS FELL.—A new Cactus variety. Exhibited by Mr. T. S. Ware. For description see above.

MISS IRENE CANNELL.—This new Cactus variety has blooms of a pretty salmon colour. It is of medium size and good form, Exhibited by Messrs. Cannell & Sons, Swanley, Kent.

MRS. H. CANNELL.—The blooms of this fine new Cactus Dahlia are of large size and bronzy salmon in colour. Exhibited by Messrs. Cannell & Sons.

CANNELL'S VELVET.—The blooms of this new Cactus Dahlia are of a fine dark crimson colour, shading off to nearly a crimson at the tips of the petals. It is of good form and average size. Exhibited by Messrs. Cannell & Sons.

CANNELL'S GEM.—A new Cactus variety, for description of which, see above. Exhibited by Messrs. Cannell and Sons.

HENRY DUPRESLE.—The blooms of this new Cactus Dahlia are of medium size, and bright coral red in colour. Exhibited by Messrs. Keynes, Williams & Co.

HARMONY, MRS. BARNES AND MRS. HASKINS.—These were three new Cactus varieties exhibited by Messrs. Keynes, Williams & Co., for description of which see above.

MRS. HORNIMAN.—This new decorative Dahlia has blooms of a bright rose colour, with a yellowish central ring. Exhibited by Messrs. Cheal & Sons.

PUCK.—The blooms of this new single variety are light bronze in colour, have a distinct dark brown central ring, Exhibited by T. W. Girdlestone, Esq.

GOLDENLOCKS.—The blooms of this new single variety are bright rich yellow in colour, and of large size for its section. Exhibited by T. W. Girdlestone, Esq.

PSYCHE.—For description see above. Exhibited by T. W. Girdlestone, Esq.

DARLING.—The blooms of this new single Dahlia are of a rich crimson colour, shading off to a light rose or pink at the tips of the petals. Exhibited by T. W. Girdlestone, Esq.

IONA.—A new Pompon variety for description of which see above. Exhibited by Mr. G. Humphries, Kington, Langley, Chippenham.

ORCHID NOTES AND GLEANINGS.

Remarkable Phalaenopsis.—In this progressive and enlightened age, when the culture of Orchids has almost reached a science, it is always interesting and worthy of comment when special excellence has been attained by any individual. Not very long ago I had the pleasure of seeing some Phalaenopsis Schilleriana and P. amabilis, which were imported by J. M. Martin, Esq., Auchindinnen, Dumbartonshire, somewhere about twenty-five years ago. What glorious specimens they are now, with enormous leaves 18 in. long, and between 4 in. and 5 in. wide, just in the pink of health. It is scarcely needful to state that they flower with great freedom. Many of the plants carried huge spikes this spring with upwards of eighty individual flowers, and not poor miserable blooms either, but on an average measuring 4 in. across. I asked Mr. Martin how he accounted for his immense success in Phalaenopsis culture, to which he replied "nothing in particular beyond attending to their requirements." There is nothing in the structure as far as I could see beyond what is in every store. In the the same house were Crotons, Palms, Dracaenas, Ferns, etc., all equally healthy.—*J. McNab.*

Spathoglottis Fortunei.—This useful Orchid is now in bloom in the cool Orchid house at Kew. It is a native of Hong Kong, and was discovered about 1840; but although known for such a comparatively long period, it is not so common in cultivation as its bright yellow flowers and elegant foliage deserve to make it. Its culture is extremely simple, making it suitable alike for amateur and specialist. After flowering, water should be gradually withheld until the foliage has decayed, when the plants should receive but an occasional watering until January or February. The roots should then be shaken out and repotted in a compost of fibrous loam, peat, and sharp sand, but little water should be given until growth is well advanced, when liberal supplies should be given. Occasional applications of weak manure water will prove beneficial.—*Rex.*

Dendroblum chrysanthemum.—If not in flower, this handsome species should be showing its buds. It is amenable to almost any temperature above 55°, but succeeds best when grown in an intermediate house, being placed in the cool house when in bloom and at rest. Although requiring little water when at rest, care should be taken that the pseudo-bulbs do not shrivel from want of it, especially before flowering. —*Rex.*

Miltonia candida.—This handsome species was introduced in 1830, and is a native of Brazil. The flowers, five to six on a scape, are very showy, the lip being white suffused with rosy-pink, and the remaining segments yellow, heavily blotched with chocolate-brown. The plant proves most successful when grown in an intermediate house, requiring a compost of peat and sphagnum with free drainage, as it needs a free supply of water at all seasons of the year.—*Rex.*

THE PLANT HOUSES.

The Stove.

ALTHOUGH many stove plants are growing, more or less, the whole year round, there are seasons when vegetation is not nearly so luxuriant and when root action is not nearly so vigorous as it is during spring and summer. The energies of the plants should now be directed towards the ripening of growths already made rather than to the formation of new ones. The firmer and more mature the growth of stove plants is made, the less likely will they be to take harm during the season which is fast approaching us—a time when outside vegetation is at all events at a standstill.

More air should be given, and less water at the root; less moisture in the atmosphere will also be required. But little shading will be necessary. The blinds should only be let down during bright days for an hour or so in the middle of the day. The syringe may still be kept vigorously at work during favourable weather. A great many of the Caladiums will now have become too shabby to remain in the house. These should therefore be removed and placed in a warm pit (where one is available) to finish the ripening of their tubers, after which they may be placed on a shelf until it is necessary to start them again.

Those Gloxinias which are shewing signs of ripening their tubers should have less water given. Do not allow the balls to get dry, however, till all signs of vitality have departed from the leaves. When the tubers are ripe, the pots containing them may be stored away in a dry room, having a temperature of not less than from 45° to 50° Fahr. If desired, the tubers may be knocked out and preserved during the winter in sand, uuder which conditions they will keep admirably.

COLEUSES.—The value of these beautiful decorative plants is too well known to need anything but a passing mention. Cuttings of these should now be taken in sufficient quantity to propagate from next spring. They may be inserted five or six in a 60 sized pot, and any light friable soil will do for them. A temperature of not less than 60° Fahr. is necessary. When struck, the cutting pots may be placed on a shelf, near the glass, in the stove. No further attention will be necessary, except with regard to watering. It is best, however, to keep them slightly on the dry side.

The Greenhouse.

ALL available room under glass will now be needed for the shelter of the many plants that have passed the summer outdoors. Houses of this description must, therefore, receive a thorough overhauling. Large specimen plants (if there are any) should be cleaned and the house itself washed. Care should be taken that the heating apparatus is in thorough working order. A little care taken now may save a deal of trouble and some worry and loss presently.

TUBEROUS BEGONIAS, FUCHSIAS, ETC., as they become unsightly should be removed to cold frames to ripen. The lights should be kept off them except during very wet or cold weather. Camellias and Azaleas that have set their buds should be brought indoors without delay, and, if not already done, Ericas that were put out-of-doors after flowering should receive the same attention. In fact it will not be safe to leave any tender plants outdoors for very much longer, although fine mild autumnal weather often is a temptation to gardeners to do so.

ROSES IN POTS.—The time for pruning these must be regulated by the time that it is desired for them to bloom. Those plants which are required to flower in January and February should be pruned now, afterwards placing them in a cool pit or greenhouse for the present. In pruning, the operator must be guided by the strength of the plants. Most of the hybrid perpetuals require to be cut back to two or three eyes. Plants which are not intended for winter flowering may be repotted now. A compost of two parts good loam, one part of well rotten manure (like that from a spent Mushroom bed) with a little silver or river sand, will grow Roses to perfection. Plunge to the rims of the pots in ashes outside until the time of flowering, when they form most desirable decorative objects for greenhouse or conservatory.

GREENHOUSE RHODODENDRONS that were planted out in the end of May and beginning of June will now have set their buds. Take up and pot them, being careful to disturb the roots as little as possible.

When potting, use a compost of good fibrous loam one part, peat two parts, with a liberal allowance of sharp sand. Keep them close in a shady place, and syringe them occasionally, when little fear of any severe check to them need be felt. These Rhododrons are among the finest of our greenhouse flowering plants. There are many splendid varieties in cultivation well worthy a place in every collection of plants. Indeed, looking at their great value, both to the amateur and professional gardener, it is astonishing that they are not more grown than they are.

Pits and Frames.

In many localities slugs are a perfect pest at this season of the year, and in this department particularly they often cause trouble. Nothing is safe from their ravages. They evince a particular regard for the tender leaves of Primulas, Cinerarias, and seedlings of every description. Traps should be set and examined twice or thrice a day. Lettuce leaves are as good as anything in the way of bait. Another sowing of Mignonette seed may be made for succession, 48-sized pots being perhaps the handiest.

Zonal Pelargoniums for Winter Flowering.—These are almost a necessity in places where the houses are expected to look gay and bright, even during the dullest months of the year. And there is, I venture to say, no plant more suitable for the purpose than the Zonal Pelargonium. If grown on during the summer and well fed, particular attention paid to the pinching out of flower buds, and stopping of too vigorous shoots, a succession of bloom may be had from the beginning of November till the middle of March, after which they are usually not required, plenty of other subjects filling their place. The first batch may now be allowed to develop their flower buds, the others still having them pinched out for a while yet, so as to form a suitable succession. —*A. S. G.*

THE ORCHID HOUSES.

East India House.—Calanthes should be encouraged to make up good bulbs by affording them some kind of stimulant once or twice a week. They are not very particular as to what kind of manure is used, but care should be taken not to over-do it. It is always better to give weak doses often than strong ones at wide intervals. A light position near the glass if possible should be given them from now onward. They are subject to the attacks of scale, which must not be allowed to get hold as they are very weakening to plant life.

Cattleya aurea.—This free flowering form of C. Dowiana, although requiring the higher temperature of this division during the growing season, will last longer in full beauty if transferred to the Cattleya house, which is more airy and drier. The change to a lower temperature will insure that rest which is so essential in keeping them in the best of health for years.

Dendrobium formosum giganteum.—This very fine Dendrobe will establish well enough in the Cattleya house, but it is impossible to do it to perfection in such a temperature, and only those that can give them plenty of heat should attempt its culture. When well grown there is no Dendrobe to beat it. Very little compost to root into, plenty of heat when growing, an abundance of water at the roots and in the atmosphere, with a good season of rest after they go out of flower, is what they require.

Cattleya House.—Laelia elegans alba now in bloom is certainly very free flowering as well as being handsome, and this is the second time it has flowered this year. It does well either in pots or baskets, hut dislikes very much compost about the roots; it requires plenty of moisture when growing, and at no time should it be quite dry, for if allowed to shrivel much it is very difficult to get round again.

Miltonias.—Plants that have been growing with the Odontoglossums during the summer months should now be returned to the Cattleya house for the winter. We have done M. vexillarium well for some years treated in this way, but M. Roezlii refuses to do kindly under the same treatment. The Cattleya house during summer, and the warmer division to winter them in, seems to suit them best. It requires more moisture too than does Vexillarium. Thrips are very fond of them and must be kept under by frequently dipping them in tobacco water.

Temperatures.—East India house 70° at night, Cattleya house 60° and Cool house 50° at night with plenty of air, the day temperature should be raised 10° all round, but the state of the weather will be the best guide.—*C.*

THE VEGETABLE GARDEN.

Preparing the Ground.

The autumn is fast approaching, when it will be necessary to prepare the ground for spring crops. Too little attention is often paid to this part of the business, for in many places the soil is scarcely turned over a sufficient depth to bury the weeds, so that there is little chance of the roots getting down in search of food. When talking to a gardener the other day who professed to know a great deal, I was much struck by the observations he made. Ah! he said, I never dig more than three or four inches deep, as I like to keep the roots near the top, and from the appearance of his crops they were near the top, too near in fact. Digging is one of those operations that requires practice to do well. It may seem superfluous to say so, but there are few gardeners of the present day who can handle a spade properly, and if this be so how are they to teach those under them. I remember some years ago, when taking charge of the garden here telling some three or four men to go and dig a piece of ground; to my great astonishment on going to them a short time afterwards they had not taken out any trench. On asking them what they intended doing to fill up when they reached the other side. "Oh! draw it in" was the remark. At this I made them fetch some barrows, take out a trench two spits wide and two deep, which was wheeled to the opposite side, then after taking the spade and working with them for about a couple of hours to put them in the way, the digging was done in a business-like manner. The remarks made by one of the men, who is now holding a good position in the gardening world, was this, he "did not mind working for a master who knew what work was, and how to do it, but did not care to serve one who only bullied and could not do the work himself."

To grow good vegetables, as with everything else, it is necessary to have a fair start, and to commence with the preparation of the ground, afterwards sowing or planting as the case may be. True, all gardens have not a sufficient depth of good soil to enable the gardener to turn it over to such a depth, but by careful cultivation a sufficient thickness may be had in most places after a few years' labour, and when once the ground is well made it does not require the attention afterwards. It is the common practice to turn the top spit to the bottom, leaving it untouched, but in my opinion no greater mistake could be made. It is on this layer that the roots of the plants feed after they have made a start, and gone down, and as there is no possibility of breaking it up when the ground is once dug the lumps will remain solid till turned up again. The top spit when turned into the trench should be chopped up fine, allowing that which is brought to the surface to remain as rough as possible unless it is intended to be planted at once, when all lumps ought to be broken. In gardens where heavy cropping has not to be resorted to, many of the summer crops will be cleared off so that manure may be got on, and digging done the first favourable opportunity, as the longer the soil is thrown up to the action of the weather before being planted the better will it be for the crops.

Spring Cabbage.

Spring Cabbage ought now to be planted, for unless they are well rooted before frost sets in, there is a risk of their being lifted by its action and thereby losing them during the winter. Plant the small growing kinds so that each other may be cut before they are fully grown. On heavy soil it is the better plan to plant as digging proceeds, for by so doing this dispenses with the necessity of treading on the ground afterwards. On light ground it would be an advantage to make the soil firm as the roots cannot take hold of it when too loose.

Vegetable Marrows.

Keep all fruit that are ready for use cut daily, as by so doing they will be secured from harm should we have a sharp frost, while it will assist the plants to swell those more rapidly should the weather continue mild for some time longer. Should there he signs of frost a little litter of some kind thrown over the plants will usually ward it off. Those residing in low-lying districts know too well how these sudden changes affect them and are therefore usually on the look out.

Protecting tender Vegetables.

Protection in general at nights will now have to be resorted to, as all such things as Capsicums, late Peas, Dwarf Beans, and any tender plants that it is desired to prolong the use of must be looked to, as we may expect to find them cut down any morning, Clear away all crops as they become ready for use, or have matured their growth, as the ground can then be manured and dug for future supplies. All early Carrots should now he lifted, for if allowed to remain longer in the ground and a quantity of rain falls they will split and become worthless. Lift them in dry weather and allow them to remain on the surface for an hour or two before storing away, so that any soil sticking to them may be rubbed off. Take advantage of every favourable opportunity to earth up Celery, but do not attempt to do such work when either the foliage or soil is wet.—*Kitchen Gardener.*

Onion, Veitch's Main Crop.

In most localities onions are a heavy crop this year, and the above splendid sort has given especial satisfaction. I have seen several grand crops of it, and in every case was struck with the uniform size and weight of the bulhs. At one place in particular where the ground had been trenched, and well-manured last autumn, and a liberal dressing of wood ashes given it in February, splendid results were obtained. Of the Improved White Spanish type this sort far surpassed most of the other varieties in quickness of growth, added to which it is one of the best of keepers.—*G.*

Lettuce—Sutton's Intermediate.

It is an undeniable fact that a large number of the sorts of Lettuce in cultivation to-day are comparatively valueless. Indeed, before one can venture to grow a new variety to any extent, it is advisable to make a trial of it with a few plants only, or to see it growing elsewhere, and then to taste it to make sure that it is of a good flavour. Recently, when looking round Elvetham Park with Mr. Jones, I had the opportunity of seeing and tasting a sample of Sutton's Intermediate, and I may say that I never tasted one which pleased my palate so much as did this variety. I am no lover of the large, coarse Cos Lettuces, or of the monster Cabhage sorts either. I consider that a Lettuce, to be good, should be crisp and well flavoured, and this is just what Sutton's Intermediate is. Its leaves are dark in colour, like those of the Bath Cos type, and it stands a long time before running to seed. In appearance, it seems to come half-way between the Cos and Cabbage types —*Con.*

Tomato Hackwood Park.

The present sunless season has been so sadly against the likings of this sun-loving plant that it becomes of importance to take notice of cases where success has been achieved even under these unfavourable conditions. Last week I saw as fine a crop of Tomatos outside as ever delighted the eye of a gardener. In one of those little places where every inch of space is available the wall of a melon pit was utilised. The wall in question was 3 ft. in height and faced due west. A border 1 ft. in width ran along it, and here the Tomatos were planted. They were taken up with a single stem, all laterals rigorously picked out and trained after the oblique cordon fashion. As soon as the fruit began to colour all the leaves that could be spared were cut off, together with all superfluous growth, with the result that all the energies of the plants were devoted to the speedy development of the fruit, and even in this sunless season good crops have been gathered, and now, September 8th, a nice lot are ripening. Hackwood Park Prolific was the sort grown, and it will, I think, be difficult to find a better all round Tomato than this. It forces well and it does well outside, and there are very few Tomatos of which this can be said. What particularly struck me with regard to this border was the way in which it was made to serve purposes of ornament as well as practical utility. A row of single flowering Petunias was planted at the foot of the Tomatos, and an edging to this was furnished by the pretty little zonal Pelargonium Golden Harry Hiover. The whole formed a most pleasing picture and one well worthy of being copied.—*A. S. G.*

THE CACTUS DAHLIA.

Both at the Royal Aquarium and the Crystal Palace the Cactus Dahlia was seen to great advantage as an exhibition flower. I think they showed up best at the Aquarium, though they were not at the side of the building where the fullest light could fall upon them. Perhaps they seemed all the more attractive on account of the stands being more concentrated, and they did indeed represent a blaze of colour. Straight lines are inevitable in the Aquarium, for the building is not adapted to make departures in the way of arrangements, as ample space must be left for promenading. At the Palace, Mr. W. G. Head, having ample space at his command, was able to break up his tables into various shapes, the floor space being so extensive, but it was done pretty much at the expense of bold and striking massing. Six fine blooms of a Cactus variety, arranged on an appropriate frame in the form of a pyramid, forms a large and imposing object; but anyone looking at a collection is forced to the conclusion that the Cactus Dahlias are shown almost too large in size, for they verge on coarseness. I should prefer seeing a collection of eighteen varieties of the type of Cannell's Gem, a medium sized variety of the true Cactus character, and perfect in form. It may be said to represent the Pompon element in the Cactus Dahlias, and the sooner we get additions to it the better. At any rate, that beautiful, clear, soft yellow variety, Lady Penzance, is quite large enough, and some of the larger flowered varieties, of which Gloriosa may be taken as a representative, are large to coarseness.

Two reforms are needed in the Cactus Dahlia—one I have already touched upon—that of keeping the type as near as possible to Lady Penzance as an ideal, the second is to improve the habit of growth and the greater freedom of bloom in the varieties. There are but few indeed which bloom freely and throw their blooms well above the foliage, and until this improvement is carried out the Cactus Dahlia will be of little value indeed for garden decoration. A variety that will give two or three well developed blooms only at one time is certainly not free enough for garden decoration. I think the best variety, both in respect of habit and freedom, is Perkins & Sons' Matchless, one of the best and most useful varieties of last year's sending out. That conspicuous fault in Juarezi, of hiding its few flowers among its foliage, has been continued in most of its progeny, and we frequently hear gardeners and others saying that the Cactus Dahlia is of little value for garden decoration; but as exhibition subjects the varieties of the Cactus Dahlia are simply superb, and at a Dahlia show the greatest pressure of visitors is found about the Cactus types.

Raisers having done so much to improve the character of the flowers, and this work has proceeded with rapid strides during the past few years, must now turn their attention to improvements in the habit, for this has become a matter of sheer necessity. If this is not done, growers will find the Cactus types rapidly declining in the popular favour. The popular fancy goes out towards what they can themselves grow and enjoy, and so, if they find the Cactus Dahlia useful in their gardens for decorative and cutting purposes, they will continue to cultivate it. This, then, is the lesson set to be learned in the future, how to improve the habit of the Cactus Dahlia.

One other fact came out conclusively at the Aquarium and Crystal Palace Shows, that judges are prone to favour the true Cactus types in preference to what is termed the decorative varieties. I think that is to be commended. In the Cactus varieties we get a distinctive type of Dahlia, but the decorative varieties are after all only inferior forms of the show and fancy types. Our forefathers threw away hundreds such, because the aim of the florist in those days was in the direction of obtaining symmetrical varieties as double and as finely shaped as possible. That was the work the florist set himself to perform; and he rejected everything that did not come up to his ideal. The decorative varieties have had a good time of it, but it has now come to an end, and in the future we shall see but little of them as exhibition varieties, though they will still be grown in many gardens for cutting from, and for general ornamentation.

A fine selection of eighteen varieties of true Cactus Dahlias will be found in the following: Chancellor Swayne, bluish plum colour; Gloriosa, brilliant crimson scarlet, when not grown too coarsely; Lady Penzance, pure soft yellow—my model Cactus; Mrs. A. Peart, which I include as a white variety, though it has been very disappointing this season, although I saw it very fine early; and Matchless, intense rich velvety maroon, extra fine in every respect. These are all new varieties, sent out this season. Of those sent out in 1893, mention must be made of Apollo, crimson lake; Bertha Mawley, crimson cochineal; Countess of Gosford, cinnamon, with citrous centre; Countess of Radnor, bright pinkish salmon, with creamy primrose centre; Kaiserin, sulphur yellow tinged with lemon; and May Pictor, bright yellow. Of 1892 varieties, Beauty of Eynsford, soft buff shaded with velvety chestnut in the centre; Delicata, a distinct and lovely variety, light salmon at the base of the petals, gradually shading off to a lovely delicate pink; Ernest Cannell, soft red, with deeper centre; Kynerith, bright vermilion, with a lighter shade at the base of the petals; and Robert Cannell, magenta, with a decided bluish tinge towards the tips of the petals.

Of older varieties, mention may be made of Cannell's Favourite, bronze or old gold; and Mrs. J. Douglas, bright pinkish salmon, quite distinct.

In the improvement which may be made in the habit of the Cactus Dahlias, dwarfness is a needed requisite; and also the flowers displayed on erect stems. In the case of our show Dahlias, the habit of growth has been so modified in the direction of dwarfness, that tall growing sorts are now few, and some of the show varieties make excellent garden types. So there is improvement all round, but, as a matter of course, the nearer an ideal perfection is reached, the slower is the rate of progress made. Good things should be displaced, only by something better.—*R. D.*

SOME LESSONS FROM FLOWER SHOWS.

What are the lessons to be learnt from flower shows? Everyone who has done much frequenting of these exhibitions has some time or other asked himself this question. The difficulty is to find a clear and definite answer; indeed, this difficulty is so great to some that they have almost given it up or decided that there is no answer. There is one though, and the answer which most thoughtful people will give—and it is a real one—is that, looked at in a right spirit, the lessons are largely educational. They teach lessons in beauty and taste and experience by the practical excellences of cultivation, and by the skilful way those excellences are presented. The great thing is, how to crystallise or solidify the ideas formed by what is seen, and then, how to reduce those solidified ideas into our own practice. How to get the most out of what we see, even when most visionary.

Take the ideas with respect to taste or beauty, as shown in the different plant classes, whether as groups of plants set up to show pleasantness and harmony of arrangement, or as specimens of individual merit. If we follow the judgment of these various exhibits, we often find ourselves rather puzzled to account for the respective disposition of them as first, second, third, etc. Nay, many times we are tempted to wonder why the first is first, and not the second first, and so on; but then, we know there must be a reason if we look for it calmly and without prejudice, and we do know that the judges are men of intelligence and experience, and men of honourable standing. They must have these qualities, or they would not be selected for the arduous and responsible office of judge, and, when we have gone into the matter and made a close examination of the exhibits, we find that our first judgment is wrong and the decision of the judges is right.

One of the most notable and recent of these puzzles I have in my mind, and which many people were perplexed by, including many gardeners, occurred at the great show at Shrewsbury last month. The groups of plants were set up by Edmonds, of Bestwood, Notts; Cypher, of Cheltenham; Wright, of Oswestry; and Jones, of Shrewsbury; and they were placed first, second, third, and fourth as they are set down here. But nine out of every ten people who saw them would inevitably and at once say, "Oh! how is this? The second should undoubtedly be first!" Well! perhaps so, but a closer examination would show that the competition was uncommonly fine and close, including many delicate points, and presumably the decision turned upon some technical point or points not apparent to the superficial observer; and further, when it was known that Outram, of London; Ranger, of Liverpool; and Chapman, of Hawkesyard Park Gardens, Rugeley, were the judges, everybody would conclude that it was so.

The puzzle was to discover those technical points, and draw out the educational lesson of beauty and taste there given. Having seen many flower shows, great and small, I have at last come to the conclusion that I get the greatest satisfaction and enjoyment by not being too critical, not going into all the niceties of a show, and sitting in judgment on everything, but to quietly look round, and let the spirit of the show soak unconsciously into me. I find that I come away with lessons within me which do not shew themselves in a plethoric note book, but which none the less are there and which work themselves out in my own duties in after days. Mind, I do not say this to dissuade any from taking notes, by no means; nay, I would rather urge upon the young gardener to do this, and do it well, too, but, (and this is a large "but") let him discriminate and only make notes of those things which are notable, and of things specially which lie along the line of his daily duties and his requirements.

In this way he will get together much information which will be of real service to him, whereas, if he puts down in a sense everything he sees he will get his note-book crammed full of crude, imperfect matters, which will be of no practical use to him whatever in his work. I am writing from experience now, as this was an error of my youthful days, and it was not till I got a warning from one of the best of our craft that I gave the practice up much, to my comfort, and equally so to my professional gain. One of the lessons of shows to me is not to gormandise—if I may so use the word—but to feed lightly upon it, to "tak it aisy." Our receptivity is limited, like one's stomach, and if we go on feeding after being full, we know that a fit of indigestion will be our portion, so it is with sight-seeing, and yet often we go on staring at first one thing and then another until we are thoroughly satiated and weary.

The best way, in my opinion, is first to make a general survey of the entire show, and then take those portions in detail with which we are most concerned. One man is a plantsman, another a fruitman, another a flower man of some section or other, another a vegetable man. Let each take his speciality, and then if he feels he has not had enough go on to other things. He will, however, be well advised if he breaks these duties by some of the lighter adjuncts of the show, as the music, or the games, or the fun; and as these are provided of the best at the large shows, as at York and Shrewsbury, his day's profit and enjoyment will be considerably increased thereby.

I have put down in desultory fashion one or two of the lessons learnt at flower shows; others may add to them to our mutual benefit. I say again there are lessons to be learnt from flower shows, how to get them out best is the great question.—*X.*

ELVETHAM PARK.

Early in August I had the pleasure of visiting this fine establishment, which lies close to Winchfield, North Hants. The mansion,—a fine ornamental structure, built in the the modern style of architecture,—stands in a well-wooded park, and is distant about two miles from Winchfield railway station. Its walls are prettily covered with many fine climbers, which add much to its beauty. The front of the mansion commands a full view of the flower-garden, which is of geometrical design, although the beds are far more simple in outline than is usually the case in gardens of this kind. In the centre of the garden stands a fine specimen of Magnolia purpurea. This splendid plant covers a good deal of space, is in robust health, and when in bloom must present a truly magnificent appearance. Its branches reach right to the ground and are thickly clothed with large healthy leaves. I never remember seeing so grand a specimen of this beautiful Magnolia in any other of the gardens I have visited.

The pleasure grounds lie on the south-west side of the mansion. Placed at intervals, on either side of the gravel-walk which runs through them, are flower beds, in which many good hardy plants find a home. Interspersed with these, were such useful flowering subjects as East Lothian Stocks, Penstemons of different sorts, etc. The rose-garden is situated upon the western side of the house, and lies between it and the kitchen-garden. Roses are great favourites here. The object in view when the garden was formed, was not so much a collection as a selection—accordingly, a comparatively few varieties are grown. These, however, are of the very best, and most useful sorts in cultivation. The system of arrangement adopted, is to fill each bed with a separate variety. Much finer effects are thus obtained than when the mixed system of planting is practised —for, while in the latter style, the different colours often clash the one with the other, in the former they never do. Varieties like La France, Victor Verdier, Madame G. Luizet, Marie Baumann, Ulrich Brunner, and Souvenir de Malmaison were well represented. Many of these were in full bloom at the time of my visit. Mention should be made of the useful climbing variety —Bennett's Perpetual, which here finds great favour.

A fine bed of Polygala Chamaebuxus, which I saw in this part of the garden was particularly worthy of notice. This is a pretty shrub, of creeping habit, having sweet-scented flowers of a creamy-yellow colour. It will thrive either in peat or sandy loam, and certainly deserves to be better known than it is at present. At Elvetham Park, it was growing in the full sun, and appeared to be perfectly at home. A high wall at one end of the Rose-garden was, I noticed, covered by Pear trees—all of them looking particularly well. At the south end of the flower-garden is a low wall, which surrounds it. Here I saw a long border, containing a good selection of the hardy herbaceous element. whilst many fine climbers adorned the wall.

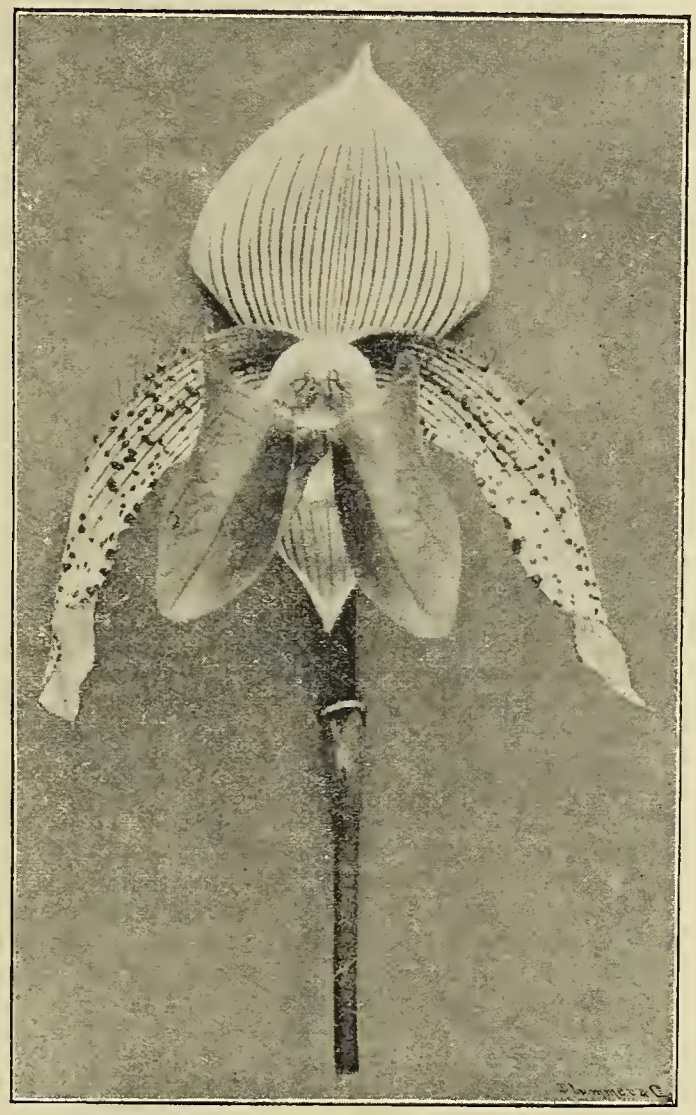
In the kitchen-garden and frame-grounds are to be found many glass-houses and pits, where are grown a good general collection of the necessary decorative plants. As in many other good establishments—so it is at Elvetham Park, plants are in great request for indoor decoration, and for the furnishing of quantities of cut flowers. Three houses, I observed, were devoted to the culture of Orchids. Many of them were thriving wonderfully well, and several plants of autumn-blooming Cattleyas were flowering splendidly. A cool green-house, facing north, held a number of Lapagerias, and Roses—amongst the latter, a fine plant of Gloire de Dijon attracted my special attention. It was trained in the same way as vines usually are, and did not seem to carry any old wood. I questioned Mr. Jones on the subject, who replied, that it was his usual custom to cut out all the old wood each year, immediately after flowering —afterwards training up young shoots right from the bottom. He assured me that they got splendid results from this method of cultivation—abundance of large fine blooms being borne by the plant each year.

In some span-roofed houses devoted to Melon culture I noticed some splendid crops. In one was a fine stock of that good old Melon, High Cross hybrid. A seedling on trial from Messrs. Sutton & Sons, of Reading, attracted my closest attention. It is a free setter and a very even cropper. The fruit is green-fleshed, and beautifully netted, and Mr. Jones assured me it was of excellent flavour. The average weight of the fruits would be about four pounds. Some plants of this seedling were also growing in pits and frames and they were doing equally as well as those in the span-roofed houses. In fact, I consider the crop of Melons at Elvetham to be the best I have seen for a long time. Messrs. Sutton & Sons new seedling too, will most certainly become a standard variety when it is put upon the market.

In the vineries I noticed fine crops of Black Hamburgh. A vine of Golden Queen (a variety of which Mr. Jones thinks highly,) was also doing well. At a little distance from the other houses, and close to the Rose garden is a range of fruit-houses devoted to Peaches, Figs and Apricots. Lord Palmerston Peach was in fine condition. Figs were bearing a fine second crop, Apricots were also good. Two trees of Bigarreau Cherries in the Apricot house were carrying heavy crops. Space will not allow me to say much about the wall-fruit and kitchen garden. Apricots were a good crop, as were also several kinds of Pears. Apples, as in many other localities, were none too plentiful. The kitchen garden is in too low a situation, and on that account is placed at a disadvantage in the growing of early crops. In one part of it several fine rows of Sweet Peas serving as screens looked a particularly striking feature.—*Con.*

A TWIN-LIPPED CYPRIPEDIUM.

Of the three allied species of Cypripedium known as C. superbiens, C. Curtisii, and C. ciliolare, the first-named has always been the most popular, and most widely cultivated in collections. We have on a former occasion seen a twin-lipped flower of C. superbiens, but never so perfect a specimen as that represented by the accompanying illustration, and which was prepared from a flower which bloomed in the collection of W. Y. Baker, Esq., Aspen House, Brixton Hill. With exception of the lip all other parts of the flower were quite normal and perfect. Careful examination of the two lips showed that their origin was due to the fission of one at a very early stage of its development, for, although the pouches appeared to be right and left of the column, they were really anterior, and united in one claw at the very base only. The lobes of the pouch on their contiguous sides, and which should have been upright, were directed inwards, beneath the lobe of the outer side of each respective claw. One of the lobes on the contiguous sides of the claw was directed out of the pouch, the other inwards, and therefore normal. In all other respects the two lips were perfect, for every part was well represented. The abnormal folding on the inner and contiguous sides was doubtless due to the pressure of the twin lip while yet in the bud state. The colours were normal, and altogether the flower was both striking and interesting.



Twin-lipped Cypripedium.

HEPATICAS.

These very beautiful spring flowers are far too little known and too much neglected. Where well grown, clumps and beds of them are among the very best of our hardy flowers, which come into bloom during February and March. The sorts most usually met with are the single and double red, single and double blue. Single white and the pale blue H. angulosa. The double blue has sometimes commanded a rather high price, quite small plants being sold at one shilling each. They are closely allied to the Anemone and can be well grown in any garden where there is a deep, moist and light soil. As they are deep rooting things a shallow soil is unsuitable, and in dry hot soils they generally die out. The most severe frost and coldest of winds do them little or no harm, and when they are lost it is from causes over which the grower can have control.

They are increased by root division and the best time for this is immediately after blooming, when the fresh foliage is forming. Many are sometimes lost through being divided into too small pieces, without a sufficiency of roots. Single crowns if well rooted will make nice plants the following season, but unless a fair amount of root can be secured to them it is best not to divide them to single crowns. Plant in a bed of light loamy soil, where they will only have the early morning sun, and water when necessary. They ought not to be disturbed too frequently; once in three or four years is quite often enough, and where used in spring gardening when they have to be removed for the summer occupants, a reserve should be planted in a suitable situation from which the stock for bedding out can be drawn, using one-third of the plants at a time. This ensures a strong healthy stock to draw from.

The single Hepatica can be readily raised from seed, which is best sown when ripe, although it will not germinate till the following spring. Sow in pans well drained, using a compost of turfy loam and cocoa fibre. This helps to keep the soil open. Place them in a cold frame or cool greenhouse, keeping the soil just moist, and in a shady position. The young plants make their appearance during March, and must be kept in a shady place, and well watered till August, when they may be transplanted into an open border where they have but little sun. Plant about 6 in. apart, closing the earth firmly about them to prevent the worms drawing them out of the ground. Good strong plants in pots may be had in flower earlier than those exposed to all weathers, and if kept from rain and frost preserve their beauty for a lengthened period, and, blooming when flowers are scarce, are well worthy of the attention of all whose accommodation is limited to cold frames and greenhouses.

For this purpose pot up small plants into 3-in. pots in good fibrous loam, a little well decayed manure, and enough coarse sand to keep it open. Plunge in a shady place in ashes, and give them a yearly shift into pots a size larger till 7-in. pots are reached. They may be kept in these for several years by being yearly top-dressed, and when grown so that division becomes necessary, divide into three or four pieces. If potted at once they soon re-establish themselves. Keep them cool, free from worms and weeds, and attend well to watering and sprinklings overhead during hot, dry weather, to keep the foliage strong and healthy. Fine heads of flower will result. While all are very beautiful, we must confess to a preference for the single blue.—*W. B. G.*

Chrysanthemums and their Culture. By Edwin Molyneux. Sixth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher Gardening World, 1, Clement's Inn, Strand, London, W.C.

THE DUKE OF YORK TOMATO.

We do not know why we should waste our time in replying to a parcel of irresponsible statements [?], such as those made by your correspondent on p. 21 of your last issue, still it may be satisfactory to your readers if we clear ourselves of the calumnies he thinks fit to bring upon us. It may interest your correspondent to know that the Duke of York Tomato was raised by a well known Govent Garden Grower, who has discarded all others in its favour [?], and when he reads your correspondents' experience, will no doubt be able to take care of himself. The overwhelming evidence we adduce from men eminent in their profession should convince Mr. Pettinger, that a "bad market" must not be made the outlet for one's feelings, and we cannot help expressing surprise, that you should have permitted his unwarranted grievance [?] to occupy your generally interesting columns. The reports we enclose are for your private perusal, kindly return them when finished within envelope enclosed for that purpose.—*James Carter & Co.*

As I am the raiser of the Duke of York Tomato, I should feel obliged if you will insert the following letter:—On getting your issue of last week I was surprised to see the article under the heading of "Tomato Notes," which had reference to the Duke of York. I can say with confidence that it is the *best* Tomato I ever saw, and this has been the opinion of *all* who have seen it growing in my nursery, both last year and this. I showed six bunches of the fruit at Earl's Court on July 19th, 1893, and the bunches were as follows:—One bunch had twelve, another eleven, then ten and nine, and two had eight. I also showed a single dish of twelve fruit, and for these and other varieties I received a Silver Medal.

The house in which it grew is a span-roof 76 ft. by 12 ft., with two tanks, so that the planting room would be about 70 ft. It was planted, I think, about the end of January or early in February. I began to cut the fruit about the middle of May, and up to the beginning of October I had cut 1,416 lbs. of good fruit; after that date I did not keep account, as the crop began to get small. This year I planted five houses the same size at the beginning of the year, and began to cut fruit the beginning of May, and they are still hanging thickly with fruit, all being of good colour and perfectly round.

I should like Mr. Pettinger to see them. It would not pay me to grow a "bad-shaped" Tomato to send to Mr. Geo. Monro, or he would not give me the prices that he does, so that I think my Tomatos will stand the test of most grower's fruit. This year I have planted twenty large houses with Tomatos and most of them are of the Duke of York, and next year I hope to plant all my houses with the same variety.

I shall be very pleased for Mr. Pettinger or any of his friends to come and see them growing, as I am often visited by growers from different parts of the country. The Duke of York is a *very good* setter, of good colour, and a heavy cropper, I should say judging from the figures above, it is also of good flavour, decidedly *not coarse*, and has no trace whatever of the "Old Red."—*E. Ryder, Northumberland Nursery, Orpington, Kent.*

In reading the remarks from Mr. Pettinger on this Tomato in your last issue, I quite agree with him that the season for Tomato culture has been in many cases far from profitable, and I quite agree that it is exceedingly difficult to condemn new varieties before they have had a fair trial. To begin, he mentions the Duke of York Tomato and says that no Tomato ever came out with such a character, and I must say from what I have seen of it that it will retain that character. I had the pleasure of seeing the house of Tomatos Duke of York last year, which was saved for Messrs. Carter and Co., and I was much struck with it, for the stems were carrying bunches of Tomatos, five and six on a bunch, from the bottom of the house to the top, the fruit being of even size, good shape, and of a beautiful colour. Only on Saturday last, September 8th, myself and a friend of mine who is a nurseryman and a Tomato grower saw twenty-six houses of Tomatos, and out of that number six were of Duke of York. They were planted the last week in December, so of course the fruit from the bottom of the stems had been cut but the top part of the houses were covered with a splendid crop of good marketable fruit. I was asked to try one which I did and found it very good, the flesh being very firm and very little seed. I believe it will become a great favourite when better known. In fact my friend was so taken with it that he is going to give it a trial.

I am sorry that Mr. Pettinger has had such a failure with it, but I find there are a lot of Duke of York being sent out by seedsmen which are, plainly speaking, very rough, and no more like the one I know than chalk is like cheese. I saw a variety only this morning under the same name which was sent out by a respectable seedsman, but it was not so good as the Old Red; and I also know of others who have failed with Challenger this year just in the same way as he has with the Duke of York, but they put it down to the dull, damp season. I am very chary myself about trying new things; I like to know something about them before I try them.—*F. London.*

That the truth is not always pleasant is a fact which most people are cognisant of, and especially when their own interests are concerned. My recent comment on the Duke of York Tomato has certainly put someone out, but who or what he is I do not know, as he has forgotten to put either his name or address to the post-card he has sent me, and which I enclose to you. He invites me to go to the Drill Hall, Westminster, to see the Duke of York Tomato grown in pots, and I thank him for the invitation, but must remind him that I have it at home, and, as I have already said, in a house which cannot be excelled for lightness, heating apparatus, ventilation, and other qualities conducive to successful market Tomato growing. I must remind my anonymous friend also that I did not say it was impossible to get a fair crop of fruits on the Duke of York. What I said, and what I repeat, is, that it is not what it was represented to be, nor is it by a long way, so far as my experience goes. I certainly do not always believe what I see pourtrayed, and I think I shall never forget the sensation which the plate gave me when I saw it. Opinions vary as to what weight of fruit a Tomato plant should yield to pay. In my opinion, 10lbs. to 12lbs. is a good crop, but how many sorts are there that only give three or four pounds? When it is considered that they are bought wholesale at second hand, at from 3d. to 3½d., it will soon be seen what the grower gets, and also that it is imperative he should grow those sorts which give the best returns. If the gentleman who wrote me will kindly look at the *Journal of Horticulture* for August 23rd, p. 176, he will find stated what I have found to be true in a fair experience of Tomato growing in good weather and bad, that huge fruits are generally thinly produced, whilst a medium-sized sample usually represents a heavy crop of the most useful fruit. Tomatos, to give a good return require unceasing care and attention, and I am one that would follow a prolific crop as far as they would care to go, but when truss after truss of flower is shown and the result is that two or three at the most set, and many a time none at all, I think it is time to speak. That my correspondents may understand I have no unreasonable bias in the matter, and desire only that the truth shall prevail, I will send him either fruits or seeds of my own saving of either Prelude, Challenger, or Duke of York, and he can then compare them for himself. But he must send me his address.—*J. G. Pettinger, Strawberry Dale Nurseries, Harrogate.*

NATIONAL DAHLIA SHOW.

The National Dahlia Society's Annual Exhibition was held on Friday and Saturday of last week at the Crystal Palace, and was specially marked by the number of entries and the excellence of the exhibits. Dahlias of all classes were well represented, The Cactus and show varieties were particularly strong, and the competition between exhibitors was in most of the classes very keen. In the nurserymen's classes for show and Fancy Dahlias, intermixed, Mr. Charles Turner, of Slough, was awarded the first prize for sixty blooms, distinct. This was a very fine exhibit, and well deserved the first place. Mr. Turner's blooms of Mrs. Gladstone, Miss Cannell, Flag of Truce, Nellie Garret, Arthur Ocock, John Walker, Colonist, Maud Fellowes, and Alice Emily were magnificent. Messrs. Keynes, Williams & Co. came second with a collection but little inferior to that of the first-prize takers. Their blooms of such sorts as R. T. Rawlings, Mrs. W. Slack, Duke of Fife, Kathleen, and Chieftain, were of the best. The third prize fell to Mr. John Walker of Thame, Oxon, Mr. S. Mortimer, Swiss Nursery, Farnham, Surrey, coming in fourth.

Mr. Charles Turner was again successful in carrying off the first prize for forty-eight blooms, distinct, whilst all the blooms were good. Eldorado, Shirley Hibberd, R. T. Rawlings, Clara, Frederick Smith, Ethel Britton, Hope, Mrs. Shirley Hibberd, Statesman, Queen of the Belgians, Seedling, Octavia, Diadem, Glow-worm, Prince Bismarck, James Cocker, Flag of Truce, and J. T. West, may be mentioned as some of the very finest varieties. The second prize went to Mr. John Walker, of Thame. He had Duke of Fife, Mrs. Humphries, Mrs. George Rawlings, and Gwendoline, in very fine order. Mr. S. Mortimer, of Farnham, took third place.

In a class for thirty-six blooms, distinct, a first award was made to Mr. George Humphries, of Kington Langley, Chippenham. His blooms of varieties like Thomas Hobbs, Mrs. Saunders, Rebecca, Mrs. Gladstone, Mrs. Dodds, Seedling, Harry Keith, and Mrs. Harris, were of a very high standard. Messrs. Saltmarsh & Son, The Nurseries, Chelmsford, won the second prize. The blooms of Coronet, Peacock, Constancy, and T. S. Ware in this exhibit were particularly fine. The third prize fell to the lot of Messrs. Kimberley & Son, Stoke Nurseries, Coventry. First honours in a class for twenty-four blooms, distinct, were taken by Messrs. Saltmarsh & Son. Prince of Denmark, Mrs. W. Slack, Perfection, Harrison Weir, Coronet, Pandora, and Mrs. Langtry were in superb condition. Messrs. Kimberley & Son came in second. Blooms exhibited by them of Mrs. Frisleton, Mrs. J. Downie, and G. Rawlings did them great credit. Mr. G. Humphries won the third prize, whilst the fourth was carried off by Messrs. Perkins & Sons, of Coventry. Messrs. J. Cheal & Sons, of Lowfield Nurseries, Crawley, had the best twelve blooms, distinct, Mr. J. R. Tranter, of Henley-on-Thames, and Mr. Henry Harris, of Writtle Road, Chelmsford, taking second and third places respectively. The exhibits of Cactus and decorative varieties were simply superb. For eighteen varieties, in bunches of six blooms each, of Cactus and decorative sorts, Messrs. J. Cheal & Sons deservedly obtained a first award. They had Duchess of York, Lady Penzance, Beauty of Wilts, Violet Morgane, Matchless, Apollo, Bertha Mawley, Countess of Radnor, Josephine, Kaiserin, May Pictor, Beauty of Eynsford, Delicate, Ernest Cannell, Kynerith, Baron Schroeder, and Duke of Clarence in really magnificent condition. Messrs. Keynes, Williams & Co. came second with Vesper, Brilliant, and Earl of Pembroke, especially good. The third prize fell to Mr. C. Turner.

For twelve Cactus varieties, in bunches of six blooms each, Messrs. J. Burrell & Sons, of Howe House Nurseries, Cambridge, were granted a first award. Apollo, Matchless, Professor Baldwin, Purple Prince, and Robert Cannell, were amongst their best sorts. The second and third prizes fell to Messrs. Keynes, Williams & Co., and Mr. F. W. Seale, respectively. Pompon Dahlias were well represented, and in a class for twenty-four varieties in bunches of ten blooms each, Mr. Charles Turner, of Slough, was first. His blooms of Arthur West, Isabel, George Brinckman, Cecil, Mars, Bacchus, and Hector, were of the finest. The second prize was carried off by Messrs. Keynes, Williams & Co., the third going to Messrs. J. Cheal & Sons. Mr. F. W. Seale, had the best twelve varieties in bunches of ten blooms each. Blooms of Lilian, Phoebus, Favourite, Whisper, and Bacchus, were well worthy of mention. Messrs. J. Burrell & Sons, took second place, with fine blooms of Red Indian, Eurydice and E. F. Spinkel, particularly noticeable—Messrs. Paul & Son, of the Old Nurseries, Cheshunt, coming in third. For twenty-four varieties of single Dahlias, in bunches of ten blooms each, Messrs. J. Cheal & Sons again distanced all competitors. Blooms of Evelyn, Marion, Lowfield Beauty, Mrs. Wythes, and Goldenlocks, were in good condition. The second prize went to Mr. F. W. Seale. He had first rate examples of Lady Whitehead, Amos Perry and Yellow Satin. Messrs. Paul & Sons, were awarded a first for twelve varieties in bunches of ten blooms each.

In the Amateur's classes for show and fancy

Dahlias, intermixed, Mr. J. T. West, Cornwalls, had the best twenty-four blooms, distinct. Second—Mr. Hobbs, St. Mark's Road, Easton, Bristol. Third—J. Gurney Fowler, Esq., Glebelands, South Woodford, Essex. Mr. Thomas Vagg, gardener to Mrs. Theobald, The Bedfords, Havering, was first for twelve blooms, distinct, of show varieties only, Mr. Sidney Cooper, of Hamlet, Chippenham, and Mr. W. Mist, of Collingwood, taking second and third places respectively. Mr. J. R. Tranter, Henley-on-Thames, had the finest six blooms, distinct. The second prize went to Mr. E. Jefferies—the third to Mr. W. Wheeler. For twelve blooms, distinct, of fancy Dahlias only, Mr. J. T. West, was first—Mr. Thomas Hobbs, second, and Mr. Arthur Ocock, third. Mr. Tom Mott, of Henley, had the best six blooms, distinct, Mr. W. Wheeler, coming second. In the many grand exhibits of the Cactus, and decorative sorts, Mr. E. Brown, gardener to M. W. Morris, Esq., Oak Lodge, Horley, Surrey, was, granted a first award for twelve varieties in bunches of six blooms each. A similar award was made to Mr. E. Mawley, Rosebank, Berkhamsted, for six varieties, in bunches of three blooms each—Mr. E. Brown was again successful in taking first honour for six varieties in bunches of six blooms each, originally sent out by Messrs. H. Cannell & Sons, Swanley, Kent. Mr. J. T. West, won the second prize, and Mr. James Hudson, of Gunnersbury House, third. In the classes for Pompones, Mr. J. T. West, had the best six varieties in bunches of ten blooms each, Mr. W. Mist, and Mr. J. Stredwick, taking third and fourth places respectively. For six varieties in bunches of six blooms each, Mr. Sidney Cooper, was first, and Mr. W. C. Pagram, second.

In the classes for single varieties, T. W. Girdlestone, Esq., was awarded first prize for six varieties in bunches of ten blooms each, a similar award being made to Mr. E. Mawley, for six varieties in bunches of six blooms each. T. W. Girdlestone, Esq., was again first in a class for twelve varieties, in bunches of six blooms each. In the Open Classes for Fancy Single Dahlias Messrs. J. Cheal and Sons had the best twelve varieties in bunches of ten blooms each. They had blooms of Northern Star, M.C.C., Victoria and James Scobie, in very fine order. T. W. Girdlestone, Esq., was second and Mr. F. W. Seale, third. Messrs. Saltmarsh & Son took first prize for six blooms of any dark Dahlia (of one variety) either Show or Fancy, with fine examples of Arthur Rawlings; a like award being made to Mr. F. W. Seale for six blooms of any light (not yellow) variety. He had splendid blooms of Mrs. Gladstone. For six blooms of any Yellow Dahlia, Mr. S. Mortimer was awarded first place, with blooms of John Heckling. Mr. F. W. Seale was again first, with Mrs. Saunders, for six blooms of any tipped variety, and a like place was taken by Mr. J. R. Tranter, of Henley-on-Thames (who had Rev. J. B. M. Camm in good condition), for six blooms of any striped sort. For six blooms of any edged variety Mr. J. Walker obtained premier position, with blooms of H. W. Ward. In the class for novelties several new seedling Dahlias were exhibited, although many of them failed to obtain certificates.

In the miscellaneous exhibits Messrs. Cannell & Sons staged a superb collection of Cactus, Pompon, and Single Dahlias. This was one of the finest groups in the whole show. The bunches of flowers were of different sizes and composed of from four to nine blooms each. The spaces between were filled up with cut fronds of hardy ferns, which, together with a light background of palms, put a finishing touch upon the whole. Mr. Thomas S. Ware, of Tottenham, exhibited a magnificent collection of the finest varieties of single Pompon and Cactus Dahlias. The central and chief feature of the group was a pyramid of Cactus varieties, which, with a background of palms, and relieved at intervals by plants of Eulalia gracillima looked truly splendid. This pyramid was flanked on the right by a host of fine pompons and on the left by the single varieties, The two rare autumn flowering Liliums, L. Nepalense and N. Neilgherrense occupied conspicuous positions. A fine group of stove foliage and flowering plants was exhibited by Messrs. John Laing & Sons, of Forest Hill. A glass case containing a number of pretty little plants of the fine-leaved Bertolonias was particularly noticeable. Van Houttei, Edouard Pynaert, and Comte de Kerchove were some of the varieties exhibited. Messrs. John Laing & Sons, also staged a collection of hardy flowering plants. Helianthuses, Perennial Asters, Phloxes, Delphiniums and Roses were at their best, and the group was made very effective by the insertion at intervals of sprays of Asparagus and an edging of Aspidistras and Ferns in pots. Messrs. Paul & Sons, of Waltham Cross, were to the fore with an exhibit of Roses that was really good for the time of year. A collection of fruit trees in pots all carrying fine crops of ripe fruit exhibited by this firm was also well worthy of mention.

ABERDEEN FLOWER SHOW.

The autumn exhibition of this Society was held in the Duthie Park, Aberdeen, on September 6th, 7th, and 8th, and compared most favourably with any of its predecessors in the beauty and richness of the display. The total number of entries was 1375. This is an apparent falling off from the autumn exhibition of 1893, but then it has to be borne in mind that this year there have been two separate exhibitions—the summer show, held at the time of the Highland Society's visit to Aberdeen, and the present autumn exhibition. Putting the two together the entries would show an increase of between 700 and 800. Within the enclosure three spacious tents were erected, all communicating with each other. The entrance tent was mainly appropriated to the exhibits of amateurs, the large central marquee being set apart for pot plants and table decorations, and the third tent being devoted chiefly to the display of vegetables.

Undoubtedly one of the main attractions of the exhibition was the magnificent display of Messrs. William Smith & Son, nurserymen and seedsmen, Aberdeen. Nearly one entire table on the right hand of the principal marquee was appropriated by this firm, and they made most admirable use of the space at their command. The table was divided into three sections, the central division constituting the table decorations proper, and the side divisions being devoted to cut flowers and pot plants respectively. The central section was the outstanding feature of the display, and undoubtedly proved, as intended, of high educational value as an example of what can be accomplished by art in conjunction with nature. The table was laid with black velvet, on which were placed elongated mirrors. The back of the table was flanked by a large mirror, draped most artistically with terra-cotta plush, while double-faced mirrors filled up the ends of the division. In this highly effective framework space was given for the display of the most exquisite taste. Two conspicuous objects were the lyre and the harp, on whose strings were entwined in a most graceful manner blue and pink Forget-me-Nots, the body being done up with Bouvardias, Carnations, and Streptocarpus. Very beautiful, too, were the wreaths and crosses, the chief constituents of which were beautiful specimens of the Lilium Harrisi, the Stephanotis, and the lovely Lily of the Nile, and other effective flowers, such as Pancratium, Lapageria alba, etc. On the centre of the stand was a silver centre-piece, gracefully arranged in tiers with rare Orchids, Eucharis, Fuchsias, etc. On the flat mirrors were laid Roses and Maidenhair Fern; and a very pretty effect was produced by beautiful Seaweed, almost rivalling some of the plants in the delicacy of its tracery.

As to the exhibition generally, it was admitted by judges and others qualified to express an opinion that, all over, it was fully up to the average in merit. The weather, of course, has not been propitious, and the fruit and some departments of vegetables were not so good as they would have been under more favourable conditions, but, taking everything into account, the quality of the great bulk of the exhibits was remarkably fine.

The first division was open to professional gardeners, and contained a fine collection of plants in pots suitable for dinner table decoration. Among stove and greenhouse plants the chief features were the Yuccas, together with a fine specimen of the Anthurium, belonging to Mr. A. O. Gill, of Fairfield, who gained the first prize. Mr. Gill was also first in Dracaenas with some very highly-coloured specimens. Dracaena Gladstonei exhibited by Mr. Robb, Glenburnie Park, also attracted great attention on account of its rich dark foliage. The Begonias were large and finely flowered, notably a large double scarlet shown by Mr. Robb, gardener to J. Murray, Esq., Glenburnie Park, and for which he secured the Society's Silver Medal. Some nice dwarf plants were shown among Cockscombs. Orchids were well displayed, Mr. Gill, Fairfield, being first, winning the Society's Silver Medal with a fine example of Cattleya Gaskelliana, &c. Chrysanthemums were fairly well shown, but there was nothing of outstanding merit.

Cut flowers, no doubt, suffered from the weather, but the display was wonderfully good. In rose blooms, dissimilar, Dr. Keith Jopp led with twelve very fine blooms, very clean and of nice medium size, but lacking, perhaps, in light colours. Among Dahlias were some fine blooms, those from Cluny Castle placed first being well formed with high centres. The single varieties included some finely striped blooms. Another exhibition showed some nice compact pompon Dahlias of distinct colour. The Gladioli from Cluny Castle were very fine varieties with large spikes. Pansies and Asters were both good, so were the first prize French Marigolds shown by Mr. James Booth, Aberdeen. All over, the cut flowers were really good.

In the section open to nurserymen and florists Mr. Alex. Giles, Aberdeen, showed a fine floral cross, which gained first place. Dahlias in this section were very good, and the Roses were superb, Messrs. Croll, of Dundee, beating our well-known local rosarians, Messrs. Cocker & Sons.

Fruit was a wonderfully good display. The prize for the best collection of nine varieties was gained by Mr. Reid, gardener, Durris; Mr. Gregor, Tiverton, Devonshire, was second with a grand display. Bunches of Grapes were well shown; Melons were few but good; Peaches very good and highly coloured. For Apples the season has not been propitious, and the show of these was all the more creditable.

Vegetables were all over a highly creditable exhibition. The professional gardeners came first, and in collections made an excellent display, the first going to Sir Arthur Grant, Bart., of Monymusk. The first place for the collection of nine varieties was won by Mr. Paterson, gardener, Ruthrieston, with a fine basket. Potatos were shown by themselves, and the display was both large and fine.

The weather during the three days of the exhibition was cold with some rain, but notwithstanding the show was very successful, financially and otherwise, the takings for the three days amounting to £394 2s. 3d.

GARDENING MISCELLANY.

ACHIMENES GROWN COLD.

Many people think that Achimenes need a deal of heat to be grown successfully. This, however, is a mistake, for they are often kept from being as useful as they might be, by being grown in too high a temperature. A warm pit or house is necessary to start them into growth, but when the plants attain a height of 2 in. or 3 in. they should have more air given them. Afterwards, they may be grown on in a cold frame or greenhouse. We have a batch of A. longiflora grown in this way, and now, September 4th, they are a mass of bloom, and for a blue flower nothing could be finer. When accorded cool treatment like this they are of the greatest use for house decoration, for which purpose they should be more extensively grown than they are at present.—*Con.*

CAULIFLOWER VEITCH'S AUTUMN GIANT.

When one takes into consideration the great esteem in which the Cauliflower is held as a vegetable by all classes, from the rich to the very poor, it becomes a matter of wonder that it is not more often grown in the gardens of the cottager than it is. Even where shows for garden produce are held and prizes given (for cottagers only), in very many cases the Cauliflower does not find a place. Why is this? Surely not because it does not pay to grow, for there is no vegetable that gives a better return for less trouble. Of course it would not do for the holder of small gardens to devote a lot of space to the culture of early varieties, as the ground so taken up might be put to a much better use for other purposes, but a good sort like Veitch's Autumn

Giant will give ample returns for any space it may take up. In the larger gardens of private gentlemen, where the Cauliflower is one of the most important vegetables grown, a good autumn variety like the above is indispensable. As its name implies, its heads are of large size, pure white, and of splendid flavour. It is a heavy feeder, and generous treatment will therefore be necessary. If planted on a south border it will form a good succession crop to early Potatos, and will yield a supply for a great part of the autumn until their career is cut short by winter's frosty breath. It is advisable when frost threatens, to pull up such plants as have good heads by the roots and hang them in a shed out of harm's way. They will keep in good condition for a week or two if treated in this way, and an awkward break in the succession may often thus be avoided.—*Z.*

HYPERICUM PATULUM.

The two large beds filled with this pretty little Japanese plant, situate on either side of the path leading to the southern entrance of the succulent house at Kew, affords a particularly pleasing sight just now. The plants are nearly 2 ft. in height, about the same distance through, and are flowering profusely. How strange it is that plants of this description remain unknown quantities to the horticultural world generally. Indeed, one rarely sees them outside the bounds of botanic gardens. This Hypericum is perfectly hardy, a most profuse bloomer, and attains a maximum height of about 6 ft.—*G.*

HARDY FUCHSIAS.

The most commonly met with are F. gracilis and F. Riccartoni, and very beautiful they are; at the same time we cannot help thinking that among the hundreds of varieties that have been raised since the introduction of the plant, there are some equally hardy. We have often noticed several kinds, including one with a double white corolla in a fore court garden which passed through several winters with a covering of ashes under a flower pot. We noticed recently in the nurseries of Messrs. J. Laing & Sons several of these old varieties, one purporting to be the old F. globosa, a fine old thing, if true, and well worth looking up. Can anyone say if Earl Beaconsfield has been tested as a hardy variety.—*W.B.G.*

CARNATION SALISBURY.

This is a very free flowering white variety. Its blooms are not particularly large, but are of a handy size, and sufficiently double for all purposes, added to which it is not liable to burst its calyx. In constitution it is one of the hardiest sorts I grow. It is a great favourite too at Elvetham Park, as it is one of the few varieties that will grow and thrive in low-lying situations.—*Con.*

CALCEOLARIA AMPLEXICAULIS.

This I consider to be one of the finest Calceolarias in cultivation. True, it is not a new one, for I remember its being used for bedding purposes at least from twenty-five to thirty years ago, at Rood Ashton. It is especially suitable for the filling of large beds, and for growing in masses in borders. A few neat stakes will be necessary to keep the plants in an upright position when heavy with bloom. We treat it like this in our garden, and it looks splendid, indeed, it is impossible to beat it.—*Con.*

A WALK IN THE COUNTRY.

As I know many places mentioned, I have read these articles with much interest, but in connection with the Pilgrim's Way (p. 24) I must join issue with the writer. I used to know well some miles of the Pilgrim's Road, and so far from its being on the top of the hillsides, it was invariably so much *hollowed out* that travellers would be completely screened from the sight of marauding bands who infested the summit. Such, at least, was the reason I have always heard given for the manner in which the road is excavated. From many points along the North Downs it would be impossible for a stranger to tell that a road lay below him, and even knowing that it did so, to guess where it ran.—*E. Coll. Nov.* [We forwarded your letter to Mr. Stogdon, who kindly replies:—"I find that at Titsey the elevation of the Pilgrim's Way is 539 ft. above the level of the sea. A little further westward it runs quite at the top of the hill by a place called Hiltop Cottage, the elevation close by being marked as 671 ft, on the Ordnance Survey Map. The Way itself was probably in existence in many parts before the advent of the Romans, and a good account of it is contained in an appendix to Dean Stanley's *Canterbury*."—Ed.]

WINDOW PLANTS.

The use of plants for the embellishment of our homes is almost universal, and what would the homes of the poorer classes be without them. Dull and cheerless as too many of them are both in their surroundings and interiors, it may be from no fault of their occupiers, who are often, alas, quite helpless and at the mercy of those who care but little how the poor fare, whose only bit of brightness often consists of a few plants which are both lovingly and carefully cherished, the windows being so crowded with them, that the rooms are often in a state of semi-darkness. In some working class districts very many of the newer houses have bay windows, which add much to the appearance of the house itself, and the extra amount of pleasure derivable from the better cultivation of a few plants in these, is well shown by the number of instances met with, in a few minutes' walk. In such cases the accommodation afforded is put to good use, and really artistic arrangements may be seen in artisans' windows, when plants grace his windows, which not so many years since could only be obtained by the well-to-do members of society.

Surely if the greatest good to the greatest number is the beau ideal to be aimed at, the realm of horticulture is well on the road to its attainment. It is quite true that in many instances these displays are not the product of the householder's own skill, and many will ask what can anyone do satisfactorily without the aid of a glass structure and at a disadvantage as respects proper soil. Now as regards the latter, we have found that a great deal may be done with tea leaves and road scrapings, or more properly horse droppings collected with a fair amount of grit with them, the tea leaves dried before using and the droppings well broken up and intermixed with garden soil will often be the only material within the reach of very many, and from actual experience we may add that Pelargoniums, Fuchsias, Hyacinths, and other bulbs will do fairly well in it.

Windows like these during the summer months may be kept quite gay with flowering plants by having a surplus to draw from as they become exhausted indoors, growing on outside, for there are many things which during the summer months will do best outside up to near the time they commence flowering, because the growths will be more stocky and free flowering for their stay outside, and those which have done service in the window may recoup their energies and possibly serve another turn in the window before winter sets in. A very common error is over-crowding, too many things only spoil the effect, and half kill each other. One frequent mistake made is not providing sufficient drainage, owing to which the water given cannot pass away as quickly as it should do. Another mistake is over-filling the pots with soil; but a greater evil than either is over-watering. Some literally drown their plants and rot the roots from this excess. Just a very few delight in this treatment, being of a semi-aquatic character. The Arum, Musk and Cyperus or umbrella plant, as it is frequently called, are the most common cases of the kind.

We have often been asked, "How often shall I water my plants." To this the only reasonable answer is, "When they require it," which will vary very much according to the positions they are placed in and atmospheric conditions, with the amount of foliage and its relative proportion to the size of pot the plant is growing in. Some will readily judge by weight, others by rapping the pots, which, should the balls of the plants be dry, will ring, and if wet, the sound is dull and heavy. A golden rule is when watering to give enough to thoroughly soak the ball, so that the water passes right through. Those who constantly water the same plants will soon learn to tell at a glance if they are dry or not, and if in doubt, feeling the soil with the finger will soon satisfy them as to its condition. If too dry it will not soil the finger, and if wet it will do so sufficiently for the operator to know that no more water is required at the time.—*W. B. G.*

SOCIETIES.

Royal Horticultural, *Sept. 11th.*—The exhibits on the occasion of the meeting on Tuesday last were very numerous, and in some cases quite extensive. Hardy herbaceous plants and Dahlias were amongst the most prominent features of the show, but Roses, China Asters, and stove and greenhouse flowers were also conspicuous and noteworthy. Orchids were somewhat scattered about, but they quite maintained their reputation. A showy and interesting group of Orchids was exhibited by Messrs. Hugh Low & Co., Clapton, including many flowering specimens of Cypripedium Shuttleworthii, some of which were very dark and rich in colour. They also had Vanda caerulea, Laelia tenebrosa, and Saccolabium coelleste. (Silver Banksian Medal.) A group of Orchids was also exhibited by R. I. Measures, Esq. (gardener, Mr. Hy. Chapman), Cambridge Road, Flodden Road, Camberwell. Cypripediums and Vandas were the leading features of this group, but he had some fine forms of Cattleya aurea, including a spike of C. a. chrysotoxa bearing two flowers which differed very much from one another in colour. (Silver Banksian Medal.) A mixed and varied group of Orchids, including the curious green flowered Coelogyne Meyeriana, also Calanthe Laucheana, Catasetum fimbriatum, and Odontoglossum Schroderianum, was exhibited by Messrs. F. Sander & Co., St. Albans. (Silver Banksian Medal.) A mixed group of Orchids was also staged by Messrs. W. L. Lewis & Co., Southgate. Cattleyas in five specific forms, as well as some hybrids and varieties, Oncidiums, Cypripediums, and Habenaria carnea nivosa, and several other things were prominent in the group, which was backed up with Palms and interspersed with Maidenhair Ferns (Silver Banksian Medal). An interesting collection of Orchids chiefly in the cut state, including forms of Cattleya guttata, C. Statteriana, and C. granulosa, was exhibited by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Whitfield, Manchester. The most handsome, new, and valuable sort in his exhibit was that named Cattleya gigas Countess of Derby (Silver Banksian Medal). Cattleya guttata phoenicoptera, C. g. Leopoldii, and C. Alexandra, were exhibited by Walter C. Walker, Esq. (gardener, Mr. G. Cragg), Percy Lodge, Winchmore Hill. A fine bunch of flowers of Cattleya Gaskelliana albens odorata and a plant of Odontoglossum aspersum rubrum, were exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking. A fine new Cypripedium, named C. Métiore, was shown by M. Jules Hye-Lysen, 8, Le Coupure, Ghent. Two fine branching spikes of Renanthera coccinea were shown by J. A. Miller, Esq. (gardener, Mr. D. Fairweather), Bifrons Park, Canterbury. Cypripedium Shuttleworthii and a large piece of Cattleya Loddigesii Glebeland's var. were staged by J. Gurney Fowler, Esq., Glebelands, South Woodford. A piece of Oncidium Forbesii grandiflorum was shown by E. J. Wickenden, Esq., Heathfield. Flowers of Cattleya Gaskelliana were shown by Sir Charles Piggot, Bart. (gardener, Mr. Capp), Wexham Park, Slough. Laelia tenebrosa Robert Castle and L. purpurata Mrs. Taylor Leyland were shown by Messrs. F. Horsman & Co., Mark's Tey, Colchester.

A Silver Floral Medal was awarded to Mr. Eric F. Such, The Nurseries, Maidenhead, for a fine collection of Cactus, Decorative, Show, and Fancy Dahlias. Miss Mary Morgan, St. Katherine, Apollo, and Kynerith were some of the best varieties in the Cactus and decorative section, and Hon. Mrs. P. Wynham, W. H. Williams, Mr. Harris, R. T. Rawlings, J. Walker, Mrs. Saunders, and Mrs. W. Slack, were some of the best show and fancy sorts. Mr. John Walker of Thame, Oxon, was awarded a Silver Banksian Medal for seventy-two superb blooms of show and fancy Dahlias. He had blooms of Maud Fellowes, James Cocker, Duke of Fife, Willie Garratt, Mrs. Langtry, Chorister, and Queen of the Belgians, in very fine condition. A fine lot of Quilled Asters comprising thirty-six bunches of from six to ten blooms in each, were also exhibited by Mr. Walker. A Silver Banksian Medal was given to Mrs. Crawford, Gatton, Reigate, for two exceedingly fine and well-flowered plants of Eucharis amazonica carrying considerably over 200 blooms between them. Messrs. Veitch & Sons, Chelsea, staged a fine

collection of hardy cut flowers, for which a Silver Floral Medal was awarded them. Several fine kinds of Kniphofias (Tritomas) were very noticeable, as were also fine examples of Rudbeckias, Penstemons, Lupines, Montbretias, Perennial Asters, etc. A group of hardy cut flowers exhibited by Mr. W. Salmon, Ivy Cottages, Elder Road, West Norwood, also received a Silver Floral Medal. Mr. Salmon had some particularly good examples of French and African Marigolds. A Silver Floral Medal was awarded to Messrs. H. Cannell & Sons for a good collection of Cactus Dahlias, Pompon Chrysanthemums, and Paeony-flowered Asters. Cannell's Gem, Cannell's Own, Cannell's Velvet, Grand Duke Alexis of Russia, and Cannell's Brilliant were some of the best Cactus Dahlias exhibited. Mr. T. S. Ware, Tottenham, received a Silver Banksian Medal for a fine lot of Cactus Dahlias. The blooms of Beauty of Eynsford, Honoria, Kynerith, Maid of Kent, Viscountess Folkestone, and John Bragg did him great credit. A Silver Floral Medal was awarded to W. Keith, Esq., Cornwalls, Brentwood, for a magnificent collection of show and fancy Dahlias No less than ten dozen blooms were shown, all of them in good condition, W. Rawlings, John Standish. Victor, Gaiety, Prince of Denmark, and the Hon. Mrs. P. Wyndham being some of the very finest. Mr. S. Mortimer, Rowledge, Farnham, Hants, was awarded a Silver Floral Medal for a splendid exhibit of Cactus, show, and fancy Dahlias. He had blooms of Duke of Clarence, May Pictor, Matchless, and Bertha Mawley among the Cactus varieties, and Lotty Eckford, Spitfire, Sunbeam, A. Rawlings, Flag of Truce, and Mrs. Shirley Hibberd among the show and fancy sorts—up to a very high standard of excellence. Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, received a Silver Banksian Medal for a fine lot of Cactus Dahlias. Blooms of Duke of Clarence, Professor Baldwin, Viscountess Folkestone, and Sir James Montefiore were especially good here.

A really good collection of hardy cut flowers exhibited by Messrs. W. Cutbush & Son was deservedly awarded a Silver Flora Medal. A group of Dahlias was the central feature, and on either side of this were tastefully arranged bunches of Kniphofias, herbaceous Phloxes, Pentstemons, Achilleas, &c. Pieces of Eulalia gracillima standing out here and there added considerably to the effect of the whole group. A Silver-gilt Medal was awarded to Mr. G, Wythes, Syon House Gardens for a collection of stove fine foliage plants and Nepenthes. Mr. Charles Turner, Slough, received a Silver Flora Medal for a grand group of Hydragea paniculata in full flower. A Bronze Banksian Medal was accorded to Messrs. Paul & Sons, of Waltham Cross, for a collection of Roses in pots, and for cut blooms of the same.

Obituary.

From *The Devon Evening Express* we regret to learn of the death of Mr. J. H. Boddy, proprietor of the Land's End Vineries, Cornwall, a very remarkable man. He was originally a carpenter, but was desirable of becoming a cultivator of the land. He tried to obtain a small holding in Cornwall, but did not succeed, and he emigrated to Canada. As the climate did not agree with him he returned to Cornwall, and after some difficulty obtained an acre and a half of land "which would not feed a bird." On this he began his operations as a cultivator. He first built a fowl-house—following at the same time his occupation of a carpenter—and soon had 300 fowls. He then grew flowers, chiefly Pearl-white Narcissus, for which he found a ready market. Next he erected glass houses, and began to grow Cucumbers. This was followed by Vine and Peach culture. His first produce was sold at Penzance, and his market was afterwards extended to Plymouth, Exeter, Bristol, Birmingham, and Covent Garden. When he got his acre and a half in full working order he kept his family of thirteen persons upon it—a feat which has probably never been done by any other man. He soon had 250-ft. run of lean-to glass house, and nearly the same length of span roof. Anyone who has seen his grounds, which are situate on the main road between the Logan Rock and Land's End, would observe at a glance evidence of great industry, perseverance, skill, and judgment. Recently Mr. Boddy extended his holding very considerably, and established upon it a sanatorium. His crops of flowers, peaches, and grapes became enormous, and his history attracted attention in all parts of the country.

LAW NOTES.

A Scotch Building Case: Important to Nurserymen.—In the Dean of Guild Court, Rothesay, on the 3rd inst., Messrs. Dobbie & Co., Springfield Nursery, presented an application for the erection of a new greenhouse. Mr. Wm. Cuthbertson, who appeared on behalf of the firm, explained that they had been in doubt as to whether it was necessary to present plans in a case of this kind, where the greenhouse was entirely within their own grounds and did not abut on the public road or on any public place. They accordingly wrote to Mr. John T. Wilson, the assessor for this court, whose reply was that it would be safest to get plans passed. Dean of Guild Miller, on the other hand, wrote that he did not think it was necessary in a case of this kind, while Mr. Morrison, master of works, held that it was necessary in the case of every building, no matter what kind or where placed. He (Mr. Cuthbertson) submitted with all due deference to the court, that as the greenhouse was seventy yards from the public street and ten or twelve yards from the nearest proprietor, and was entirely within their own ground, the court should not take cognisance of the matter at all. Provost Milloy thought it was necessary for the public safety that the court should take cognisance of all erections made within its jurisdiction, because if they allowed certain buildings to pass it would be impossible to draw the line, and while the present plans only showed a smoke stalk of 15 ft. the chances were that, if allowed, someone else would put up one of 25 ft. There was no objection to the plans as presented, but he thought that in all cases permission should be got, as it was safest. After some further discussion it was agreed that applications were necessary for all buildings.

Mr. Cuthbertson then submitted that the building should be authorised without gutters. They were quite unnecessary on this building, the surrounding subsoil being pure gravel, and it was seventy yards from the public road. He thought they should not be put to the unnecessary expense of putting up about 300 ft. of gutters. In England the court held that these greenhouses were only covered-in gardens for the protection of plants and it was not necessary. Mr. Morrison: The Act says that no building shall be put up without rhones. If this constitutes a building it must have rhones. Some discussion took place on this point, Provost Milloy stating that had the plans been presented without rhones they might have been inclined to let them pass, but now that they were shown on the plans they would be passed as they were. The court had recently resolved to take this course with all plans put before them.

QUESTIONS AND ANSWERS.

Crotons Dropping their Leaves.—*R.S.W.*: We have occasionally seen Crotons very much injured in the way you mention, and believe the cause to be the same. The young and growing tips sometimes get infested with a small, white, or nearly colourless mite, very much smaller and less easily detected than the red spider. The best cure that has yet been discovered to keep the pest in check is to syringe the plants occasionally with water taken from a tank in which a bag of soot has been submerged. You might also employ a mixture of sulphur and water, or even dust the plants with flour of sulphur while they are wet. The principal point to be observed is to commence the remedies above given as soon as the plants commence to grow in spring, or any other time if the leaves show evidence of being infested with the mite, When the leaves are full grown the mites scarcely do them any damage.

Bauera rubioides.—*J. B.*: This plant, concerning which you make enquiries, belongs to the Saxifrage family, and is a greenhouse shrub about 1 ft. to 2 ft. high, bearing rosy-pink flowers along the slender twiggy branches. The leaves are small, opposite, divided into three leaflets and appear as if they were set on the shoots in whorls. It comes from New South Wales and requires treatment similar to that of Heaths and New Holland plants. It is as easy to grow as an Epacris, though altogether different in appearance, and thrives in a compost of sandy loam and peat. The flowers are nearly the size of a sixpenny piece and are produced during a great part of the year. The plant may be described as pretty and useful as a change, but not conspicuously showy on account of the moderate dimensions of the flower.

Strawberry Runners.—*Laxton's Competitor*: Our experience is that nothing would be gained by keeping the runners in small pots in a frame till March and then planting them out. They would have no time to take a thorough hold of the soil before the heat of summer might set in. The pots would get so matted with roots that the plants would really be starved before planting time. The best plan, in our opinion, would be to plant immediately in the open in well-prepared and heavily-manured soil. Strawberry runners make many roots in autumn and early winter, thus taking thorough possession of the soil, and at the same time making strong crowns.

Begonias at a Certain Season.—*G. G.*: The removal of the first developed flowers would tend to economise the energy of the plants until you require them to be in good condition at a certain late period of the year; but you must remember that the flowers produced by the plants when in full vigour are always the best, though by good treatment under cool conditions you can get large flowers till a late period of the season. Instead of removing them for weeks in succession, we would advise you to start the plants late and grow them on under cool conditions with an abundance of air and light on all sides. The plants would then be still in a vigorous growing condition when wanted. Flowers do tend to weaken the vigour of the plants in course of time, but seed pods more so, and should be removed unless you want seed. The latter can be ripened late in autumn.

White Scale on Ferns.—*R. S. W.*: The term white scale is rather indefinite. To be exactly sure of what you mean we would require a specimen of a frond with the scale upon it, so as to get some idea of the insect to which you apply the term. There are several species of which scale or scale-like subjects, which are totally different from one another, with a separate life history, and requiring different methods for destroying them. If you send the specimen in a small box and packed with a little damp moss we will do what we can to help you.

Names of Plants.—*Western*: 1, 2, and 5, are Crotons which should be named by someone with a collection of garden varieties; 3, Dracaena Cooperi; 4, Dracaena not recognised; 6, Jacobinia magnifica, often called Justicia carnea; 7, Ficus pumila, the fruiting form of what is known in gardens as F. repens. Could you send us a fruiting spray? *James Brown*: The Black Bryony, Tamus communis. *E. G.*: The yellow-flowered plant is Nasturtium amphibium; the other is Cerastium aquaticum.

Border Carnations.—*Western*: The following are eight border Carnations, generally considered amongst the best of their kind:—Mary Morris, soft rosy-pink, or Ketton Rose, rich rosy-pink: Germania, yellow; King of Purples, rich dark purple; William Toby, maroon-crimson; Grant Allen, rich scarlet-rose; Mrs. Reynolds Hole, terra cotta; The Bride, pure white; and Napoleon III., rich scarlet. Instead of The Bride you might obtain Mrs. Muir or Mrs. Fred, considered the most refined flower in cultivation, or Mrs. F. Watts on account of its dwarf habit. Cantab is known as the Scarlet Clove, because highly fragrant, and is therefore highly desirable. Winter Cheer is also desirable because dwarf, and its crimson-red flowers are produced till autumn.

Black Grapes.—*Western*: Muscat of Alexandria being a late kind, black varieties you wish to grow with it should also be late. The best kinds we have seen grown along with it are Alicante, Gros Colmar, and Lady Downes.

Names of Fruit.—*J. Nichol*: We believe your Plum to be the Nectarine, but have had no means of comparing it. *W. Keen*, and *Argyle*. Samples arrived too late for identification this week.

Laurels and Aucubas.—*A. K. Reid*: A fairly friable soil in a situation behind a north aspect wall or a similarly half-shady situation should be selected for inserting the cuttings of these things. We take it for granted that the Laurel you mean is the Cherry Laurel and not the Bay Laurel. It would be better to defer taking the cuttings till the end of the month, as they would be firmer by that time and there would be less chance of dry weather to shrivel up the foliage. It would be advantageous to lighten the soil with leaf mould or vegetable refuse, if at all heavy. Take cuttings about a foot in length, more or less, with a small heel of the old wood, remove the lower leaves and insert the shoots about 6 in. in the soil. The digging can be done as the work proceeds, placing the cuttings in strait trenches and treading the soil firmly about them.

Cyclamens from Seed.—*X. X. X.*: Some prefer to sow the seeds in February, but those who desire a display in autumn sow the seeds in November so as to give the plants twelve months to develop. Sow in pans of light sandy soil in a temperature of 55° to 60°, and after they have made a small corm they may be potted off singly in thumb pots. Keep them growing all the year round from the time they germinate till they bloom. If sown in November, you might prick them off into other pans in which they should be kept growing till spring. Then put them singly into 60-size pots and after the weather becomes warm, transfer the pots to frames that can be heated in cold weather if necessary. Shade from bright sun, water carefully and regularly; always

keep the plants near the glass, and ventilate to prevent their becoming drawn. In July, repot them into 48-size pots and grow on as before. When cold sets in autumn the plants may be removed to a greenhouse, where they should be accommodated near the glass and they will soon commence to flower.

COMMUNICATIONS RECEIVED.—W. K.—H. T.—W. S.—G. J. A.—W.—T. W.—J. R. T.—J. G. P.—C. W.—W. B. G.—J. Cypher.

TRADE CATALOGUES RECEIVED.

T. S. WARE, Hale Farm Nurseries, Tottenham, N.—Autumn Bulb Guide, and Catalogue of Hardy Florists' Flowers and other plants.

RUSSELL BROS., Altifirma Nurseries, Highlands, North Carolina, U.S.A.—Native American Plants.

BARR & SON, 12, King Street, Covent Garden, W.C.—Dutch and other Bulbous Roots; special list of Daffodils.

DOBBIE & Co., Rothesay, N.B.—Dutch and other Bulbs, Hardy Florists' Flowers, and Herbaceous Plants, &c.

CUNNINGHAM & WYLLIE, 8, West Nile Street, Glasgow.—Autumn Catalogue of Bulbs.

E. H. KRELAGE & SON, Haarlem, Holland.—Bulbs for Autumn Planting.

J. CHEAL & SONS, Crawley, Sussex.—Dutch Bulbs and Flower Roots, and Ornamental Trees and Shrubs.

LONDON SEED TRADE.

September 11th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow trade for Rye, Winter Tares and Trifolium incarnatum at low prices now current. Red clover, owing to bad reports as to new crop, meets with attention from speculative buyers, at hardening rates. White Clover dearer, Alsike dull. Trefoil and Ryegrasses firm.

COVENT GARDEN MARKET.

September 12th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	5 0	Peaches & Nectarines, per doz.	2 0	8 0
Cherries, per blt. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	25 0	—	Plums .....half Sieve	1 6	2 6
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0
Melons .....each	1 0	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 3	0 4	Lettuces ...per dozen	2 0	3 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 8
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Ferns, small, per 100	3 0	6 0
—specimen plants, each	5 0	15 0	Foliage Plants, doz.	12 0	60 0
Cockscombs, per doz.	2 6	4 0	Heliotrope...per doz.	3 0	6 0
Campanula, per doz.	6 0	9 0	Hydrangea...per doz.	9 0	18 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Chrysanthemums, per doz.	4 0	15 0	Mignonette, per doz	3 0	6 0
Dracaena term., doz.	18 0	36 0	Palms in variety, each	2 6	10 0
Dracaena viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Evergreens, invar. doz	6 0	24 0	Pelargoniums, per dz.	6 0	9 0
Ferns, invar., per doz.	3 0	8 0	—scarlet.....per doz...	3 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Lilium speciosum doz. blms.	1 0	1 6
Asters, English, doz. bchs.	3 0	6 0	Maidenhair Fern, 12 bs.	3 0	6 0
Asters, French, per bch.	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	1 0	3 0
Carnations...per doz.	0 6	1 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Carnation, doz. bchs.	4 0	6 0	Pelargoniums 12 sps.	0 4	0 6
Chrysanthemums, doz. blooms	0 6	1 0	— scarlet.....12 bchs.	2 0	4 0
,, doz. bunches	3 0	9 0	Poppies ...doz. bchs.	0 6	1 0
Cornflower, doz. bchs.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Eucharis ...per doz.	2 0	3 0	Primula, double, bun.	0 6	1 0
Forget-me-Not, doz. bchs.	1 0	2 0	Roses .....doz. bchs.	2 0	9 0
Gardenias 12 blooms	1 0	3 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. blms.	0 6	1 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Saffrano...per doz.	1 0	1 0
			— Tea ..... per dozen	0 6	2 0
			Sweet Sultan doz bchs	1 6	2 6
			Tuberoses, per doz	0 4	0 6

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FLOWER SHOW FIXTURES, 1894.

SEPTEMBER.

25.—R.H.S., Drill Hall.

OCTOBER.

9, 23.—R.H.S., Drill Hall.
10, 11, 12.—N.C.S. at the Royal Aquarium.

NOVEMBER.

2, 3.—Chrysanthemum Show at the Crystal Palace.
2, 3.—Battersea Chrysanthemum Show.
5.—St. Nects Chrysanthemum Show.
6, 7.—Leeds Paxton Society's Chrysanthemum Show.
6, 7, 8.—N.C.S. at the Royal Aquarium.
7, 8.—Bournemouth Chrysanthemum Show.
7, 8.—Hereford Fruit and Chrysanthemum Show.
7, 8.—Wolverhampton Chrysanthemum Show.
8.—Buddleigh Salterton Chrysanthemum Show.
9.—Exeter Chrysanthemum Show.
10.—Crewe Chrysanthemum Show.
13, 27.—R.H.S., Drill Hall.
13, 14.—Kingston Chrysanthemum Show.
14, 15.—Aylesbury Chrysanthemum Show.
14, 15.—Birmingham Chrysanthemum Show.
14, 15.—Bristol Chrysanthemum Show.
14, 15.—Hull Chrysanthemum Show.
14, 15.—Tunbridge Wells Chrysanthemum Show.
15, 16, 17.—Edinburgh Chrysanthemum Show
16, 17.—Bolton Chrysanthemum Show.
16, 17.—Bradford Chrysanthemum Show.
16, 17.—Stockport Chrysanthemum Show.
16, 17.—Sheffield Chrysanthemum Show.
20, 21.—Chrysanthemum Show in the Town Hall, Manchester.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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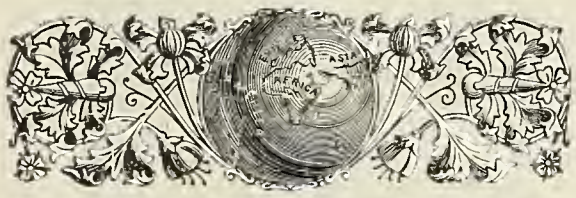

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 24th.—Bulb Sales at Protheroe & Morris' Rooms, and every day in the week.
TUESDAY, Sept. 25th.—R. H. S. Committee Meetings and Conference at Chiswick.
THURSDAY, September 27th.—Sale of Belgium Plants at Protheroe & Morris' Rooms.
FRIDAY, Sept. 28th.—Orchid Sale at Protheroe & Morris' Rooms.
SATURDAY, Sept. 29th.—British Fruit Show at the Crystal Palace.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 22nd, 1894.

ELEMENTARY AND TECHNICAL EDUCATION. —In various parts of Europe and in our own country more particularly, one cannot but note the conflicting interests and ideas entertained by those who have the education of the future generation in their hands. There is for instance no general system of education in Switzerland; every canton has, as it were, the control of schools and education in its own districts. The people are made up of different races with different creeds and all believing in their own particular needs and a system of education that will suit the requirements and special wants of the districts and their particular industries. For this reason the Swiss have to maintain a great variety of schools and systems. Something very similar to this is advocated in a book by William Jolly, entitled, "Ruskin on Education." Here is a quotation from it:—"The efficiency of any school will be found to increase exactly in the ratio of its direct adaptation to the circumstances of the children it receives; and the quantity of knowledge to be attained in a given time being equal, its value will depend on the possibilities of its instant application. You need not teach botany to the sons of fishermen, architecture to shepherds, or painting to colliers, still less the elegancies of grammar to children who, throughout the probable course of their total lives, will have, or ought to have, little to say and nothing to write."

We should imagine that all elementary schools are, or ought to be, conducted on general principles, and that reading, writing and arithmetic, to say nothing of geography, history and grammar, the latter particularly, should constitute a basis of education for everybody, whether king or collier. Moreover, because Brown's father is a collier, it does not necessarily follow that Brown is or must necessarily be a collier too. Many of our readers will doubtless remember that Linnaeus, the father of botany, was intended by his parents for a clergyman or preacher. He did ultimately become a preacher, but his subject was botany. Then again, apropos of Ruskin's views on education, we should have thought that a man of such broad views would not have denied even to a collier the advantage of a knowledge of botany, for we are aware of bakers, cobbling shoemakers, weavers, engineers and many others that not only took an immense delight in botany or in gardening pursuits, but were largely benefited by the same, inasmuch as it took them into the garden or the field to the great advantage of their health, their knowledge, and their tables, whether supplied with fruits, flowers or vegetables. That a man should be taught nothing except what pertains directly to his own particular calling, if not fallacy in practice, is at least a very narrow view of the situation. There is no time for a student who is merely passing through the standards to acquire anything more than a mere smattering of botany or any other of the sciences, but he or she should be well drilled in the language of their country. After passing through the standards, or even before, the student should not only be allowed to climb any other hill of knowledge, spontaneously selected, but encouraged to do so, and have facilities given for acquiring the higher branches of learning in properly equipped schools.

The publication of the results of the third annual examination in horticulture held by the Royal Horticultural Society, again reminds us of the inadequate elementary education accorded many young men who adopt gardening as their profession or vocation. Many of them are undoubtedly good practical gardeners, but when called upon to transfer their knowledge to paper at an examination, they either fail or possibly take a second-rate position through no fault of a practical knowledge of the subject, but owing to an inability to express themselves in good form, or in fact to make themselves clearly intelligible. This is not as it ought to be, otherwise we should have expected to find a larger number of them in the first and second classes of those who passed at the examination. Of eleven who passed first-class, only four were gardeners of varying ages up to 46; and we find them elbowing their way in company with a schoolmaster, a chemist, and a cashier. We do not begrudge the latter any laurels which they may honestly earn, but should like the gardeners to be on a better footing as regards education, and we are confident they would take a higher position at an examination. The sons of poor people labour at a disadvantage when competing with those of more wealthy parents, simply owing to a deficiency in the matter of education. It may be argued that the sons of poor parents should be content to labour on in that groove of society where fortune or chance has

placed them; but we do not believe in that theory. Gardeners come in contact with society in the highest walks of life, and they are unfairly handicapped if a proper education has been denied them when young and possessing the time to study without enjoying the means. In the matter of brains, all should be placed on absolute equality with regard at least to a good elementary education, otherwise school-boards, compulsory and free education, are relatively meaningless terms, and wanting when placed in the balance. The value of a practical education to him who is deficient in book learning is practically nowhere when he attempts to express himself on paper; and his particular kind of knowledge which is really valuable, is imponderable by the examiner's balance.

Mr. John Cameron, late of Edinburgh, has been engaged as gardener at Bysthorn, Corbridge-on-Tyne.

The Battersea Chrysanthemum Society's Annual Show will be held in the New Town Hall, Lavender Hill, on Friday and Saturday, November 2nd and 3rd.

The First Hybrid Nymphaea raised in England was the magnificent N. Devoniensis, by Sir Joseph Paxton at Chatsworth; and N. Sturtevantii, raised by Mr. E. D. Sturtevant, was the first one obtained in this country. So says Mr. Wm. Tricker.—*Gardening (American)*.

The Jersey Potato Crop.—The importance of the Potato crop to Jersey agriculturalists will be gathered from the following particulars in reference to this year's shipments. The season began on the 30th of April and ended on the 14th of July, a period of a little over ten weeks, during which time 60,605 tons were shipped, the amount realised being £462,896, an average of £7 12s. 9d. per ton. The first week's average price was £18 2s. 6d. per ton, after which prices gradually declined, the lowest weekly average price being £6 13s. 4d. per ton.

Flowering of Yucca gloriosa in Aberdeenshire.—The flowering of the Adam's Needle on the west coast of Scotland this season has already been recorded in our columns, but a still more remarkable occurrence, its flowering at Dales near Peterhead on the east coast, has just been brought to our notice. This particular specimen it seems was planted at the Dales by Mr. William Dyce, Florist, Peterhead, on the 17th of March, 1879, and it has flowered this season for the first time. Its flowering so far north is a very rare occurrence, and consequently we are not surprised to hear that the portion of the spikes exhibited by Messrs. James Cocker & Son, in their window in Union Street, Aberdeen, has attracted considerable attention.

The Proposed National Potato Show.—Mr. A. Dean, writes:—"I have already received so many promises of support for the proposed National Potato Show, that having the sanction of the Crystal Palace authorities to hold a meeting for the purpose in the Board Room, I venture to invite not only my correspondents, but all others interested to meet in the Board Room, at 4 o'clock on Saturday, September 29th, the first day of the great fruit show. One esteemed gardener urges that vegetables should be included with Potatos. With that opinion I have great sympathy, and a special national exhibition of vegetables, with Potatos for the primary feature, would, I think, command very wide support indeed. It would form at once a most worthy and splendid addition to the National Fruit Show."—62, *Richmond Road, Kingston-on-Thames.*

Lime as a Top Dressing for Ferns.—Mr. Simpson in his essay on Fertilisers the other day before the Society of American Florists, gave this interesting bit of experience:—"I had a peculiar experience this spring in the use of lime. Two benches of Ferns planted out for cutting became infested with a black fungus growth which threatened the destruction of every plant; we scratched it off, but it grew again, and the plants got smaller daily, when it occurred to us to use air slacked lime as a top dressing; I was sure it would kill the fungus, and didn't know but it would kill the Ferns too; but we tried it, a good covering, over crowns and all, and strange to say that while it did not kill the parasite, only checking it, it started the Ferns into active growth, and since then we have picked in large quantities the longest and finest Adiantums I have ever seen grown on a bench. It is hardly necessary to say I shall not be afraid to use lime on Ferns in the future.

Shirley and District Gardeners' Improvement Association.—There was an exceptionally good attendance at the Monthly Meeting at Shirley, Southampton, on Monday, the 17th inst., the President, Mr. W. F. G. Sprayer, presiding. The Lecture was given by Mr. A. Dean, F.R.H.S., Lecturer on Horticulture for the Surrey C.C., the subject of his discourse being "Hardy Flowers for the Garden and House." The subject was a very large one, Mr. Dean, however, after one and a-half hours spent in talking, had gone through a list describing the cream of this very numerous class, commencing with the spring blooms and ending with December flowers. Mr. Dean who was many years a resident here, was very attentively listened to, and was most enthusiastically thanked for his exhaustive and interesting lecture. To illustrate the lecture, 284 species and varieties of hardy flowers were staged by Mr. B. Ladhams, Shirley Nurseries, containing a large number of rare and interesting varieties. Mr. Jones and Mr. Wilcox also exhibited specimens, and the Vallata purpurea shown by Mr. F. Bartlett was a magnificent plant. The Lecture next month will be given by Mr. E. Molyneux, Swanmore Park Gardens, on "Wall Trees and Espaliers."

Property in Growing Mushrooms.—An important case has been decided in Chester County Court with regard to the nuisance and heavy loss sustained by pasture farmers from mushroom trespassers. Mr. Thomas Smith, Beacon Point, Chester, sued James Currell, shoemaker, Chester, to recover nominal damages for trespassing for mushrooms. Mr. Mason, solicitor for Mr. Smith, said considerable damage had been done to his client's property by mushroom trespassers. Hedges had been broken down, gates left open, and horses disturbed and driven into fields of mowing grass. Mr. Smith cultivated mushrooms for sale, and notices to this effect were posted in the fields, but without effect. The Criminal Courts did not appear to have power to stop the wrongdoing; this the trespassers knew, and they defied all attempts by Mr. Smith and his men to stop their depredations. John Lunt, Mr. Smith's gamekeeper, said he had seen forty mushroom trespassers in his master's fields at one time. The Registrar, before whom the case was heard, gave judgment for the amount claimed and costs, remarking that the defendant had aggravated his case by disregarding the notices, and had rendered himself liable to exemplary damages.

Proposed Rose Show at Chelmsford.—It has occurred to Mr. Edwards, the worthy secretary of the Chelmsford Horticultural Society, that it would be an excellent thing to hold a Rose Show in that town next year under the auspices of the National Rose Society, and proceeding from thoughts to acts he sounded his fellow townsmen on the subject, with the result that he soon received more promises of pecuniary support than would be required to meet the expenses of such a show, and no doubt he rejoiced accordingly. But he reckoned without the Mayor of the neighbouring town of Colchester, and must now regret his temerity. Colchester did not think of a Rose Show until Chelmsford had "booked the order"; then the dander of the worthy Mayor was "riz," as Artemus Ward would say, and at a recent meeting of the local Town Council he completely gave himself away. Said Mr. Goody—"they had heard much of a neighbouring town trying to affiliate itself with the National Rose Society, but so long as Colchester had the names of Cant and Prior as growers, and Orpen, of Bergholt, as an amateur, he thought they could hold their own not only against the country but against the world." A lovely bit of municipal drumming truly, but hardly worthy of so exalted a drummer. No, Mr. Mayor, the Messrs. Cant and the Messrs. Prior do not grow Roses to glorify the town of Colchester, nor would it be wise of the N. R. S. to go to that town, so we hope to hear no more of such stupid jealousy.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were awarded Certificates according to Merit by the Royal Horticultural Society on the 11th inst.

Crocosmia aurea Imperialis.—A fine clump of this grown in a pot had stems 3 ft. to 4 ft. high, much branched and well furnished with large handsome flowers of a rich orange colour. The segments are broadly, oblong-ovate, much imbricated, and altogether make up as fine a flower as we have seen. First-class Certificate. Exhibited by Sir Trevor Lawrence, Bart. (gardener Mr. W. Bain), Burford Lodge, Dorking.

Nepenthes mixta sanguinea.—The pitchers of this beautiful and grand variety measure about 10 in. long, independently of the lid, and are cylindrical. The ground colour is crimson and blotched with a much darker shade of the same hue. The annulus or collar is very wide, wavy, rich brownish crimson or blood-red, shining and closely ridged transversely. The lid has numerous and smaller crimson blotches. The ground colour of N. mixta itself is pale green so that the new variety is amply distinct. First-class Certificate. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Chrysanthemum Lady Fitzwigram.—When this becomes better known it should take the place of Madame Desgranges to a large extent as it is similar in form, about equally early and of a much purer white with a satiny lustre. The stems grow 2 ft. to 2½ ft high and are freely branched in such a way that the flowers are all on the same level, and very freely produced. Award of Merit. Exhibited by Mr. H. J. Jones, Hither Green, Lewisham.

Dahlia Mrs. Gordon Shaw.—The blooms of this Cactus variety are large with long, pointed florets, ultimately revolute at the sides and of a rich crimson-scarlet, getting brighter as they get older. Award of Merit. A stand of twelve blooms was exhibited by Messrs. J. Cheal & Sons, Crawley, Sussex.

China Aster Eynesford Yellow.—The flower heads of this variety are semi-globular, quilled, neat and sulphur-yellow with creamy-white rays. A deep yellow in this useful race of garden flowers would be highly desirable. Award of Merit. Exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

Dahlia Cannell's Velvet.—For description of this small and pretty Cactus variety, see p. 38. Award of Merit. Exhibited by Messrs. H. Cannell & Sons.

Rose Queen Mab.—In this we have a new variety of China Rose of great distinctness and colour. Before the buds expand they are conical, deep salmon-red, fading to salmon-pink and then to fawn tinted with salmon. The blooms have pretty much the same odour as the old Monthly Rose. Award of Merit. Exhibited by Messrs. Wm. Paul & Son, Waltham Cross.

LESSONS FROM FLOWER SHOWS.

In his interesting and suggestive communication in your last issue, "X" has touched upon a point of great interest to every studious gardener. I refer to the subject of note-taking. How many gardeners fall into the error of taking too many notes. Young gardeners I think, especially err in this respect. When looking round a show, or visiting a good nursery or private garden, out comes the inevitable note-book and down goes the name of a plant, and generally nothing but its name is noted; on goes the note-taker to the next plant, and the next, with the same result. He is so much absorbed in committing to paper a string of names that he has no time to notice the peculiarities or essential characteristics of any sufficiently to enable him to recognise these same plants when he sees them again elsewhere. And when, as in many cases, the note-book is thrown aside for a few days, or perhaps weeks, before it is again looked over, the would-be student finds himself at sea. True, he has a magnificent list of names, (as "X" phrases it, a plethoric note-book), but he knows nothing of the plants to which they refer. He has, in fact, thrown his time and labour away, and like the dog with the bone, in trying to grasp too much has lost all.

Would it not be a far wiser plan for him to use his memory and powers of observation more, and the pencil just a little less. By all means take notes, but if you do it at all, do it thoroughly. The man who can

rattle off a string of names upon the slightest provocation, is by no means always the best gardener. Indeed, my experience would go to prove that the very reverse of this is the case. It is just as important to a gardener, nay, far more so, to notice the means which his neighbour takes to ensure success in the culture of any particular plant, as it is for him to learn its name. Most of us at some time or other in our lives, have fallen into the error of trying to cram our minds with an overdose of knowledge and like "X" many of us have found out what an egregious mistake it is to attempt to do so.—*Y.*

A PRETTY RAILWAY STATION GARDEN.

One of the prettiest and best kept gardens on a line of Railway s at Langley, Bucks, a station on the Great Western Railway. I think those who pass this station and know that Mr. Harry Turner, of the Royal Nursery, Slough, lives close by, are led to think that much of the floral beauty which pervades the station is due to that fact; and so I thought myself, until when recently at Langley I had an interview with Mr. Richards, the Station-master, and found in him an enthusiastic, painstaking, amateur gardener, and that the credit of so brightening the station with flowers as to compel the admiration of those who pass through it by train, belongs to him and him alone. I think I may venture to state that Mr. Harry Turner is sometimes the generous donor of a plant that he thinks may be useful, but the propagator of the plants used, the designer, planter, and cultivator is Mr. Richards, the Station-master.

A central platform, reaching a considerable distance, divides the main and local lines of rails, and on this is seen some flower beds of various shapes, gay alike in spring and early summer. Just now the beds are gay with ordinary summer bedding plants. Such as Iresine Lindeni, Zonal Pelargonium Henri Jacoby, Ivy-leaved Pelargonium Massenet, bright rosy purple, a fine bedder; variegated Pelargoniums, Verbena Lord Walter Scott, a very bright and excellent scarlet raised at Ditton Park, and other bright and showy subjects: the blue Lobelia is largely used as an edging. The beds are some three feet or more above the level of the railway, which occasions a somewhat severe natural drainage, but they are so well looked after in the matter of cleaning and watering, in picking over and making tidy, that they always look very bright and neat, and attract the notice of passers by.

The Great Western Railway adopt the practice of giving prizes—I think annually—for the best kept station gardens, and they have done this for eight years past, and invariably Mr. Richards has his pretty garden high up among the prize-winners; but I understood Mr. Richards to say that according to the conditions of the competition, no one station can take the first prize two years running.

At the sides of the station there are borders filled with roses, various shrubs, and flowering plants, and particularly so on the up-side of the line, there being a wider border adjoining the station-master's residence. There always appears to be something in flower in this border at all seasons of the year. Just now Asters are very bright, but Mr. Richards complained of the Londoners who go down to Langley on Sundays to fish, who when they return at night gather his flowers which he prizes so much. I have no doubt but that the temptation to take a few flowers to London is great, but there are other ways of obtaining them than by destroying the floral effect at the station.

Mr. Richards has two small houses at the back of the up-station, where he winters such plants as he desires to keep through that season of the year, and in which he propagates certain subjects in spring as well as raises plants from seeds. A kind of small outside hall leading to the principal entrance to his residence has shelves at the sides high up near the glass in the roof, which affords light. On these shelves, assisted only by such solar heat as can be obtained, Mr. Richards is flowering, at some inconvenience, some admirably grown Gloxinias, thus making it a cold house plant. I think, he is eminently successful as a Gloxinia cultivator and worthy of all praise.

Mr. Richards has had charge of the Langley Station for eleven years. I have no doubt that ere long a well deserved promotion will be gained by him. But wherever he goes his love for plants and their culture will accompany him, and those who have noted with so much satisfaction his admirable gardening at Langley Station will wish him every success in any new sphere of labour which may open up before him.—*R. D.*

RANUNCULUS LINGUA.

The Greater Spearwort, as this plant is called, is less commonly seen in cultivation than its beauty should warrant. Though a British plant it is by no means common even in a wild state, and, when met with, grows in ditches and similarly wet places. The yellow flowers are handsome, measuring about 2 in. in diameter, and are produced in a sort of panicle at the top of upright stems about 2 ft. or 3 ft. high. The leaves are lanceolate or spear-shaped, 6 in. to 10 in. long, and add much to the appearance of the plant. The proper place for it inside the garden or well kept ground, is on the margin of ornamental water, as represented in the accompanying illustration. Those who have never seen the plant, and to whom the name of Greater Spearwort may sound strange, may grasp an idea of it much better if we state it is an aquatic Buttercup that likes to grow in places where its roots will be entirely under water while all the top is exposed to the air. The Lesser

Ranunculus lingua.

Spearwort is a much commoner plant, smaller in all its parts and less ornamental than the subject under notice. Those who have not the convenience of a pond may grow it in a tub or pot plunged in a tank.

THE HARDY FRUIT GARDEN.

Apples and Pears.—Pay attention to the gathering of the different sorts as they ripen. Pears are usually fit for harvesting when the fruit parts readily from the foot-stalk. By lifting the fruit in the hand, and giving a gentle press upwards, it can readily be ascertained whether the fruit in question is in fit condition for gathering or no. In any case it is not wise to leave the fruit on the tree too long, as a rough windy night causes terrible havoc among crops of nearly ripe Pears. On the other hand, if gathered too soon, their flavour will be comparatively poor. It will greatly improve the quality of the fruit if it be laid in a warm dry room for a few days before it is required for the dessert table. Treatment of this kind is necessary if it is desired to have the more delicately-flavoured Pears, such as those of the Beurré class, up to their real standard of excellence. This also serves the purpose of furnishing a succession of fruit fit for the table, instead of having the whole, or nearly the whole, ready for use at the same time, many of them partly spoiled before they are sent in.

Filberts.—In most localities these will be quite fit for use by this time. It is quite a mistake to wait until the whole of the crop is ripe before utilising them as a dish for the dessert. It will be found that the nuts are far sweeter now, and certainly not nearly so dry, as they are when they have been shrivelling for a month or two upon the storehouse shelves.

Peaches and Nectarines.—Unless the next month is a good deal brighter than the last three have been, Peaches and Nectarines grown on walls outside will not ripen their fruit. They should, therefore, be picked as soon as it is possible to do so without bruising them, and placed in a part of the storehouse, or upon a shelf in a vinery near the glass, where they will get the full rays of the sun. Otherwise, if left out-doors, protection must be afforded them during cold nights. A few days in a warm room will also greatly improve the flavour of such late dessert Plums as Coe's Golden Drop, and Ickworth Imperatrice.

The Garden Engine may still be used on bright days upon Apricots, Peaches, Nectarines, etc., from which the fruit has been gathered. This serves the double purpose of keeping down insects and of removing yellow leaves.—*A. S. G.*

Apple Cellini Pippin.

This splendid culinary Apple is going through a series of trials at Chiswick, with a view to the discovery of the best stock for working it upon. Although several stocks have been tried, and the trees worked upon them are growing side by side, they are all without exception, carrying very heavy crops of fruit. In fact, the only perceptible difference between the trees is one of habit, and even this is not particularly marked. As a kitchen Apple of first-class quality in season during October and November, a vigorous grower and sure fruiter, Cellini Pippin cannot be too highly commended.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The Orchids described hereunder received awards according to merit from the Orchid Committee of the Royal Horticultural Society, on the 11th inst.

Cattleya gigas Countess of Derby. *Nov. var.*—The sepals of this showy and handsome Cattleya are long and creamy white. The petals are elliptic with a few wide undulations, slightly crisped and toothed at the edge and white. The huge lip offers a bold contrast with its dark purple tube lined with yellow veins externally and crimson internally with darker yellow veins; the lamina is the finest feature, however, for it is intense crimson-purple and fades to a bright purple at the very edge. The eye-spots are large and yellow deepening to gold downwards. It was generally acknowledged to be the finest new Orchid at the meeting. First-class Certificate. Exhibited by Thos. Statter, Esq., (gardener Mr. R. Johnson), Stand Hall, Whitfield, Manchester.

Laelia Parthenia. *Nov. hyb.*—The sepals of this hybrid are oblong and delicate blush. The petals are elliptic, crisped at the edge, paler and almost white. The tube of the lip is curved, showing the influence of C. Loddigesii, and delicate pink; the side lobes are crisped, crenate and of a pale primrose-white; the lamina is rounded, undulate, toothed and pale purple, netted with darker veins, and sending a band down the tube beneath the stout column which is curved and lies upon the lip like that of Cattleya Loddigesii. Award of Merit. Exhibited by Thos. Statter, Esq.

Cypripedium Nandi. *Nov. hyb.*—This was obtained from C. callosum crossed with C. Tautzianum, itself a hybrid raised from C. niveum crossed with C. barbatum. The upper sepal is orbicular and white with green lines along the centre and suffused with purple towards the margin. The oblong, blunt, declining petals are lilac, deepening to rose at the tip and spotted all over with deep purple and having four large eye-like spots at the upper edge. The large, inflated lip is deep purple, and the staminode is reniform, flesh coloured, green in the centre and pubescent. Award of Merit. Exhibited by R. I. Measures, Esq., (gardener Mr. Hy. Chapman) Cambridge Lodge, Camberwell. The name Nandi given to it is that of the Hindoo goddess of Joy.

Laelia Dayana delicata. *Nov. var.*—The oblong sepals are blush, and the elliptic petals of a delicate

lilac-pink. The tube of the lip is of a delicate lilac, and to contrast with these delicate hues the small, round, wavy lamina as well as the side lobes are of an intense blackish purple. The central area is, however, paler from the apex to the white throat, and nine to eleven blackish purple, elevated ridges traverse the disc. It is therefore a very distinct variety compared with the type. Award of Merit. Exhibited by R. I. Measures, Esq.

Pleurothallis picta.—The oblanceolate leaves are very leathery and only about 2 in. long. The upper sepal is pale yellow with three reddish lines; the two lateral ones are united in one piece and pale yellow. The petals are minute with one brown line, and the reddish lip is also minute. The flowers are borne in racemes on stalks about 3 in. to 6 in. high. Botanical Certificate. Exhibited by R. I. Measures, Esq.

Cypripedium Charles Rickman.—This grand hybrid Cypripedium was certificated at Ghent recently under the name of C. Météore, and was shown under this name at the Drill Hall, but the name was changed to Charles Rickman on the ground that it was identical with that hybrid certificated at the Drill Hall on the 9th of May, 1893, and having the same parentage. The seed parent was C. bellatulum Mariae crossed with the pollen of C. barbatum grandiflorum. The leaves are broadly oblong and gray or greenish yellow, beautifully ornamented with light and heavy green lines and blotches. The scape had one fully expanded flower and another in bud. The upper sepal is large, orbicular, rosy purple, netted with darker lines and nearly white at the edges. The petals are oblong-oval, rosy purple, fading nearly to white towards the base and densely spotted all over with crimson purple. The lip is large and deep dull purple, paler beneath and dotted on the claw. First-class Certificate. Exhibited by M. Jules Hye, 8, Le Coupure, Ghent.

Cattleya Gaskelliana albens odorata. *Nov. var.*—Many collectors would at once name a Cattleya so nearly white as this is, by the more euphonious title of C. G. alba. The sepals and petals are pure white. The lip also is white with exception of a large orange blotch in the throat tinting the outer face, and a band of the faintest purple along the middle of the lamina. The flowers are more strongly fragrant than we have hitherto detected in the genus. Award of Merit. Exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

Odontoglossum aspersum roseum. *Nov. subvar.*—In this we have a very beautiful sub-variety of O. Rossii. The sepals are chocolate and marked transversely with pale yellow streaks. The petals on the contrary are deep rose with a few chocolate blotches massed together at the base. The lip also is deep rose with a pale creamy yellow cup-like crest marked with a few crimson streaks. Award of Merit. Exhibited by Sir Trevor Lawrence, Bart.

Coelogyne Mayeriana.—This peculiar species looks very much like C. pandurata reduced to half its size, but though identical in colour it is botanically distinct. It was first described by Reichenbach in 1877. The oblong sepals and spathulate petals are of a uniform, soft green. The side lobes of the lip are greenish gray with four to five longitudinal black lines. The terminal lobe is reflexed at the sides, much waved and pale green, netted with black and furnished at the centre with two cushions consisting of numerous teeth. Lower down are two green plates, punctate with black and having a shallow ridge between them. The specific name was given in honour of the Mayers,—father and son,—curators of the fine gardens at Carlsruhe in Germany, who sent plants and flowers of it to Reichenbach. Botanical Certificate. Exhibited by Messrs. F. Sander & Co., St. Albans.

Pleurothallis Laucheana.—The stems of this species are about a foot high, terete or slightly compressed and terminated by one leathery, oblong leaf and a cluster of three to six racemes of small flowers from a spathe at the base of the leaf. The flowers are pale yellow with three brown lines on the sepals and one on the petals, which, like the lip, are minute. Botanical Certificate. Exhibited by Messrs. F. Sander & Co.

Spathoglottis pubescens.—This plant grows about 18 in. high, and the scape terminates in a raceme of few flowers. The oblong sepals are pale yellow with five slender brown lines. The oval petals are clear yellow. The lateral lobes of the lip are brown with darker lines; the middle lobe is wedge-shaped, notched and deep lemon-yellow with a bifid crest on the claw. Botanical Certificate. Exhibited by Messrs. Hugh Low & Co., Clapton.

Renanthera coccinea.—The fiery scarlet flowers of this old species always wakens a considerable amount of interest amongst beholders when exhibited in public. The oblong sepals, linear petals, and small saccate lip do not make up a massive flower, but compensation is made by the gracefulness of the panicle and the brilliancy of the colour. First-class Certificate. Two large branching inflorescences were exhibited by J. A. Miller, Esq. (gardener, Mr. D. Fairweather), Bifrons Park, Canterbury.

Dendrobium Phalaenopsis Schroderianum.—With the advent of autumn the flowers of this magnificent Dendrobium become more plentiful, but they seem to be hardly ever out of season in some collection or other. A box full of flowers was sent us the other day by Mr. James Cypher, Queen's Road Nursery, Cheltenham. The flowers exhibited considerable variation in colour, the lip generally being the darkest organ, and in several cases intensified to a deep crimson in the throat. The sepals and petals varied from pale pink and blush to a dark, rosy-purple. In one case the colours were all confined to the outer half of the segments, the basal portion, but particularly the lip, being white. These pale colours are generally as interesting and attractive as the dark ones, especially when seen in a collection, although we are aware that the highest estimation is usually placed upon the rich and intense hues. In point of size and breadth of petal they left nothing to be desired. The petals in one case were furnished with a ridge along the middle, the significance of which would be difficult to determine. Mr. Cypher tells us that he has hundreds of bloom open at the present time and will have a grand show of them for many weeks to come.

THE FLOWER GARDEN.

The Season of Life and Beauty is now fast drawing to a close with us, and not much longer shall we be able to preserve the beauty of the numerous semi-hardy flowering plants that do so much to render our gardens attractive during summer and early autumn. A few degrees of frost now, would be fatal to the floral display of Dahlias, and Tuberous Begonias; as well as to the fine effect produced by the fine foliage of Coleuses, Amaranthuses, Perillas, etc. Even the spendidly floriferous Perennial Asters, which will put up with nearly as much frost as anything, and are on that account such valuable autumnal subjects, would be sadly checked in their gay career.

Preparing for Frost.—It is quite natural that every gardener, whether professional or amateur, should wish to prolong the season as much as possible, and on that account puts off the lifting and sheltering of tender plants he wishes to save until the very last moment. But still, his attitude now should be one of extreme watchfulness, and his state one of thorough preparedness. Covering materials, whether Russian mats, Tiffany, straw or dried bracken, should be available at a moment's notice. Often after one or two frosty nights we get a period of mild open weather. Therefore, if beds of Tuberous Begonias or rows of Dahlias are accorded some protection their flowers may still be preserved for a while. In very many places the gardener is at his wits' end to obtain the flowers so much in request during this part of the year for Church decoration upon Harvest Thanksgiving occasions, and it being too early for the bulk of the chrysanthemums, the herbaceous border is generally expected to furnish the necessary material.

Mowing and Cleaning.—Attention must be paid to the mowing and rolling of grass. The falling leaves will soon cause a great amount of extra labour, and it is by no means an easy task to ply the broom or the rake over lawns where the grass has been allowed to grow at its own sweet will. All dead leaves should be removed from beds and borders, also stakes for which there is no further use. A general appearance of tidyness should be maintained. Well kept lawns and grass walks, straight and neatly-cut edges, with clean well-ordered gravel paths will go a long way towards keeping alive the charm that every garden should possess. Where any evergreens require shifting, the present is a very favourable time of the year to do so, likewise to plant any fresh ones. When planting, tread the soil firmly about them and give a thorough watering immediately This will serve to settle the soil about the roots and enable them to establish themselves in their new abode very much sooner than would be the case were the watering deferred for a day or two.—*A. S. G.*

FRUIT UNDER GLASS.

Figs.—The late crops of this much-esteemed fruit will now have finished swelling, and should therefore be ripening fast. Less water at the root will be necessary, and a much dryer atmosphere must be maintained. The house should be freely ventilated during the day, and fire heat will be necessary by night to keep up the requisite temperature, which should not be less than 60° Fahr.

Vineries, in which only a few bunches of fruit remain should be cleared of their contents entirely. In many establishments a room furnished with conveniences for storing grapes is set apart for this purpose. Where no such convenience exists, the bunches may be kept in an ordinary store room by placing the end of the branch upon which the bunch hangs (which should have been removed with it) into a wine bottle filled with clear water. A small piece of charcoal placed in the bottle will serve to keep the water sweet for some time.

Peaches and Nectarines.—The trees in the early houses will now be shedding their leaves. This is consequently one of the untidiest seasons of the year in this department. If a small-twigged broom be passed over the branches from the base of the tree upwards, a great many leaves may be removed without fear of injury to the tree. Often the Peach houses have to be utilised for the sheltering of Chrysanthemums, and where this is the case it is a great desideratum to have as much light as possible, otherwise they will be sure to suffer.—*A. S. G.*

THE VEGETABLE GARDEN.

Storing Roots.

As the autumn approaches, the gardener has to consider how he can best preserve the crops he has been at such pains to produce from harm's way through the winter, so that he may be able to have a constant supply to go to. In most places there is too little storage room, and that which is provided is anything but the kind most suited for preserving the the roots in the freshest state. We often see them in a heap in a outhouse, where the frost and parching winds dry all the juices out of them; or again, stored away in heaps where they get heated and spoiled. But of the two we should prefer the latter, as with care they may be preserved in better condition than in an open shed. But we too often see through neglect on the part of the person in charge, that the frost gets in and many are spoiled, particularly where the end of the heap is kept open in order that the daily supplies may be obtained with ease. This is not the best kind of storage, but as the gardener has often to take things as he finds them, with little chance of getting them improved, he must do his best to preserve his crops from harm in the best way he can, If we were asked what kind of a place we should prefer for such a purpose, should at once say a cool, dark, dry shed, large enough to take all the roots grown for the supply of the establishment, so that each kind might be kept separate, and have room to turn them over in bad weather. There are many more things that could be stored in such a place out of harm's way in severe winter, such as Cauliflowers ready for use; sufficient Lettuce for a week's supply, in case of bad weather; Seakale roots for a succession, and many other things which have now to take their chance of getting killed. Often a quantity of good vegetables are spoiled on account of having no convenience to store them in.

Lifting Potatos, &c.

The work of lifting late Potatos will now be n hand, and if such a place could be afforded for them, where each kind could be kept separate, they could

be looked over in bad weather and any diseased tubers removed with but little trouble. It is a good plan to have each sort properly named, and test their qualities at different periods, for some are not so good flavoured when lifted, but improve by keeping, whereas others on the contrary taste strong after being kept a time, particularly if stored away in straw. It is not advisable to put them too thickly together, as they become heated, and are, therefore, not of such good quality. Roots of all kinds will soon be ready for storing, but the longer these can be left out with safety the better will they keep, and the more juicy will they be in spring. When lifting Carrots be careful not to throw them about, as this often causes them to split, particularly if well grown, as they will then have swelled to their utmost extent, so that the least bruise would cause them to divide to the core, and when such is the case they are worthless, except for present use. If a fork be used in lifting, see that it is put far enough in the ground to raise them, and a sufficient distance away to prevent the tines from coming in contact with the roots. Lay them carefully on the ground, and afterwards go over them and cut off the tops, but not too close. The work should be done in dry weather, so that the soil may leave the roots freely, for if they are kept too moist after being stored they are apt to start into growth. Beet Root will also need careful handling, as this is easily bruised, and if such happens some of the juice is lost, which prevents the roots from keeping a good colour. With inexperienced hands it is far better to have the foliage pulled off, for if cut too close to the crown this causes a wound from which the juice flows freely. Parsnips are best left in the ground for the present. On very heavy soil they should be taken up and stored before frost sets in, not that the frost will injure them, but on such ground, from the excessive moisture, they are apt to rust at the crowns and soon decay.

Celeriac.

This root will also soon need protection. A portion of this may be lifted and taken to the root room and stored in sand, while the other should be covered with light sandy soil in the open ground to keep it out of harm's way. Turnips are much better left in the ground and taken up as required for use. In case of severe frost it is always well to be prepared, so that when there are signs of such, sufficient roots should be stored to tide over the bad weather, for they soon go rotten if handled when they are frozen. On dry light soil Jerusalem Artichokes may be left in the ground all winter, as they are much better when lifted fresh. If a thin layer of leaves be spread over the bed this will usually exclude the frost, so that they can be taken up as required. It is, however, better to lift a good portion where the ground is stiff, and store them away in sand, for it is not pleasant working on such ground, in wet weather even if it has been protected from frost.

Salsafy and Scorzonera.

These will also need to have a portion lifted and stored before bad weather sets in, though like the Parsnip and Artichoke they are much better left in the ground as long as possible, though it is always well to have some to hand in case of need, and as it is difficult to protect all in the open ground part of the crop should be stored before winter sets in, otherwise there may be a failing when called for.—*Kitchen Gardener.*

Carrot, Veitch's Model.

Although this splendid Carrot has been upon the market for some years, it still holds its own against all the short Horn varieties of later introduction. Sown upon a south border for early use, it always gives satisfaction, and is quite the best Carrot for a main crop amongst the stump-rooted section. The present season seems to have suited it remarkably well, and although the average length of the root is about 6 in. it has this year exceeded that length. It is less liable to fork than most other sorts, is usually of a good shape, of a handy size.—*G.*

Cranston's Excelsior Onion.

When recently walking through the gardens of Coombe House, Croydon, I noticed that the crop of onions consisting of several popular varieties was in process of harvesting, and the difference in point of appearance and weight which the above named variety presented well establishes its claim to be one of the very best in existence. Grown under ordinary garden cultivation without any special advantage being given it the produce was fully double in weight of the other kinds. Mr. Mills, the gardener, grew it for the first time last year, and being so pleased with it on account of its good cropping qualities and fine appearance he has considerably extended its cultivation this season, finding that in addition it is a most excellent keeper, being superior, in fact, to James's Long Keeping. Rousham Park he has given up, finding it faulty in this particular, and that under ordinary cultivation it is simply nowhere alongside Cranston's Excelsior.—*W. B. G.*

Corn-Salad or Lamb's Lettuce.

In places where the salad-bowl has always to be kept filled, this useful little plant is of the utmost value. It is very hardy and will put up with the most severe winter. It is not too late yet to make a sowing of it for winter use. It likes a light rich soil, and as far as situation goes well grow anywhere. A west or south border will be the best place to sow it on at present, as the season is getting on. It will then come in for use during early spring, a time when there is, as a rule, a great dearth of suitable saladings.

Gleanings from the World of Science.

A Virulent Potato Disease in Queensland.—A New South Wales correspondent obligingly sends us the following communication which has been made to the Australian Press by the Under Secretary for Agriculture for Queensland, adding the remark that he has observed the disease for the past two seasons, but has not before seen any notice of it in the Press:—The fact of a virulent potato disease occurring in the districts of Ravensbourne and Corinda having been reported to the Department of Agriculture, Mr. Henry Tryon was instructed to visit the former district to investigate its nature and origin and, if possible, discover the means for contending with it. Already a lengthy report has been furnished as the outcome of this inquiry; and as it contains matter of immediate interest to the farming community the following summary of it is provided.

It is found to be a new disease, no record of its occurrence having been met with either in popular or scientific literature. The plant, at every period in its growth, and however vigorous, suddenly and without premonitory symptoms, commences to droop as if lacking moisture, fades within a few hours, and never recovers. The tubers when this change first takes place, show even thus early an indistinct translucent line running parallel to the outer margin on cutting them across, though they are apparently sound. They soon, however, commence to rot, decay starting in the more superficial portions of the tissue, and the Potato substance is eventually converted into an offensive, odorous, tenacious, whitish slime. Should the tuber, when once affected, be removed from the influences of warmth and moisture, or from the soil, these destructive changes are temporarily suspended.

The disease is uniformly distributed throughout a cultivation, or it may show itself in patches of Potato plants here and there within its area. It has injured five different varieties of Potatos, and probably none will prove proof against its attack. It occurs in soils with different aspect and surface contour of varying physical and chemical constitution, whether absolvent of water or not; on those naturally well drained as well as those which are not, and is as commonly found on the virgin ones as on soils which have been long under crop. It is also found that, without special intervention, Potatos raised from seed, in which there is no history of disease, upon land on which it has appeared during the previous season, and often even on that which is contiguous to it, will almost invariably contract the disease, and that every fresh outbreak occurring under these circumstances is more virulent and extensive than the one which preceded it. Again, seed Potatos derived from a crop in which the malady has shown itself will generally give rise to a diseased crop when grown upon land where it has not previously manifested its presence. Owing to its attacks the yield may be reduced even 90 per cent. At Ravensbourne it was first noticed in 1891 on three or four selections only. Mr. Tryon now finds that it has extended to thirteen, and probably affects others unvisited by him. In addition, too, to this outbreak at Ravensbourne and one at Corinda, evidence is forthcoming to show that the disease has also visited Little Gourie Plains, the Laidley district, and even that of Parramatta in New South Wales.

The same disease is also met with on seedling Tomato plants grown amongst Potatos.

It is occasioned by a small living microbe having an average length of less than one ten-thousandth of an inch, resembling in appearance the bacillus of chicken cholera and other organisms. This Potato bacillus may always be found in the tissues of affected plants at the commencement of the disease, and before any destructive changes have taken place, but it is absent in those of healthy ones. It at first exclusively occurs and multiplies without the vessels traversing the roots, tubers, and stem, but it is afterwards met with within those parts of the tuber which undergo the decay which it originates. A Potato apparently sound even on section if derived from a diseased plant may harbour the still living microbes in its vessels through circumstances uncongenial to its multiplication, and the development of its pernicious activity may temporarily suspend the commencement of decay, entered upon when a warm damp atmosphere affords the conditions requisite for the happening of this event. The bacillus is capable also of living apart from the Potato, and may thus be artificially propagated. The same bacillus also occurs under identical circumstances in Tomato plants when similarly diseased. The spread and continuance of the disease directly by the seed of the Potato, and indirectly through the agency of the soil in which diseased plants have grown, and other phenomena regarding it are then shown to be accumulated for by the presence of these bacilli in the tissues of the diseased plants and their persistence and capacity for multiplication when separated from them, whilst they justify the correctness of the inference as to the origin of the disease drawn from the occurrence of the bacilli under the circumstances mentioned.

The following recommendations are made with regard to the measures to be adopted to secure crops from the disease, and to stamp it out:—

1. Only such seed to be employed for planting generally, as has no ancestral history of disease, or has been derived from a locality concerning which it has been positively ascertained that this Potato disease does not already exist there.

[Note.—In this connection it may be urged that the countries in which the Peronospora infestans of the Potato plant is already found occurring, be discarded as sources for new seed, since there is no authentic instance on record of the formidable Potato disease to which this parasitic fungus gives rise, having been hitherto met with in the Australian Colonies, and it is submitted that it is undesirable to incur the risk of its introduction.]

2. As soon as the disease has manifested itself, if this be in a district not previously visited by it, the whole crop to be destroyed, but if not a novel occurrence, the plants affected to be daily removed from the ground, in as intact a state as possible, and destroyed by fire. In both of these cases also the land not to be replanted with Potatos for at least two seasons.

The report concludes with a recommendation for further investigations. It may be permitted to me to suggest, Mr. Tryon writes, that the proportions and virulence which this new Potato disease has already assumed, might be considered a sufficient plea for further prosecuting this inquiry, so that, if possible, even better methods for contending with it and staying its spread than those dictated by the present imperfect state of our knowledge concerning it, may be devised. Of the genesis of the disease—how it originated, nothing whatever is known. Much has also to be learnt regarding the biological history of the microbe that occasions it, not only in relation to the plants that it so injuriously affects, but also as concerns its capacity for propagation on other media than the tissues of its host. How it reacts when subject to the influence of various physical conditions, and different chemical substance, is again an important consideration. It is also of the utmost economic importance that the localities in which the disease has already occurred, be defined, and the history of the different outbreaks made the object of careful enquiry.

FLORICULTURE.

Fancy Pansies from Busby.

It is evident that the weather in Scotland is still favourable to the production of large blooms of the Pansy tribe, judging from a box of blooms sent us by Mr. John Smellie, Pansy Gardens, Busby, N.B. Many of them represent fine types of the fancy Pansy, and for size could hardly be beaten even in June, as they often measure close upon 3 in. in diameter. They may readily be classed into those put into commerce in 1893 and 1894, with the best selection of those to be sent out in 1895. Mrs. D. Johnstone is a bold flower with blackish-violet blotches and a narrow, white margin. Wm. Watson also belongs to 1893, and has blackish-violet blotches on all the petals, and a yellow margin. The upper petals have a violet-purple band beyond the blotch.

The varieties that were put into commerce this year show a greater amount of variation and some very striking colours. In this category we should place W. H. Smith, the three blotches of which are almost black; the margin is bright yellow, and the upper petals are of a beautiful violet. Mrs. Wm. Watson is also very handsome, having five dark violet blotches, those on the three lower petals being very fine. Willie Shanks is a beautiful maroon-crimson flower, but the yellow edge is not very clearly defined. Mrs. John Currie is a bold flower with blackish-violet blotches and dark purple edges. Very handsome also is J. P. Tait with velvety-black blotches, and dark purple-top petals; but the margins are about equally occupied with red and yellow Marmion has violet blotches, but the mauve and white edges do not furnish that distinctness of hue which we should like.

Some of those to be sent out next year are really acquisitions to this class of Pansies. The dark violet-blue blotches of Edith F. Gabb, are well defined and the edges white; the upper petals are several shades paler with a narrow edge. Ella Murray is perhaps equally choice, for it took the first prize for the best yellow-edged seedling at Glasgow last year. The blotches are of a rich velvety-brown and the upper petals brown and purple. A bold and handsome flower is David G. M'Kay with dark violet blotches and a broad reddish-purple margin. Constance Steele is a huge flower with well-defined blackish-violet blotches on all the petals and white edges tinted with purple. Doubtless it would make a fine display on the exhibition board, for it is convex and recurved at the edges, giving the flowers the appearance of great depth. Bold and striking is Mahogany with black blotches and broad edges of the same colour as brownish-crimson Wallflower. The dark blotches of John Myles are surrounded with a purple line followed by a broad, rosy margin. Attractive also is Mrs. John Smellie with its dark velvety blotches and brownish-crimson and yellow lacing; the upper petals are yellow with broad purple margins. John H. Thornley has dark violet blotches, creamy lacing and rich purple-top petals. The eye in most cases is small, well defined, and bright yellow.

Seedling Carnations.

We have received a box of seedling Carnations from Mr. Thos. Wright, Station Master at Thornton Dale, on the North Eastern Railway, several of which are quite equal to good named kinds that are grown in the open border. We were very much pleased with No. 1 which we should class with Theodore and Camellia. The flower was very refined in form and dark heliotrope, striped and flaked with brilliant scarlet-red. No. 2 very much resembled a hybrid, the Carnation and Dianthus chinensis Heddewigii flore pleno. The flowers were very full, and rose tinted with crimson and having a white edge to the petals. We should be pleased to receive foliage of it for determination. A large maroon-crimson flower (No. 3) was notable for the breadth and richness of its almost smooth petals. A purple variety (No. 4) slightly shaded with crimson was also very choice in its way, but the inner petals were narrower. A fancy sort (No. 4) would probably meet with favour if the bloom had been a little larger. It was very much striped with intense scarlet on a flesh-coloured ground. Another one (No. 6) striped and mottled with red, we did not consider very handsome. Nos. 7 and 8, if free flowering, would make good border Carnations on account of their bright scarlet colour; the outer petals of the latter were very broad. The petals of No 9 were broad, smooth and clearer in colour, than those of the previous two; and though the blooms were smaller they appeared much more refined, although rather past their best when we received them. A yellow ground variety (No. 10) was densely striped with crimson and red. A pale yellow one (No. 11) slightly striped with red might prove useful for border decoration if it is free flowering and hardy. The buff yellow variety (No. 12) striped with blackish crimson we could not very much admire. The same might be said of No. 13, which was heavily striped with blackish crimson on a red ground. Some might like it for the darkness of its tint. A fancy one (No. 14) was thinly striped with crimson and mottled with purple. No. 15 was a yellow sort slightly shaded with buff; and No. 16 was a yellow ground with a broad outer margin of crimson-scarlet to each petal. We should prefer it to either of the two preceding ones. Of all the above we consider 1, 2, 3, 4, 7, 8 and 9 the best and most attractive for border purposes. Both 2 and 3 and possibly some of the others were distinctly and pleasantly scented.

Carnation Buccleuch Clove.

Under this name we have received from Mr. John Forbes, of Hawick, what may be described as a fancy variety very closely lined or striped with rose on a white ground, and deliciously clove scented. The blooms are moderate in size, perfectly double, with moderately broad petals, and the calyx is not liable to split. Mr. Forbes tells us that the plant grows very vigorously and flowers freely, so that it would constitute a suitable subject for border decoration. The chief value of the variety, however, depends upon the delicious clove scent emitted by the flowers even after they have been cut for some time. Add to this that the flowers are of a light and pleasing colour, and easily grown under ordinary culture in the open border, and we have a novelty of considerable value. It has already been awarded five First-class Certificates at different exhibitions.

Pansy Rev. Jas. Robertson.

With the northern, the midland, and the London shows for Pansises and Violas a great impulse has recently been given to the cultivation of these beautiful flowers, and an incentive to raise new and improved varieties. The variety under notice is one of those fine improvements. It is a fancy variety, quite circular in outline, and a great acquisition to the class to which it belongs. All the petals have blackish-violet blotches, those on the three lower being the best. The upper petals are crimson-purple fading slightly towards the edge, which is clear yellow. The lacing of the three lower petals is almost perfect, much broader than that of the upper petals, but of the same hue. The small golden-yellow eye is well defined. We received it from Mr. John Forbes, of Hawick.

Carnation Raby Castle.

This variety was awarded a First-class Certificate by the Royal Horticultural Society at the Chiswick trials in 1890. The flowers are of medium size, and bright salmon-pink in colour, while the edges of the petals are very prettily serrated. It is one of the most profuse bloomers amongst all the varieties in cultivation. Coming into flower before most of the other sorts, it keeps on blooming for some time after they have ceased to do so. This renders it a most desirable variety for planting in large quantities where an abundance of cut flowers are needed. When we add that in addition to its extreme floriferousness, it has a hardy constitution which enables it to thrive under most adverse circumstances, we feel justified in asserting, that, as a standard variety it has very few to equal it, and certainly none to surpass it. I have seen it growing in places in the North of England where the winters are long and, as a rule, severe, and this, too, in ground that certainly was not the ideal of the Carnation grower. Masses of it remained untouched from year to year, and each season threw immense quantities of bloom that met with the greatest appreciation, for the filling of vases, etc., indoors. It may be propagated easily by layering in the usual way. The layers must be lifted when rooted, potted off and kept in a cold frame until the ensuing spring, when they may be planted out in the positions intended for them to bloom in. Once they are established they will grow as freely and give no more trouble than do clumps of the old-fashioned Pink.—*G.*

VICTORIA PARK.

Considerable alterations have been effected since this time last year in Victoria Park, which seems to be getting out of the groove in which it has been running for years past. The extensive grounds stretching to the north-east, and which have been trodden almost absolutely bare of grass, are now being taken in hand by the recently appointed superintendent, Mr. J.W.Moorman, who will in a short time make them more worthy of the name of a park. To avoid shutting up the grounds against the public, they are being taken in squares, trenched, levelled, and sown down with suitable grasses, and after the latter have got well established, the public are then allowed to roam over the ground as formerly. Another new feature of public interest is the construction of a large Palm house or winter garden, towards the west-end of the park, and half-way between the Bonner Hall Bridge entrance, and the gate opposite. This house was opened to the public on the 7th of December last, and is 60 ft. long, 35 ft. wide and 40 ft. high. It is a curvilinear structure, with a sharp ridge and when completed will have a wing added to it on either side, each 59 ft. long, and 30 ft. wide, and will thus form a transept. Several trees of Eucalyptus globulus planted out in the central bed are already 30 ft. high, and furnished with both forms of leaves. Two large specimens of Dicksonia antartica originally consisted of one piece of two stems, but one of them was sawn off with a cross-cut saw, and both have heads of twenty-six and eighteen fronds respectively. Trees of Ficus elastica in pots are also 10 ft. to 12 ft. high, and together with Fatsia japonica, tall Dracaenas, Araucaria excelsa, Kentia Fosteriana, Latanias, Corypha australis, and other Palms form the primary furnishing of the house. All round the side shelves are various flowering plants such as Hedychium Gardnerianum, Abutilons, Plumbagos, Celosias, Fuchsias, Pelargoniums, and numerous other subjects, which have kept the house gay all the summer. It is open to the public from 10 a.m. to 4 p.m. in winter, and till 9 p.m. in summer. There are several ranges of smaller houses both old and new, in which the many thousands of bedding plants are wintered. A new departure is being inaugurated by Mr. Moorman in an attempt to enliven the park in spring by the use of hundreds or thousands of Polyanthus and other hardy subjects now being rapidly brought to the front for spring bedding. Formerly the beds were wont to lie bare for eight months in the year, a fact which was not very creditable to a large London park. There are several broad borders surrounding clumps of Hollies or other shrubbery, and at present occupied with Pelargoniums, Cannas, and other bedding subjects, but which Mr. Moorman would like to see filled with ornamental, and representative hardy herbaceous plants, which would keep up a more perennial interest than the tender subjects which are rather overdone for modern ideas and tastes.

The Bedding.

Here as elsewhere there are some bedding plants which have not given great satisfaction owing to the unfavourable character of the past summer. Fine foliaged subjects on the contrary have as a rule grown splendidly. The most notable exception to this is Begonia semperflorens Vernon's var. with the metallic red leaves. Commencing near the Bonner Hall Bridge entrance and passing round the north side of the ornamental water we pass a series of beds that are usually very interesting. The first is a circular bed filled with tall Ficus elastica, Fatsia japonica, Lilium auratum and Lobelia splendens Victoriae with an undergrowth of blue Ageratum and Coleus, edged with Crystal Palace Gem Pelargonium. This has done well. Close by is a rockery of a somewhat exotic character, carpeted with golden Creeping Jenny, Sedums, Mesembryanthemum, and Antennaria tomentosa, and planted with spiny Opuntias, Aloes and Canary Island Houseleeks. A circular bed of spring-struck Fuchsias interspersed with Ficus and carpeted with Alternanthera shows what can be done with Fuchsias in a cold, wet summer. None of the flowering plants have done better. A similar bed of Ricinus Gibsoni, Solanum robustum, rusty and spiny, and yellow Marguerites with an undergrowth of Perilla, has also done well. A curved bank of Cannas, Lilium speciosum, and Nicotiana affinis with an undergrowth of Gnaphalium

lanatum, shows another pleasing arrangement, particularly in the evening, when the night-scented Tobacco loads the air with its perfume.

Farther along on the right is a broader area of grass, and here the bedding assumes an interesting character. The central bed is large, oval, and filled with fine foliage plants such as the Coral tree which also flowers finely, Eucalyptus and Solanum robustum carpeted with Coleus and edged with Centaurea gemmicarpa. At either end of the design is a circular bed of Ricinus Gibsoni carpeted with Iresine Lindeni, and edged with the snowy-leaved Centaurea ragusina candidissima, all of which have given great satisfaction. There are also four beds of succulents arranged so as to balance one another, filled with Opuntias, Echeveria metallica, and shrubby Sempervivums, all carpeted with Mentha Pulegium gibraltarica, and edged with the neat Sempervivum tabulaeforme. Two small circular beds of Celosia pyramidalis in yellow, orange, scarlet, and crimson colours are very attractive, carpeted with the golden Lysimachia. Two others of Celosia cristata with wavy crimson combs 6 in. across, alternating with Dracaena rubra, on a carpet of variegated Mesembryanthemum and edged with the richly-coloured Fish-bone Thistle, show what can be done even in a cold season, for the Celosias have all done admirably. Two figure-of-eight carpet beds are very dwarf and neat. At either end is a lyre-shaped figure of Alternanthera magnifica and A. amoena, tied at the base with A. paronychoides aurea, on a ground of Antennaria and edged with golden Lysimachia and Echeveria secunda glauca. Corresponding to the beds of Cockscomb are two beds of small Ficus, and Begonia semperflorens Vernon's var. on a carpet of golden Alternanthera, but we are sorry to record the failure of the Begonia, not only here but at other places many miles apart. At one end of the design is a fine bed of Wigandia caraccasana carpeted with Chilian Beet, and at the other a bed of Humea elegans 3ft. to 6 ft. high, mixed with Chamaepeuce diacantha and flowering gracefully. Another open area has some interesting beds, particularly one filled with the Coral tree, and Pentstemons on a carpet of Cloth of Gold Fuchsia edged with the snowy-leaved Centaurea. A bed of mixed Fuchsias and Purple King Verbenas has simply been grand all the season. Crimson-scarlet Begonias on a ground of Lobelia and edged with Cloth of Gold Fuchsia have also flowered satisfactorily. Solanum robustum edged with Amicia zygomeris makes a good foliage bed.

At the east end of the ornamental lake the scroll work of carpet bedding is quite up to its usual standard. The large bed is 68 yards long in its convolutions, and has numerous square, angular, triangular, lozenge-shaped, crescent and other figures of Alternantheras with central dot plants, and in different places surrounded by Antennaria, Mesembryanthemum, golden Lysimachia, or Alternanthers of various colours, and the whole are set in a ground of Mentha with a double edging of Echeveria on the slope. Altogether this forms a good and neat example of carpet bedding. A bed of circular outline but deeply scolloped with six-rounded angles is planted in an interesting way. Little mounds are furnished with a large plant of some green or variegated Agave or Aloe and carpeted with Alternantheras. Some beds of Celosias in this area have also done well notwithstanding the cold season.

Pursuing the path to the left we arrive in the long walk forming the northern boundary of the park here, and turning to the left along the same we may note some of the numerous flower beds on one side and the herbaceous border on the other. Eucalyptus with an undergrowth of Phlox Drummondi has done well, and so have some beds of Fuchsias, several beds of Pelargonium Vesuvius, Dahlias, and variegated Maize dotted through a bed of Pelargonium Princess Alexandra mixed with Viola The Mearns. China Asters sown late and brought from the reserve garden, take the place of Celosias that were past their best, and are now coming into bloom. In a triangular area near the flower garden is a large, circular bed filled with succulents that are both grotesque, curious, and interesting, particularly seeing that they succeed whether the season is wet or dry. Large green and variegated American Aloes occupy mounds, while the intervening spaces are planted with tall-stemmed Echeverias, Opuntias, Brachyphytums and various species of shrubby Sempervivums.

The flower garden proper is a roughly semi-circular area backed up on the curved side with shrubbery and not very far from the Palm house, although quite hidden from it. The back line of beds and two lines in front of them are curved and of large size. There are two beds of Pelargonium Vesuvius dotted with Acacia lophantha and edged with Pelargonium Flower of Spring mixed with Iresine Lindeni and edged with Fuchsia Golden Fleece. These make two of the most effective beds at the present time. Equally good are two mixed beds of Fuchsias, Lilium auratum, Phalaris arundinacea variegata and Verbena Purple King. Four beds of Celosias have also been most effective for a long time. Two beds of mixed Fuchsias have taken complete possession of the beds. The Prince of Wales' feather in front is always a massive central bed. The middle portion is filled with Pelargonium Princess Alexandra and Viola The Mearns; round this is a double row of P. Henry Jacoby, then a double row of Queen of Queens, the best of the silver Pelargoniums, and outside of this is a bronze named Mrs. Quilter. There is a broad edging of Lobelia and then Echeveria on the slope. The centre of the end pieces of the figure is filled with Pelargonium Madame Rudersoff, salmon with white edges. Next the walk are two very neat carpet beds and two of Begonias.

The Victoria fountain, with its surroundings, stands about the middle of the park and constitutes another centre of interest. It was built in 1862 and given to the people by Angela Georgina Burdett Coutts. On the grass surrounding it are some massive beds of White Marguerites, blue Ageratums and others. Some are 30 ft. long and 15 ft. wide, but a mixed bed of Wigandias, Eucalyptus, Single Dahlias, variegated Maize, Abutilon Thomsoni, Humea elegans, Cannas, and other subjects, is 33 ft. long by 25 ft. wide. All the beds are very effective and many times larger and more appropriate to the situation than the chain of small ones which were destroyed to make way for them.

Eastward from here are two bathing ponds surrounded by shrubbery and plantations of trees including some beautiful, interesting and, in some cases, comparatively rare species. The Hawthorns are now laden with fruit including the common one, Crataegus punctata, C. Crus-galli, C. coccinea, and others. An uncommon tree is Gleditschia sinenis horrida with its long, branching spines. Others may be noted near the lake by the flower bedding. Here we noted some very old examples of Pyrus salicifolia with hoary leaves like Hypophae rhamnoides, or an Elaeagnus, and small green fruits. Another tree near the flower garden has broader, smoother leaves and larger green fruits, and is evidently Pyrus sinaica or other allied form of the wild Pear Both species are very ornamental in spring with their wealth of snowy blossom.

SAXIFRAGA BURSERIANA.

The present is not the time to see this little Saxifrage in its quaint neatness, but preparations may now be made for having it increased or planted out on rockeries, where it will commence to bloom sometime in March, according to the condition of the weather. The accompanying illustration shows it growing in a natural way in the crevices of rocks; but those who dislike so much stony surface as is there represented may plant it in properly constructed pockets that are open at the bottom, or, in other words, in direct contact with the soil beneath. Shallow pockets are the ruin of many a fine plant, because the small quantity of soil soon gets dried up by the heat of the sun in summer. The creamy-white flowers are very attractive in the early days of spring, and are generally borne singly on the short stems; the leaves are tufted and glaucous.

Saxifraga Burseriana.

HUMEA ELEGANS.

Considerable use of this plant is made at Kew, both indoors and out. When one takes into consideration its great value as a decorative subject, and its wonderfully graceful habit, one cannot wonder at its being a general favourite. A bed of it this year standing immediately in front of number two fernery looked exceedingly graceful, although the plants lost a great deal of their attractiveness through the loss of a great part of their lower leaves, occasioned, it is said, from the check consequent on planting out — or from after neglect with regard to water, which? A groundwork of the pretty little golden-leaved Fuchsia and an edging of the useful Veronica Andersoni variegata completed an effect which on the whole was very good and very generally admired.

A batch of these plants in pots forms at present a pretty spectacle in the greenhouse at Kew, with their long-drooping panicles of pink or crimson flowers. Grown in pots in this way this magnificent plant is invaluable for conservatory or indoor embellishment, and when utilised as a subtropical subject for planting in masses in sheltered positions, they take a lot of heating. For pot culture, seed may be sown in July, in light friable soil (care being taken not to sow too deeply), and the seed pans or pots placed in a cold frame. Pot the seedlings on as soon as they are large enough to handle, and grow them on in a cool frame, giving them plenty of light and air. Upon the approach of winter shift the young plants (which should by this time be in 48-sized pots) into a light airy greenhouse. Great care will be necessary during the winter, and early spring months, with regard to watering. They should be kept on the dry side, as too much water at the roots during this part of their existence will prove fatal to them.

The winter once over they may be accorded warmer treatment. A final shift into 8 in. or 9 in. pots will be necessary, the most suitable compost being two parts of good loam to one part of well-rotted manure, with a little sand and charcoal. When the pots have become filled with roots, liquid manure may be applied with advantage. Humeas are rich feeders, and if it is desired to have good specimen plants, clothed to the bottom with leaves, they must be generously treated. The genus Humea comprises four species, all restricted in their geographical range to Australia. H. elegans, however, is the only one cultivated to any extent. The other three are comparatively valueless, and do not enter largely into English horticulture.—*A. S. G.*

HARDY HERBACEOUS PLANTS IN FLOWER.

ACONITUM VARIEGATUM.—Sometimes this is spoken of under the name of A. Napellus bicolor, but whatever name may be given to the plant it is certainly highly ornamental. There is a tendency on the part of botanists to multiply names on the ground of very small differences which may not be permanent, especially if plants are raised from seeds. The flowers are white with a blue margin to the sepals, making them handsome for border decoration. It is a long time since it commenced to bloom, but still continues to do so in many gardens, and the farther north one goes it may be seen in all the better perfection. All parts of the plant are highly poisonous; but in these days of advanced gardening no one should mistake the roots for those of Horse Radish nor the leaves for those of Celery.

ANEMONE JAPONICA ALBA.—This is now in all its glory, and very chaste it is in contrast with yellow flowers now so plentiful. The golden cluster of stamens in the centre makes a bold contrast with the five large white sepals. Coming into bloom as they do in autumn they last a long time in purity and perfection provided they are not soiled by heavy rains and battered about by the wind. Few plants are more deserving of extensive cultivation in beds upon the grass than this handsome Windflower. It is easily increased by the underground rhizomes or suckers, which it produces in abundance.

LYSIMACHIA EPHEMERUM.—Although a native of South-Western Europe, this species is strikingly different from all the rest that are most commonly seen in cultivation. The stems are erect, 2 ft. to 3 ft. high, and more or less branched in the upper portions. Each branch terminates in a long raceme of white flowers with a small purple eye. The species may therefore be described as pretty and graceful, with the slender habit of a Gaura and the foliage of a Gypsophila.

CHELONE OBLIQUA.—In this we have a plant closely allied to a Pentstemon, bearing a short but dense terminal raceme of curiously-shaped purple flowers like the mouth of some animal. The plant usually grows about 2 ft., but may be dwarfer and constitute a neat upright border plant that never overruns its neighbours. It may be propagated by division in October or March, or by seeds which it ripens in plenty, particularly in fine seasons.

RUDBECKIA SPECIOSA.—Notwithstanding the fact that this is a Composite, and flowers when other yellow Composites are all too plentiful, yet every lover of hardy plants who has made its acquaintance admits it to be one of the finest of border plants for late summer and autumn decoration. Twelve to fifteen inches is the usual height of it; the rays are golden and the disc black. The two well defined and contrasting colours and the dwarf habit of the plant make it a border plant of the first water, and suitable alike for large or small gardens. The offsets root freely into the soil, and may be detached in any desired number.

VERONICA EXALTATA.-The blooms of the ornamental Veronicas have been past their best for some time back, but while the others were flowering this species was growing until it now stands 6 ft. or 7 ft. high, with erect, unbranched stems bearing a terminal raceme of lilac-blue flowers, and several shorter ones from the axils of two to four of the upper leaves. The long, lanceolate leaves are sharply serrate, deep green, and are set upon the stems in whorls of three. It should be planted in the back line of the border, and is valuable on account of its late flowering and stately habit, but at present is rarely, if at all, cultivated outside of botanic gardens.

GENTIANA ASCLEPIADEA.—As far as cultivated species are concerned this is now the glory of the garden amongst Gentians. The plant varies from 1 ft. to 2 ft. in height, and bears a long, leafy raceme of deep blue flowers, tinted with purple externally along the middle line of the corolla corresponding to the segments. The leaves are opposite and decussate, thus forming four rows, which are densely arranged upon the stem.

HELENIUM AUTUMNALE STRIATUM.—Within the past few years this variety has been hailed by numerous collectors of herbaceous plants as a welcome relief to the plethora of yellow flowers. The ray florets are heavily striped with brownish-red, and in that respect are very distinct. The plant is as easily grown as the type, and in a few years, at the present rate of progress, must be found in every collection of note. Propagation may be readily effected by division in autumn after the plant has finished flowering.

THE YELLOWS.

WHAT is this species of jaundice that is bothering us all here, because it has damaged the Pea crop, cleared off the vegetable Marrows, and even laid its hand on the Mangold crop on the farm? There is scarcely a healthy Vegetable Marrow plant in our neighbourhood (the centre of the Midlands), and Peas have yellowed in patches, and as far as production of pods is concerned, have stood still, or nearly so; and a field of Mangolds, which I see daily, is covered all over with bright yellow leaves, and in some places is gone altogether in patches. We are beginning to call the disease "The Yellows," but what is it? There is a cause for it if only we could find it. My own opinion is, that the cold and rain of July and August gave such a chill to vegetation generally that only the strongest natures could stand against it, and that the tender ones succumbed to its baneful influence.

These two crops, Vegetable Marrows and Peas, are with me, and more or less with my neighbours, a failure this year. Up to mid-summer Peas cropped splendidly, but after about the second week in July, they have done next to nothing. Nay, the Vegetable Marrows gave it up altogether in August, and lay down all yellow and profitless. The Peas have gone on in a dull, puling sort of way to produce a few pods now and then, but nothing like a crop. What with the failure of these two crops, and the almost non-cropping of Scarlet Runner Beans (any amount of flowers, but few pods), it has been very difficult to satisfy the daily demands of the cook, and keep the "pot a-boiling" with what is such a necessity, a varying change of vegetables. I should like to know if this is a general experience, and whether my explanation of the reason is the right one.—*X.*

A FEW GOOD ROOM PLANTS.

SEEING a series of notes concerning plants for rooms, and their management, which appeared in your paper some time ago, I thought a description of a few of the plants most suitable for this purpose, might be of service.

FATSIA JAPONICA, syn. ARALIA SIEBOLDII.—This is one of the very few plants that will adapt itself to almost any treatment. Its beautiful glossy leaves make it a really useful decorative subject, added to which it is of robust constitution, and hardy enough to stand an ordinary winter indoors. During very cold nights, however, it should be removed from the window into the middle of the room. Another point worth mentioning is, that all plants will stand cold much better when they are in a dry state, than when they are in a wet one. When watering, care should be taken to use luke-warm water—the morning being the best time to perform the operation. Many hundreds of plants are lost annually, through the neglect of such little considerations as these.

Fatsia Sieboldii is now grown in such large quantities as to bring it well within the reach of everyone. I have one particular specimen of this plant in my memory at present. It belongs to a gentleman who brought it to me when a young plant, to re-pot. This was about four years ago. It has been potted by me every year since that date, and is now a splendid plant 5 ft. in height, and in the best of health. Vigorous plants of this kind will often bloom The bloom should, however, be removed, as it tends to weaken the plant. Great care should be taken when performing this, that the next succession of leaves is not injured. I have a fine batch of about a hundred of these plants at the present time. They were raised from seed sown this last spring, and are now of a nice size, and thriving well. I have them in a cold frame, and shaded during hot days.

ASPIDISTRAS OR PARLOUR PALMS.—These are too well known to need description, as they are amongst the plants most commonly met with in villas and suburban residences. All they want is plenty of water and a little attention with regard to potting. The green variety in particular should never be allowed to get dry, or yellow leaves will be the inevitable result. The variegated form does best when it is pot bound, and if potted at all, poor sandy soil should be used, and good drainage given. The plants should be frequently sponged so as to keep them in good health and remove the scale and red spider which are so partial to them. Plants behave very much like human beings. Neglect them and their health will suffer, and death will ultimately ensue.

ARAUCARIA EXCELSA.—This is another very suitable plant for indoor decoration, and one well worthy a good place in the dining or drawing room. Amongst Palms suitable for this purpose Kentia Fosteriana and Kentia Belmoreana are the best, whilst Phoenix rupicola, P. tenuis, and P. reclinata are very hardy and produce an exceedingly pretty effect. The old Ficus elastica is not often seen, but it can hold its own against any of the plants I have mentioned for beauty and for decorative value. When the repotting of indoor plants becomes a necessity, it is advisable to procure the services of a practical and reliable man. If this were done much trouble and many failures might be prevented.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

THE DUKE OF YORK TOMATO.

THE remarks of Messrs. James Carter & Co. in your last issue are decidedly wanting in politeness, and are no answer to my complaint, with respect to the variety, Duke of York. As to "irresponsible statements," let me say that my seeds came from headquarters, and in sealed packets, and that the plants are still here for anyone to see. I have seen another batch of the same variety since I first wrote you on the subject, and handled a fruit that I could liken to nothing but the Old Red. As to "a bad market," I may say that successful Tomato growers have other objects in view besides supplying a market. There is such a thing as their own personal pleasure and satisfaction, and, besides, everyone likes to have what he pays for. If the coloured plate is to be taken as the standard of the variety, then I say that I have not got the standard, and I have an undoubted right to say so.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.* [We have a further communication from Messrs. Carter & Co., in which they state that their traveller visited Mr. Pettinger's nursery in June last, and saw the Tomatos growing, when he told our correspondent that he was not treating them in the right way to make a success of them. "He further states that they appeared to have been forced up to 4 ft. in height, and consequently did not possess the strength necessary to develop either large or good-shaped fruits." Mr. Pettinger has the right to reply if he desires to do so, and then the correspondence may well cease.—ED.]

CELERY.

IN very many places the past wet season has resulted in the abnormally rank growth of this inestimable vegetable, and it is to be feared that in the event of our experiencing a sharp winter, the succulent stems will receive severe damage. A great deal, however, will depend upon the way in which the plants have been blanched. Next to the selection of a suitable sort, or sorts, for cultivation, earthing-up is one of the most important operations. Upon its proper performance rests the quality of the crop as well as its ability to withstand the winter. As soon as the young plants have obtained a good start after planting out, earthing-up should be commenced. In these early stages, however, it should always be performed by hand, and the quantity of soil placed around the stems at one time should not be too great. Be careful, moreover, not to allow the soil to press too heavily upon the plants, or dwarfed and crippled hearts will result, that will be of little use for the table.

Yesterday, September 17, I saw several promising batches of that fine old standard variety, Major Clarke's Solid Red. This is perhaps as good a sort as anybody need wish to grow. It comes into use early in the season and will stand the winter admirably. Another fine red variety, Veitch's Standard Bearer, has proved itself to be of sterling merit. For a white sort, Turner's Incomparable White, or, as it is sometimes called, Sandringham Dwarf White, takes a lot of beating. It is of good flavour and will remain a long time in good condition. —*G.*

PROTECTING LATE BROCCOLI.

Like many other things this year, Broccoli are far too vigorous in growth, and their stems much too succulent in character, to please the far-seeing gardener. This too rank vegetation must be checked, and the stems must be a little firmer if the plants are to pass through the winter safely. A good method of attaining this desirable end is to take a digging fork, and, inserting it well under the root, lift the whole plant partly out of the ground, then to let it fall back gently into its old place, leaving the soil around it loose. This will give the much-needed check to the plant, and in many instances will prove of the utmost service in enabling the plants to weather the unkindly breath of winter. In localities where the winter often proves severe it will be necessary to lift the plants altogether. Take them up with as large balls as possible, and re-plant close together, with their heads inclined to the north. This should be done as soon as possible in the northern districts, although a few weeks later (that is to say about the middle of October) will be sufficiently early for the southern. Although there are very many hardy varieties cultivated, measures of this kind are necessary in order to make sure of saving a fair percentage of the crop, for, with the blissful uncertainty of our climate, we can never be sure of immunity from frost. In some winters, it is true, I have known that splendidly hardy variety, Sutton's Late Queen, stand unharmed, and this without any protection whatever, but it has been in cases where the previous summer has been warm and dry, and the winter a mild one. In every instance, however, it is by far the wiser plan to make sure, and afford what protection is possible.—*A. S. G.*

FERNS FOR BASKETS.

In all well-ordered ferneries basket plants find a deal of favour. From their habit, many ferns show themselves to much better advantage when suspended from the roof in wire or wooden receptacles, than they do when growing in pots in the orthodox way, or when planted out. When growing in this position it is imperatively necessary that sufficient supplies of water be given, as from their very situation the air has free play all ronnd the roots of the plants. The wisest plan is to plunge the baskets in a vessel of water, when of a size sufficiently small to allow of this. When too large to be conveniently handled, the water pot must be resorted to. But, remember to give a good watering and thoroughly soak the soil in the basket for in this case a thing half done is much worse than if not done at all.

I have seen baskets of ferns, in which the outside layer of soil was as wet as possible, but the inside in a condition that would lead one to suppose it had never seen water since first it was placed there. A few of the kinds most suitable for growing in baskets, both from a cultural and a decorative point of view are:

Adiantum caudatum, which is perhaps better known in gardens under the name of A. ciliatum, and is unique amongst other members of the genus Adiantum for its peculiar habit. The gracefully drooped fronds make it singularly appropriate for growing in baskets in the stove or in other houses of an equally high temperature. It will, however, do fairly well during the summer months in a cool greenhouse or conservatory. The fronds will grow to a length of twelve inches, rooting and producing new plants at their extremities. A native of the Tropics generally, it is amenable to the same treatment as are other members of the same genus, viz. a rich soil and abundance of water, this more particularly when it is in vigorous growth.

Asplenium longissimum.—As a suitable occupant for hanging baskets, this beautiful stove Fern stands unrivalled among its class. No one who has seen the graceful effect produced by its long pendulous fronds (which often attain a length of six, and occasionally of eight feet), could fail to be struck by its great beauty and its distinct and graceful habit. It is a native of Malacca and the Straits Settlements, from whence it was introduced about the year 1840. To succeed, it must have a compost of loam and leaf soil or peat in equal parts, with a little sand and charcoal. Once it gets established, however, it will give but little trouble. One peculiarity exhibited by this plant, is its strong objection to changing its quarters. It will remain in the same position for years, in a state of perfect health, if an occasional application of liquid manure be given it during the summer months. A solution of cow manure is sometimes used with exceedingly good results. This should be varied with an occasional dose of soot-water, which will serve to impart that dark green hue to the fronds that is, or should be, the aim of every Fern grower.

Asplenium fragrans var. foeniculaceum.—This is a very elegant Fern, extremely easy of culture, and succeeding in either a stove or intermediate house. The fronds are longer than are those of the type, and the segments are narrowly linear instead of being sub-spathulate. A. f. foeniculaceum may be easily raised from spores, and nice sized plants may be obtained within two or three years from the date of sowing.

Davallia hirta cristata.—This is met with in many gardens under the name of Microlepia hirta cristata. It is one of the handsomest ferns in cultivation, and its light green, heavily tasselled fronds, are as elegant in appearance as it is possible for fern fronds to be. It needs a stove temperature.

D. Tyermanni and D. parvula are two species having scaly creeping rhizomes and rather small fronds, the latter species particularly. D. Tyermanni was brought from the west coast of Africa in 1871, whilst D. parvula hails from Borneo. Both need stove treatment.

Other kinds suitable for our purpose are D. elegans (Tropics of the old world), D. dissecta, a Javanese species, and D. bullata an East Indian plant. All three, however, require to be grown in large masses, and are only suitable for large houses as they need plenty of room to display themselves to advantage.

Gymnogrammes.—These are some of the most beautiful ferns in cultivation. They are perhaps rather more difficult to grow than the majority of their class, and the establishments in which they are grown really well are comparatively few. For basket work, G. schizophylla—a native of Jamaica and its variety G. s. gloriosa (which is of garden origin) are the most suitable. Both of them need a stove temperature and plenty of water during the growing seasons of the year; but great discrimination in the use of the watering can will be necessary during the late autumn and winter months. A light rich soil with good drainage are also essential to success in their culture.

Nephrolepis.—Several species and varieties of this essentially tropical genus are suitable for growing in baskets. One of the best for this purpose, N. davallioides—is common to Malaya. Its fronds will attain a length of from two to three feet, and sometimes nearly a foot in breadth. It is a free grower and remarkably easy of culture. N. d. furcans is a pretty forked or crested variety of the aforementioned species sent out by Messrs. Birkenhead. It is an even more robust grower than the species from which it originated. N. cordifolia compacta, N. pluma, N. recurvata, and N. exaltata are all specially valuable for baskets, but none of them will do satisfactorily in cool houses.

Polypodium.—Several members of this genus are adapted to our purpose, although their fronds are too heavy in character to allow of their being ideal basket subjects. They look very well, however, if grown in houses of a lofty and roomy type and suspended at a good distance from the ground. P. aureum, P. loriceum, P. phymatodes, and P. phyllitidis may be mentioned as some of the best kinds for the purpose.

Woodwardia radicans.—This is a truly noble greenhouse Fern. Its fronds often attain enormous sizes. They have been known 6 ft. in length and 1½ ft. in diameter. As will be imagined from this description it needs plenty of room to do itself the justice due to its magnificent appearance. It is a native of the Canaries, South Europe, etc., and was brought to this country as far back as the year 1779. It will be found to succeed well in a compost of two parts of good loam to one of leaf soil, with plenty of sharp sand.—*Filices.*

The Amateur Orchid Grower's Guide Book. By H. A Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, Gardening World, 1, Clement's Inn, Strand London, W.C.

PEARS ON OBLIQUE CORDONS.

To those who wish to grow the greatest possible number of varieties in the smallest possible space, planting oblique cordons may suggest itself. It is, moreover, one of the best methods of cultivation, apart from any consideration of this kind. In most establishments the number of sorts grown is a secondary matter, it being of primary importance to grow a few sorts and to grow them well. In my opinion oblique cordons are far preferable to those trained in an upright position, because in the former the sap is more evenly distributed and as a natural consequence the fruit is more regularly borne also. If particular notice be taken of upright cordons, on the other hand, it will generally be found that they have a decided tendency to bear large clusters of fruits at the extremities, the remainder of the tree being bare of that desirable commodity, not exactly a satisfactory method of procedure.

Another point to be urged in favour of this system of cultivation is, that in bad seasons there are decidedly better chances of obtaining some sort of a crop. Again the size and flavour of the fruit borne by trees of this kind will invariably bear favourable comparison with that obtained from any other system of training, especially if the trees are worked upon the quince stock. In the garden at Aldermaston Court a number of single oblique cordons trained to a south wall have invariably (for the last seven or eight years) produced far finer fruit than either pyramids, espaliers or vertical cordons. Such sorts as Louise Bonne of Jersey, Beurré Diel, Beurré d'Amanlis, Beurré Superfin, William's Bon Chrêtien, Marie Louise, etc., have given especial satisfaction, and although the crop has been thin in bad seasons, nothing like a failure has been experienced.—*A.S.G.*

AMERICAN PLANT NAMES.

Miss Fanny D. Bergen has contributed an interesting list of American plant names to the *Journal of American Folk-lore*. As might be expected, there is a considerable resemblance between the nomenclature of American plants and those of the mother country. "Adam and Eve" and "Michaelmas Daisy" are applied to the same plants both in England and America, and "butter and eggs" (Narcissus pseudo-narcissus), is as common in the Old World as in the New. In addition to these names, there are many English plant names which are applied to American plants of similar appearance or habits. The name "Mayflower" used in Cheshire for Cardamine pratense, is given in Massachusetts to Anemonella thalictroides, and "Star of Bethlehem" is transferred from Ornithogalum umbellatum to Trientalis Americana. "Ivy," which in England is used only for Hedera Helix, is the name given in Virginia to Kalmia angustifolia, and in North Carolina to K. latifolia; and "ox-eye Daisy" is a Massachusetts name for Rudbeckia hirta. "Nap at noon," the Illinois name of Tragopogon porrifolius, is suggestive of the Shropshire "John go to bed at noon" (T. pratensis). Both plants derived their names from the closing of their flowers at mid-day. "Johnny jump up" (Viola tricolor) is suggestive of "jump up and kiss me," "leap up and kiss me," and "look up and kiss me," English names of the same plant. Viola tricolor has in Virginia the name of "battle-field flower," from its luxuriant growth on the sites of the Civil War battles. Capsella Bursa-pastoris, which has over a score of more or less uncomplimentary names in England, ranging from "pick-your-mother's-heart-out" to "fat hen," has in America acquired two fresh ones in the shape of "pepper grass" and "shovel weed." Tobacco, which in England is confined to the Tobacco of commerce, in America plays an important part in plant nomenclature, and we find "Tobacco weed," "rabbit Tobacco," "wild Tobacco," two species, one of which is also called "impudent lawyer," "tree Tobacco," "real Tobacco," and "Indian Tobacco." Besides these, there are "Dutchman's pipes," "fairy smokes," and "Johnny smokers." Pretty plant names are not conspicuous in America, but "baby blue-eyes" and "babies' breath," are certainly very poetical. It is perhaps characteristic of a republican country that Daucus Carota, which in aristocratic England is called "wild Carrot," is known in America as "Queen Anne's lace." A large number

of plants have purely American names. Of these there are "squaw bush," the bark of which was used by the Indians instead of Tobacco; "moose berry," "moose bush," "possum berry," "it brings the frost," "good-bye summer," "Rhode Island Clover," "Canada Thistle," "Canada pest," "Indian gravel root, an Indian remedy for calculi; "nigger heads," "Indian chief," "Indian paint," "buffalo bur," "buffalo berry," "Indian pink," "Indian hemp," "wicopy," a name borrowed from the Indians; "skunk spruce," so called from its unpleasant odour; "Indian maugey," and "buffalo grass." Among names connected with the Bible and religion are "Jacob's ladder," "Adam and Eve," "Eve's thread," "Job's tears," and probably "lady's tresses." That superstition has also an influence on the naming of American plants is shown by the names "love Vine," the plant so named having been used in love divinations, and "unlucky tree (Pinus Banksiana), which owes its name to the Indian notion that it was unlucky for anyone, but especially for women, to stand under its boughs.—*Manchester Guardian.*

THE COVERING OF BARE WALLS.

In looking round many of the villa residences in the vicinity of our large towns, as well as when exploring the more pretentious houses of country gentlemen, how often do we meet with that ugliest of objects to the eye of a gardener and the lover of beauty, a bare wall. When we take into consideration how often such a displeasing sight is met with, we are led to ask ourselves the question, "can such indifference be." Surely there is a wealth of plants suitable for clothing these bare unsightly pieces of brick or stonework, indeed there are very many subjects which need just such a position to enable them to show themselves off to advantage. Have people no taste? or is it because they are not acquainted with plants suitable, that in so many cases no steps are taken to remedy what must always be a grave defect in gardens or pleasure grounds. I have in my mind's-eye, a little village situated not a hundred miles from that town of seed and biscuit fame, Reading, which affords as good an example of what can be accomplished by the tasteful planting of even very humble and common subjects, as could possibly be desired.

The village in question, consists of one street only, and with one or two exceptions, every house is covered to a great extent with Ivy. The effect thus produced is really beautiful, and all the more striking, because so seldom met with. Indeed, I know of no other village where Ivy is so extensively grown as it is at this one. I am aware that a great prejudice exists in the minds of many against the use of Ivy for the purpose of covering the walls of houses. It is urged that it affords a refuge for vermin, and makes the wall damp and that its roots find their way into the mortar, loosen its hold of the brickwork and hasten the ruin of the wall. Like many other such plausible tales, however, imagination has entered largely into its composition for many of these so called evils are only fancied.

If, however, the use of Ivy is objected to on any grounds whatsoever, there are plenty of other fine climbers that will produce quite as good effects, and concerning which such evil reports have not been circulated. A few of these I propose to enumerate, although the list might be made a very long one, if occasion required.

Ampelopsis.—This genus is very closely allied to that of Vitis and contains some of our best known and handsomest climbers. The two species met with most frequently in gardens are Ampelopsis quinquefolia (A. hederacea) and A. tricuspidata, better known as A. Veitchii. The former species is common to North America, from whence it was brought to this country as far back as the year 1629. A. cuspidata is of far more recent introduction. A native of Japan, it was brought to this country about the year 1868. Both it, and the former species, have, however, established themselves high in the favour of the gardening public, and during Autumn many a house wall is adorned by the glowing crimson tint of their ivy-like foliage. In places where elaborate dinner-table decoration is required, sprays of these beautiful climbers (particularly of A. quinquefolia) are invaluable. Both these species are perfectly hardy, and being of strong constitution are specially adapted for planting in exposed situations. A little attention must be given them in the way of training, for a time at least. When they get well established, however, they will take care of themselves.

Clematis.—This is a genus of well-known hardy flowering shrubs or herbaceous perennials. Their great value as garden plants has attracted the attention of the hybridist, with the result that numerous varieties are in cultivation and more are continually following. Clematis vitalba, Old Man's Beard or Traveller's Joy, as it is sometimes called, is a well-known British plant. Its flowers, which appear in July, are white, and have a by no means unpleasant smell. Its seeds or carpels are furnished with a tail-like appendage, which gives it that beautiful feathery appearance in the Autumn, so much admired by every one. This plant has no superior as a decorative subject. Being of robust constitution, and perfectly hardy, it will thrive even under the most unfavourable conditions.

Clematis montana. — This beautiful early-flowering species is a native of Nepaul, and was introduced into England about the year 1830. It is a free grower, and a profuse bloomer, although it will need a sheltered position; for, while it is hardy in the south of England, it will not stand the winter farther north. It is surprising that C. montana is so rarely met with, when we take into consideration its handsome appearance when iu flower.

Clematis caerulea and its forms.—Amalia, monstrosa, and Sophia, C. Jackmanni and its white form, Lord Londesborough, and Star of India are all good kinds and all perfectly hardy. While Clematises are easy of cultivation, they need good soil to grow in, and special attention must be paid to pruning and training. The methods of pruning must vary with the sort to be operated on. Thus, plants of the Jackmanni type, which flower upon the young growing summer wood, need different treatment to those, which, like the montana section, flower upon the wood produced during the previous season. When planting, a hole not less than two feet deep, and three feet in diameter, should be dug and filled up with good turfy loam and a liberal addition of stable manure. In a compost of this kind the young plants will soon established themselves.

Crataegus Pyracantha. — The Evergreen Thorn is a native of Southern Europe. Its flowers, which open in May, are white, and not unlike those of the common Hawthorn. Its fine scarlet berries, which hang on its branches nearly all the winter, constitute its chief attraction, and render it a most desirable subject for cultivation.

Cotoneaster microphylla.—This is, perhaps, the handsomest and most useful member of this genus, which comprises about fifteen distinct species. Its pink flowers appear during April and May, but like Crataegus Pyracantha the bright coloured berries give it its chief value. Both these last-named plants require to be securely tied or nailed, as their branches are particularly weighty.

Hederas.—Mention has already been made of the common Ivy, Hedera Helix and of its beauty and value for covering unsightly objects. There are many forms of it now upon the horticultural market, in which, exclusive of the variegated sorts, a variety of cutting of the leaf is exhibited that is really astonishing, For covering old tree stumps, or walls, as a screen for objects it is desirable to hide, or for a covering for arbours, etc., nothing can be used to such advantage as some of these very pretty varieties. Hedera Helix digitata, H. H. lucida, H. H. lobata major, and H. H. algeriensis variegata, are some of the most distinct of them, although every nurserymen has his own pet varieties.

Jasmines.—Several species in this well-known genus are worthy of notice, Jasminum officinale, the common white Jessamine, is a familiar inhabitant of our gardens. A native of Northern India, and extending from thence into Persia, it was first brought to this country in the year 1548. Its beautiful white sweet-scented flowers are in especial favour with all classes. Other species which are perfectly hardy with us are the yellow-flowered J. revolutum, a native of India, and J. nudiflorum. The last-named species is particularly valuable on account of its flowering during the winter months. It will grow in almost any situation, and is an exceedingly ornamental climber. It was introduced from China no farther back than the year 1844. Whilst mentioning winter flowering subjects, I must not pass over the beautiful Chimonanthus fragrans. This pretty Japanese shrub produces its flowers during December and January. The flowers are whitish, or yellow in colour, with a purple centre, and deliciously fragrant. Flowering at such a time, a south, or south-western position, should be accorded it; although a few degrees of frost do not appear to damage the blossoms so much as one might expect from their fragile appearance.

Lonicera fragrantissima and L. Standishii are invaluable plants, blooming as they do, early in spring. Pyrus japonica.—This handsome deciduous shrub was introduced from Japan about the year 1815. It is very suitable for planting in almost any situation, although it prefers a south, south-west or western aspect. It is a profuse flowerer, and the deep, rich scarlet of the blooms contrast beautifully with the dark green of the leaves.

Roses.—These are a host in themselves. Their floriferousness, the sweet smell and great beauty of their blooms, combined with the ease with which they may be grown, have all combined to make them first favourites with all classes. Amongst those of climbing habit, Climbing Jules Margottin, Charles Lefebre, Victor Verdier, W. A. Richardson, Madame Falcot, Maréchal Niel, and Crimson Rambler are some of the best, Gloire de Dijon being very suitable for planting in exposed situations, which would be too bleak for those of tenderer constitution.

Tecoma radicans or Trumpet flower.—This plant which often goes under the name of Bignonia radicans, is a native of North America, from whence it was introduced to this country as long ago as 1640. It will succeed well in the South of England if trained to a south wall. A good, rich soil is required for it with a plentiful supply of water during the spring and summer months.

Wistaria chinensis.—With this fine old flowering subject I must bring to a close a list that might be indefinitely extended. A finer sight than a large specimen of this plant in full flower it would be difficult to imagine. Another species hailing from Japan, W. Multijuga, is more seldom met with, although it is well worthy of every commendation that could be bestowed upon it. The racemes of flower in this latter species are more slender and a great deal longer than are those of the former. I have seen them upwards of 18 in. in length and of an exceedingly graceful character.—*A. S. G.*

GARDENING MISCELLANY.

CRYSTAL PALACE FRUIT SHOW: HOUR OF JUDGING.

Will you kindly insert the following note:—To prevent any possible error as to the hour at which the judging will begin at this show may I ask you to state that it will be 11.30 punctually. On the entry form, which each exhibitor signs, he "undertakes to have finished staging by 11 a.m. punctually," but on page 20 of the schedule, Regulation VII. has accidently slipped in as a reprint from the Society's annual schedule, in which the usual time at our fortnightly meetings at 12 o'clock has remained unaltered. By their written "undertaking" the exhibitors are bound to be ready by 11, it will therefore be no hardship to them (particularly after this notice) to insist on the show being cleared at 11.15, and the judges commencing punctually at 11.30.—*W. Wilks, Secretary.*

THE MONTBRETIAS.

Your correspondent "W. H." on p. 36 of 15th September issue has justly drawn attention to the culture of the lovely Montbretias for which he has certainly not said too much—but the impression left upon my mind is that his remarks will tend to limit rather than extend their cultivation. It cannot be too generally known that even in the extreme North of England, at Alnwick in Northumberland it has proved itself perfectly hardy, and if my experience of it can in any way be made useful, I am pleased to give it in favour of so beautiful and decorative a subject. I have grown them at least for five or six years without protection of any kind or at any time of the year, away from walls, in the open and have now a bed 27 ft. long by 15 ft. wide, a complete mass of bloom. A small portiou of the bed was planted nearly two years ago, the larger portion not quite a

year since. Nothing was used to enrich the common garden soil, which is of rather a strong but friable texture upon a good clay. So far as I remember no top-dressing has been applied so that anyone wishful to grow them need have no fear of being unsuccessful. I may observe that the part last planted has flowered more freely than that put in two years ago, which I believe is rather contrary to the opinions of some who hold that the corms should remain undisturbed for several years.—*G. P. Bell. Clive House, Alnwick.*

THE POMEGRANATE.

This is a more hardy plant, I believe, than many who are acquainted with it generally imagine. I have known a plant of it nailed up to the wall of a house, some 6 ft. in width, and at least 30 ft. high, which has withstood the frosts of our most severe winters without the slightest protection during the last twenty years. I do not know the age of the plant, but may say that in all probability it is not less than fifty years old. It, however, flowers very sparingly, the system of pruning being, I believe, at fault; the practice having been for a long series of years to spur it close in, whereas some at least of the previous summers' well-ripened growths ought to be retained, because it is from these that flowers may be expected. Some thirty-five years ago I fruited a plant of it in the open air, and this anywbere in the home counties is, I think, a rare occurrence.—*W. B. G.*

VARIETIES OF GOLDEN FEATHER.

For years past, and practically since the ordinary Golden Feather (Matricaria Parthenium aureum) was first used as a bedding plant, various cultivators have selected and perpetuated many distinct forms which have appeared amongst sowings of it; and to several of them names have been given. Notwithstanding all this the ordinary form still holds its own and is grown in the greatest abundance, and to all appearance will do so as long as it continues popular. Several of the varieties may be seen under trial in the Portland Road Nursery of Messrs. Sutton & Sons, Reading. The ordinary Golden Feather is the best for bedding purposes, because it is dwarfest even when planted out and allowed to grow as it likes. That named Laciniata has much more deeply and finely cut leaves, but as they are ratber open they do not give the desired effect. Selaginoides is notable for tbe great size of its deeply-cut leaves, but the segments are broad and imbricate; it is more frequently cultivated than the last named variety. The double Golden Feather is pretty and interesting from various points of view, but it would we fancy be comparatively valueless if used as a substitute for the single-flowered old kind. As the name would suggest the plant must be allowed to come into bloom to show its peculiarity; the flower heads are neatly and beautifully quilled, and the foliage yellow. The plant as a whole forms a neat uprigbt tuft about a foot high and flowers very freely; it might therefore be used as a dot plant in carpet bedding, or to fill small beds in flower gardens.

LOBELIA CARDINALIS QUEEN VICTORIA.

One of the prettiest beds in the flower garden at Kew during the past season has been a most pleasing combination of Gypsopbila paniculata and Lobelia cardinalis var. Queen Victoria. Tbe rich crimson flowers of the Lobelia borne upon exceptionally strong spikes stand out of the glittering sheen of silvery whiteness produced by the well-flowered panicles of the Gypsophila with vivid grandeur. Lobelia cardinalis Queen Victoria is one of the most useful bedding plants we have, but being so stiff and formal in habit it should always be used in conjunction with some other dwarfer and lighter subject when its great beauty becomes apparent to even the most casual observer. I have seen it used witb very striking effect, as a dot plant in beds of yellow calceolarias. It is a free grower, and may readily be kept through tbe winter if its flower spikes are cut off, the roots lifted with good balls and placed in boxes with a little soil shaken loosely about them. Place them in a cold frame and give tbem no water until spring or they will damp off. They may be propagated either by cuttings or by root division. The former will strike readily during Marcb and April in a bottom heat of 65° Fahr., and there is but little difficulty in working up a stock from two or three plants only.—*G.*

THE ANTWERP HOLLYHOCK.

The above name applies to Althaea ficifolia, a plant that has been in cultivation since 1597, and therefore almost as old as the Hollyhock itself. Nevertheless we seldom see it in cultivation although it is evidently possible to develop a race of garden flowers of considerable beauty from it, seeing that single varieties of various colours and a double form have at one time or other been obtained from it. The ordinary pale yellow flowered form may be seen in the Portland Road Nursery of Messrs. Sutton and Sons, Reading. The stems are 10 ft. high, very much branched, and therefore in that respect very different from the stately, sligbtly branching Hollyhock (Althea rosea) from China. The leaves are three to five-fingered, and the primrose yellow flowers very abundantly produced all over the main stem and the brancbes. Although moderate in size compared witb tbose of the Hollyhock, they make amends for this by tbeir great numbers. Appropriate positions might be selected for plants in the herbaceous border, in the shrubbery, or even in the pleasure grounds, where clumps, beds or masses of it would prove very effective even from a distance. The species was originally introduced from Siberia.

ANTIRRHINUMS FOR BEDDING.

A splendid strain of Antirrhinums, sent out by Mr. Ernst Benary, of Erfurt, is now on trial in the Royal Horticultural Society's Gardens, at Cbiswick. Many of the plants are excessively dwarf, barely ten inches in height (including the flower spike). They are all of sturdy growth and extremely floriferous, whilst the size and colour of the flowers are wonderful. A dwarf type of these pretty plants should prove of inestimable value to the gardener. It has been promised us for a long time, and we really seem to have got it at last. A bed of Antirrbinums of mixed colours whicb I saw last year looked particularly fine, but the plants were of rather straggling habit compared to that of Benary's new hybrids, which are, indeed, models of compactness. Antirrhinums are easy of propagation. Cuttings taken in September and dibbled into pans or shallow boxes, and placed in a cold frame, will root as readily as any other bedding plant. Besides, they will need but little protection during winter, being as near hardy as could possibly be desired.—*S.*

PROPAGATING CARNATIONS BY CUTTINGS.

To those who have failed to secure the necessary number of layers, I would like to recommend propagating them by cuttings as being a sure way of getting 90 per cent. Proceed as follows:—Cboose well ripened grass and remove the lower leaves well to the top, then cut it in the same way as you would a layer. A close frame is the best place for them afterwards. Cut out a shallow trench, 1½ in. deep or 2 in., then put the cutting in with the end slightly turned up. To ensure keeping the cut open throw a dash of sand on to each cutting, water well, then cover up, and a good strike will be tbe result.—*J. Pettinger, Strawberry Dale Nursery, Harrogate.*

THE HOLLYHOCK.

It is a great pity that the flowers of this old garden favourite should be so sensitive to frost as they unfortunately are. In many districts of tbe North of England, when the fore part of the season is cold, and vegetation as a result is backward, this noble old plant is sadly handicapped. Scarcely does it commence to bloom than its beauty is spoiled by a single night's frost, and its career checked for tbe season. Wben the plants have thus been cut down, they should be lifted, with good balls if possible, and placed in shallow boxes. A little fine soil shaken over the roots, and a place in a cold frame is all that is necessary until spring. They will keep through the winter easily enough, if treated in tbis way, but no water should be given them until it is desired to start them into growth for purposes of propagation. Tben, however, it is the wisest plan to place them in a gentle heat to facilitate growth. An early vinery or a peach house that is being started will suit them admirably; but do not keep them in it too long, or the growth will get weak and leggy—not a desirable occurrence.—*W.*

FRUIT TREES FOR TOWN GARDENS.

A special type of fruit tree is being accorded a trial at tbe Royal Horticultural Society's Gardens, at Cbiswick, that will be eminently suitable for the villa garden, where, as a rule, space is an object and a very important one too. The trees in question are of cup-shape form and are spurred back as is usual with that particular system of culture, but are very mucb dwarfer in stature. Their fruitfulness was, however, remarkable, and tbey gave every promise of proving a thorough success. This is a departure that will doubtless be hailed with delight by the holder of small villa and town gardens.—*Amateur.*

HELMHOLTZIA GLABERRIMA.

This beautiful plant, which was figured in the *Botanical Magazine* under the name of Philydrum glaberrimum, is now in flower in the temperate house at Kew. Its pretty white panicled inflorescence affords a pleasing contrast to the long narrow dark green leaves. It is of easy culture, and succeeds best when planted out in a bed or border in the same way as at Kew. A compost of loam and peat will meet its requirements, plenty of water being an essential. H. glaberrima is a native of the Pacific Islands.

LEPTOSYNE MARITIMA.

The plant here noticed is sometimes named Coreopsis maritima, but if anyone can imagine a plant of Cosmos bipinnatus reduced in stature with the leaves of a fleshy and greatly tbickened character, pale green, and bearing large yellow flowers, then he will have some conception of Leptosyne maritima. The branches take a spreading rather than an upright direction, consequently the plant forms a spreading bush, each branch of which terminates in a long flower stalk bearing a single bloom. This long stalked character makes the blooms suitable for cut flower purposes, and their removal does not interfere with the growtb of the plant, but rather enables it to go on developing fresh flowers and foliage. It is a perennial, and may be grown in the open border. We noted it in the nursery of Messrs. Sutton & Sons, Reading.

STREPTOCARPUS WENDLANDII.

The length of time during which this plant remains in bloom is marvellous. A batch of plants commenced flowering in tbe nursery of Messrs. Sutton & Sons, Reading, last Christmas, and fresh flower stalks still continue to be produced from the base of the old ones and to expand their blossoms. It is true that the plants are now laden with seed pods and that they therefore lack their pristine, showy character, but the fact remains tbat they have been continuously in bloom for nine months out of twelve. The single large leaf which each produces is purple beneath and very striking, while the blue flowers, with a large white blotch on the lower lip, are very distinct and pretty in their way.

QUESTIONS AND ANSWERS.

Names of Plants.—*N. McF*: 1, Please send when in flower; 2, Asparagus plumosus nanus; 3, Jasminum simplicifolium; 4, Acacia linearis: 5, Acacia lophantha; 6, Croton undulatum. *W. Y.*: A fine variety of Laelia elegans and darker than L. e. Turneri.

Cattleyas.—*H. Thomas*: Your plants of Cattleya Trianae are very late if they are only tbrowing up their young growths now. You do not tell us whether the plants are newly imported, nor wbether they are old plants only now commencing to grow, nor on the other hand whether they are pusbing up a second growth for this year. If tbe latter is the case you must have been keeping tbem too wet and in too high a temperature. The best plan now would be to keep the temperature up to 60° or 65° by night to encourage growth, so that it may be completed, or nearly so, before the dark days of winter set in, otberwise the new pseudo-bulbs will be very short and poor. Established plants of Cattleya labiata will start of their own accord sometime after they have finished flowering. You can determine when to give tbem more water and a higher temperature by observing when the young roots commence to push out. Tbat is the time to repot tbem if necessary. It sbould be done wben the roots are quite short otherwise they will be liable to get broken. The temperature sbould be gradually raised as the temperature outside rises. Consult the Orchid Growers' Calendar in our pages every second week.

Black Specks on Grapes.—*G. P.*: The injury seems to have been caused some time ago when the berries were rapidly swelling. All the black spots are situated near the stalk of the berry, and where the swelling berries have been pressing upon one

another. It is our opinion that during the wet days at the end of July and in August the moisture was longest retained upon the berries just where they were pressing upon one another, and that the sun acted injuriously upon them. The result is that the berries were injured there and ceased to swell so that there are shallow depressions where the specks occur. The injured parts were unable to swell internally and now contain small cavities beneath the skin. We advise you to carefully cut out the injured berries and you will see no more of it. The berries cannot ripen because the decaying tissue is close to the stalk of the berries, thus stopping to some extent supplies of nourishment.

COMMUNICATIONS RECEIVED.—J. J.—F. S.—G. H. K. (many thanks)—N. H. P.—D. P. B.—W. S.—C. E. O.

TRADE CATALOGUES RECEIVED.

JOHN SMELLIE, Busby, N.B.—New Pansies and Violas for 1895.

BARR & SON, King Street, Covent Garden, W.C. —Popular Bulbs.

R. WALLACE & Co., Colchester.—Lilies, Iris, Calochorti and other plants.

PITCHER AND MANDA, Short Hills, New Jersey, U.S.A.—Bulbs, Seeds and Plants.

PAPE & BERGMANN, Quedlinburg, Germany.—Price List of Bulbs, Seeds, etc.

PATRICK B. O'KELLY, Burren Nurseries, Ballyvaughan, Co. Clare,--Choice Hardy Perennials Alpine and Herbaceous Plants, etc.

LONDON SEED TRADE.

September 18th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small demand for Winter Tares at lower prices; Rye neglected. Trifolium incarnatum in better request, prices unchanged. Ryegrasses steady.

COVENT GARDEN MARKET.

September 19th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples..... per husbel	3 0	5 0
Cherries, per hlf. sieve	0 0	0
Coh Nuts and Filherts, per 100 lbs.	25 0	26 0
Grapes, per lh.	0 6	1 6
Melons .....eacb	1 0	2 0
Peaches & Nectarines, per doz.	2 0	8 0
Pine apples. —St. Mlchael's, eacb	2 6	6 0
Plums .....half Sieve	1 6	2 6
Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
ArtlchokesGlobe doz.	3 0	6 0
Beans, Frencb, perlb.	0 3	0 4
Beet..... per dozen	2 0	3 0
Cabhages ... per doz.	1 6	2 6
Carrots ... per hunch	0 6	
Carrots,		
Caullflowers, Eng.dz.	3 0	6 0
Celery.....per hundle	1 6	2 0
Cucumbers .....each	0 4	0 8
Endive, French, dozz.	2 6	3 0
Herbs .....per buncb	0 2	0 6
Horse Radlsh, bundle	2 0	4 0
Lettuces ...per dozen	2 0	0 0
Musbrooms, p. basket	1 0	1 6
Onions.....per buncb	0 4	0 6
Parsley ... per buncb	0 6	
Radisbes... per dozen	1 6	
Seakale...per basket	0 0	0 0
Smallsalading,punnet	0 4	
Spinacb per husbel	3 0	
Tomatos..... per lh.	0 6	0 8
Turnips ..... per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Aspidistra, per doz	18 0	42 0
—specimenplants,each	5 0	15 0
Campanula, per doz.	6 0	9 0
Cyperus .....per doz.	4 0	12 0
Cbrysantbemums, per doz.	4 0	15 0
Dracaena term., doz.	18 0	36 0
Dracaena virldls,doz.	9 0	18 0
Evergreens,invar.doz	6 0	24 0
Ferns, invar.,per doz.	3 0	8 0
Ferns, small, per 100	3 0	6 0
Foliage Plants, doz.	12 0	60 0
Heliotrope...per doz.	3 0	6 0
Hydrangea...per doz.	9 0	18 0
Marguerites, perdoz.	6 0	12 0
Mignonette, per doz	3 0	6 0
Palms in variety,each	2 6	10 0
Palms, Speclmen ...	15 0	63 0
Pelargoniums, scarlet per doz...	3 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilles, 12 blms.	2 0	4 0
Asters, English, doz. bchs.	3 0	6 0
Bcuvardias, per bun.	0 6	1 0
Carnations...per doz.	0 6	1 0
Carnation, doz. bchs.	4 0	6 0
Cbrysantbemums, doz. blooms	0 6	1 0
,, doz. hunches	3 0	9 0
Cornflower, doz.bchs.	1 0	2 0
Eucbaris ...per doz.	2 0	3 0
Forget-me-Not, doz. bchs.	1 0	2 0
Gardenlas 12 blooms	1 0	3 0
Hellotropes,12 sprays	0 3	0 6
Lllium Harrisii, doz. hlooms	2 0	4 0
Lilium speclosum doz. blms.	1 0	1 6
MaidenhalrFern,12bs.	3 0	6 0
Marguerites, 12 hun.	2 0	4 0
Mignonette... 12 bun.	1 0	3 0
Orcbid Bloom in var. per hloom, from	0 3	1 0
Pelargonlums 12 sps.	0 4	0 6
—scarlet.....12 bcbs.	2 0	4 0
Pyrethrum doz. bun.	2 0	4 0
Primula, douhle, hun.	0 6	1 0
Roses .....doz. bchs.	2 0	9 0
Roses, yellow, dozen	2 0	4 0
— Red..... doz. blms.	0 6	1 0
— Saffrano...per doz.	1 0	1 6
— Tea ..... per dozen	0 6	2 0
Tuberoses, per doz	0 4	0 6

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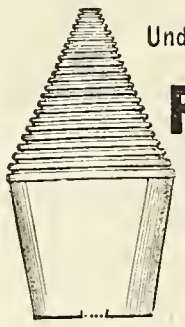

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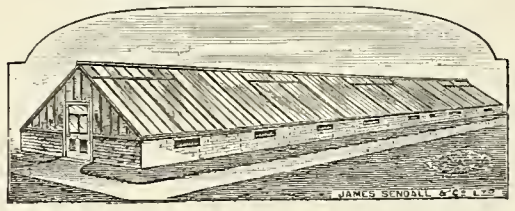

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SEPTEMBER.

25.—R.H.S., Drill Hall.

OCTOBER.

9, 23.—R.H.S., Drill Hall.
10, 11, 12.—N.C.S. at the Royal Aquarium.

NOVEMBER.

2, 3.—Chrysanthemum Show at the Crystal Palace.
2, 3.—Battersea Chrysanthemum Show.
5.—St. Neots Chrysanthemum Show.
6,7.—Leeds Paxton Society's Chrysanthemum Show.
6, 7, 8.—N.C.S. at the Royal Aquarium.
7, 8.—Bournemouth Chrysanthemum Show.
7, 8.—Hereford Fruit and Chrysanthemum Show.
7, 8.—Wolverhampton Chrysanthemum Show.
8.—Buddleigh Salterton Chrysanthemum Show.
9.—Exeter Chrysanthemum Show.
10.—Crewe Chrysanthemum Show.
13, 27.—R.H.S., Drill Hall.
13, 14.—Kingston Chrysanthemum Show.
14, 15.—Aylesbury Chrysanthemum Show.
14, 15.—Birmingham Chrysanthemum Show.
14, 15.—Bristol Chrysanthemum Show.
14, 15.—Hull Chrysanthemum Show.
14, 15.—Tunbridge Wells Chrysanthemum Show.
15, 16, 17.—Edinburgh Chrysanthemum Show
16, 17.—Bolton Chrysanthemum Show.
16, 17.—Bradford Chrysanthemum Show.
16, 17.—Stockport Chrysanthemum Show.
16, 17.—Sheffield Chrysanthemum Show.
20, 21.—Chrysanthemum Show in the Town Hall, Manchester.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 1st.—Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.
Continuation of Fruit Show at the Crystal Palace.

TUESDAY, Oct. 2nd.—Trade Sale at the Windlesham Nurseries, near Bagshot, by Protheroe & Morris (3 days).
Orchid Sale at Protheroe & Morris' Rooms.

THURSDAY, Oct. 4th.—Sale of Palms and other Plants at Protheroe & Morris' Rooms.

FRIDAY, Oct. 5th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPTEMBER 29th, 1894.

PUBLIC TASTE AND FLORIST'S FLOWERS.—The public and the florist, but more particularly the specialist, represent two distinct schools whose influence bears upon the development or evolution of those classes of garden flowers which have been more or less improved by the agency of man, or altered from the wild originals. The improvement of wild flowers by selection has doubtless gone on for ages, slowly it may have been at first, and just as mankind became more civilised and refined; so that the public at large constitutes the oldest school, as it has always been and will remain the strongest in point of numbers. The florist proper is a specialist whose views of refinement in flowers, the public cannot always appreciate, and sometimes cannot be induced to understand, much less to follow out in practice, although there are cases where all can admire the beauty of his standard of perfection. His greatest failing is a tendency to formality inasmuch as he aims at a uniform shape in every class of plants which he takes in hand. Single flowers such as Pelargoniums and Pansies, must be perfectly circular although the original wildings are very far from being so. Incurved Chrysanthemums and show Dahlias constitute another type the outline of which may be globular or hemispherical, or tending in that direction according to the variety.

A good instance of the effect of the popular voice may be seen in the grand collections of modern Japanese Chrysanthemums. When the flimsy-petalled and small-flowered early representatives first made their appearance in this country the florists railed at them and practically laughed them to scorn. Now they can only look on and admire or lay aside their tenets with regard to the formal and inartistic incurved kinds and proclaim a truce to public taste by undertaking their cultivation in hearty earnest. The real face of an incurved Chrysanthemum is hidden, thereby excluding the possibility of any great amount of variation. The Japanese types admit of indefinite variation both in size, shape and colour, hence their popularity.

Dahlias offer another good instance of the wisdom of giving rein to the popular taste for variety in form as well as colour. Show and fancy kinds are still judged, it is true, according to the canons of the florist; but pompons, and single Dahlias, more especially have been brought to great perfection to meet the popular demand. More recently the original Cactus Dahlia Juarezi was singled out as a type on which to model a new strain, in direct contravention of the rules or notions of the florist. To-day, we may say without fear of much contradiction that Cactus Dahlias are in the front rank of popular estimation, notwithstanding the fact that the florist's kinds are still very widely cultivated in private establishments. A small starry type has been placed before the public, but they were too puny to meet with much favour. The Dahlia is a gross growing plant with large leaves which require large flowers to make an effective display. Single Cactus Dahlias are now being brought forward and show a strong tendency to greater variety in form and larger size than the ordinary single ones, but whether the public will ultimately pronounce in their favour is a question of the near future; but some of them have a quaint beauty not to be found in any other type.

Exhibition Pansies seem to have had their day, notwithstanding the fact that many of them are very pretty in spite of their formality. The Belgian or fancy strain is receiving a considerable amount of attention from the public at present, doubtless on account of their great size, and large, showy and attractive blotches which constitute their leading characteristics. The florists as usual treated them with great indifference for some time, but at length perceived something in them in spite of their large flimsy petals. The show varieties though much more refined are smaller. The dry climate in the southern counties of England militates greatly against general success in their cultivation. A packet of seed of a good strain will, however, afford some good flowers for ordinary garden decoration, and seedlings are more easily raised than plants from cuttings can be preserved. Bedding Violas meet the case admirably for border decoration, and their habit of throwing up numerous suckers renders them more easy to preserve. Popular choice has already declared greatly in their favour, although their flowers in a large number of cases are very far from being circular. The apparently illimitable variety of colour, and the liberty allowed as to form, as well as the clearly defined self colours in many of them

must account for the favourable reception that is now very widely accorded them.

The strictly florist's types of the Carnation, such as Picotees, bizarres and flakes have lost considerably in popular estimation, and we cannot wonder at it seeing how poor a constitution and how inconstant as to colour, many of them are. The florist still clings to them as strongly as he can, but the public declares for hardy varieties that may be grown in the open border without any artifical protection, and of well defined self or even fancy colours. The flowers themselves may be as refined as it is possible to make them, but they and the plants must possess the valuable properties above named. If this want is honestly supplied, Carnations in the near future will be more widely cultivated than ever they were before.

L'Orchideene.—The Annual General Meeting of the members of this Belgian Society of Amateur Orchidists, will be held at 10 a.m. on Sunday, at 79, Rue Wiertz, Brussels, to receive the report of the Managing Committee for the past year, and to select eighteen members to form a jury for the meetings of the ensuing year.

The Crystal Palace Fruit Show.—The fruit show to be held by the Royal Horticultural Society at the Crystal Palace on Sept. 29th and Oct. 1st and 2nd promises to be a very large one. The gardeners' luncheon will take place in the garden hall, on the left-hand side of the great clock, at 1.30 p.m. punctually. At 3.30 p.m. a paper on "Fruit Growing in Small Gardens," prepared by the Rev. W. Wilks and Mr. Geo. Bunyard, will be read in the garden hall, and discussion thereon invited. On Monday and Tuesday, at the same time and place, Mr. Chas. Wise and Mr. Geo. Monro will lecture respectively on "Fruit Growing on a Large Scale," and "Packing, Grading, and Marketing Fruit."

The Potato Harvest in Lincolnshire.—The Potato harvest has now commenced in South Lincolnshire, and the results so far are a striking contrast to last year. The crops are found to be light, and in addition disease is prevalent. On some land a large proportion of the tubers are wholly unfit for market.

The Devon and Exeter Gardeners' Mutual Improvement Association.—The following is the autumn programme of this Society for the session 1894-95. The meetings will be held in the Council Chamber of the Guildhall, at 8 o'clock prompt: 3rd October, Mr. W. Swan, Bystock Gardens, on "Present Day Gardening" 17th October, Mr. T. Brealey, Exeter, on "Covent Garden"; 31st October, Mr. S. Radley, Exeter, on "Hyacinths, Tulips, and Bulbous Plants for Exhibition" 14th November, Mr. A. C. Bartlett, Dropmore Gardens, on "Flowering Trees and Shrubs"; 28th November, Mr. F. W. Parker, Exeter, on "The Devon and Exeter Horticultural Society—Its History and Development"; 12th December, Mr. F. W. Meyer, Royal Nurseries, Exeter, on "Public Parks and Gardens."

North of Scotland Horticultural and Arboricultural Association.—The Annual General Meeting of the members of this Association was held in the Christian Institute, Aberdeen, on the 20th inst. Mr. J. Munro, Bonnymuir, President, in the chair. The secretary's and treasurer's reports were submitted and approved. The secretary then read the report of a sub-committee appointed to deal with the arrangements for the winter's programme. The first question was:—Should the Association be carried on for another year, and, also, if it were to be carried on, what should the nature of the programme be? The committee recommended, in the event of the Association being carried on, that an endeavour should be made to get up a course of lectures bearing on the subject of horticulture. The chairman strongly protested against the idea of breaking up the Association, even for a single year, and was supported in his views by several of the members, and it was agreed to keep the Association going for another year. Office-bearers were appointed as follows:—President, Mr. J. Munro, Bonnymuir; Vice-President, Mr. A. Mortimer, Tullos; Secretaries, Messrs. William Reid and Mr. Minty, Treasurer, Mr. William Wyllie.

Birmingham Amateur Gardeners' Association.—A well-attended meeting of the Amateur Gardeners' Association was held at their rooms, 116, Colmore Row, on Wednesday evening last, Mr. C. Shotton in the chair. The exhibition of plants, flowers and fruit surpassed all previous ones in quality, although the number of exhibits was not so large as usual. Mr. J. H. White, of Worcester, exhibited (not for competition) a splendid collection of fruit, consisting of Apples, Pears, Plums and Damsons, in varieties most suitable for the district. Messrs. Hy. Beech, T. P. Cope, W. H. Peake and W. B. Child, of Acocks Green, were amongst the other exhibitors, a fine collection of herbaceous blooms shown by the latter was much admired. The Association has now adopted a medal of its own special design; this, of course, will make the owning of such a medal much more valuable. The membership is steadily increasing, and as the season for out-door gardening is now coming to a close, it is hoped that there will be a large accession of new members. This is the only means by which amateurs can keep up their enthusiasm as well as increase their knowledge. Full particulars may be had from the hon. secretary, Mr. Wm. B. Griffin, Wychbury, Alcester Road, Moseley.

The Plague of Thistles.—It is said, and perhaps with some degree of truth, that a country without a grievance is usually accounted dull, and a perfectly contented agriculturist is rare as the sedge warbler or pine marten. In many places in the West and elsewhere at the present time, farmers and market gardeners are waxing wroth over the aggressiveness of the Thistle. They have no fancy for the "symbol dear," which appealed so strongly to the heart and the imagination of the poet. Sentiment, gardens, and huge flower pots apart, the Thistle is apt to be a nuisance of the first rank. On some of the English flats where the wind bears Thistle-down over miles of country, it is a prime article in the agricultural creed to wage war against the uprising offender of the arable areas. With "spud" in hand the cleanly agriculturalist attacks betimes the offender which makes such extensive mischief once it reaches the downy-headed stage. A careless man may easily become a pest to his neighbours by rendering mercy to the wandering weed. The plague of Thistles now to the fore is a legacy from the sunshine of last year. Weeds of all kinds seeded to perfection during the clear summer of 1893, but the dull skies of the past few weeks and future diligence should keep Thistles and like foes within moderate bounds for a time.

Market Gardening in Cornwall.—It is somewhat extraordinary that, whilst it is said there has been an extraordinary glut of stone fruit sent to market from most parts of the country, Cornwall should have to lament the absence in quantity of this fruit. This is very different to the state of things last year, when many growers in the west used the fruit as manure rather than pay the expenses of carriage. But the fruit has grown larger, and kept better. Grapes are considerably more in quantity and better in quality. We have it, however, from one of the largest buyers that the Cornish Grape is not so favoured in the London Market as could be wished, owing to the want of depth of colour. This is the first time such a remark has reached us. Mushrooms in Cornwall, are an entire failure this year. The Apple crop, too, is remarkably poor. On the point of Potatos according to Lord Falmouth's gardener, Mr. J. Smith, they are, as a rule this year, free from disease. The following varieties have done well:—Ashleaf, Early Puritan, a very heavy cropper, and which cooks white and flowery; Ruby, also good; Snowdrop, first-rate quality, but a few diseased; Windsor Castle, a very fine second early Potato of first-class quality, very prolific and free from disease, top dwarf; Reading Giant, an immense cropper, tuber very large, and of excellent quality, should be planted three feet between the rows, and two feet in the rows; Schoolmaster, a fine main crop variety, a few diseased. For latest of all we prefer that well-known variety Magnum Bonum, it is free from disease and of excellent quality, as grown in Cornwall in strong loam.—*Z*.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, GARDENING WORLD, 1, Clements Inn, Strand, W.C.

CYCLAMEN PERSICUM
AND ITS VARIETIES.

THERE are very few plants, indeed, that enjoy so great a share of public favour as these beautiful flowers, and certain it is that none are more suitable for pot culture to furnish decorative material for the houses during winter and spring. Although thousands of plants are grown and sold every year by our nurserymen, very many gardeners are by no means successful in their culture. A well-known gardener, lately deceased, said, not very long before his death (and this after he had seen many of the best gardens in the country), that gardeners in private establishments could not grow Cyclamens. Whether he was justified in making this somewhat sweeping assertion or not, it is very true that there is plenty of room for improvement in the cultivation of this beautiful plant. One reason for so many failures is, I believe, the fondness that so many have for pinning their faith to the growing of old corms. In several places with which I am intimately acquainted the old roots were grown on year after year, and an immense amount of trouble taken with them, and yet very few flowers were obtained. Whether it is really profitable to attempt to grow a Cyclamen after it has passed through two flowering seasons is, I fancy, really doubtful, and yet there are plenty of gardeners who waste their time and energy in trying to get roots to produce flowers for six or seven, whereas the same amount of trouble directed towards the cultivation of young plants would have yielded infinitely better results.

The seed should be sown in autumn in well drained pans and placed in a frame having a temperature of not less than 54° Fahr. In sowing the pot or pan should be filled within half an inch of the top after the seed has been covered. A piece of glass must then be placed over the pot. This will serve to protect the seeds from the ravages of slugs, etc., as well as to render the atmosphere immediately in contact with the soil in which the seed is sown moist and humid. As soon as the seedlings are sufficiently large to handle they must be pricked off into pots filled with some light compost. They may be kept through the winter in a temperature of between 50° and 55° Fahr. In spring the young plants should be potted off singly into thumb pots, using a compost containing a large percentage of leaf soil. If placed in a growing temperature the young plants will make rapid progress. They must be shifted on into larger pots as occasion requires. By the end of July or the beginning of August they should be given their final shift into 5 in. or, in case of very vigorous plants, 6 in. pots, in which they will flower.

Shading during bright days will be a necessary operation, and an occasional use of the syringe will serve to keep the foliage clean and healthy. Cyclamen are rather subject to the attacks of green fly and thrips; red spider will also cause trouble occasionally. Light fumigations at intervals will check the ardour of the green fly; thrips, however, are rather more persistent in their attentions, and to fumigate strongly enough to kill them would result in serious injury to the plants. Sponging with soft-soap water must, therefore, be resorted to to effect their removal. After flowering, the plants will need a period of rest. Water should then be given sparingly, but not withheld altogether or the bulbs will shrivel. At one time, some cultivators used to urge the necessity of drying the bulbs off completely. Since their day this method of treatment has been proved over and over again to be a most erroneous one, and it is really a wonder that it was so thoroughly believed in and so extensively practised. While there are, as I have already stated, certain times during the life of a Cyclamen when the water supply may be largely curtailed with advantage, at no period of its growth should it be allowed to become dry.

Cyclamen persicum originally came from Greece and Palestine, but it has been a familiar occupant of our plant houses for a considerable time. There are several forms or varieties upon the market at present, each more or less distinct. The beautiful C. p. grandiflorum The Bride is too well known and too highly valued to need other than a passing mention here, whilst many other varieties are constantly being introduced, the results of careful selection of seed from the plants exhibiting the greatest perfection of form and brilliancy of colour in its flowers.—*G*.

PEARS IN 1894.

A BOUNTIFUL crop of Pears is the general experience this year. The quantity is all that could be desired. Somewhat of a doubtful blessing however, is this because of that quantity, inasmuch as, being so large a crop in every place the market price is kept down, and though the consumer may get a slight benefit, the producer, who goes to market, does not reap so great a financial benefit. To the private grower the benefit is a very doubtful one indeed as, no matter what the quantity of his crop may be, the quality is of prime importance, seeing that connoiseurs in Pears and epicures in taste, sit in judgment on what he sends in to table every day.

Personally, I could have done with a smaller crop, with a higher quality in the produce. So far in the season, what with the large quantity, and the sunless state of the weather of the present ripening season, I find Pears singularly deficient in flavour, and the flesh more gritty than usual. Even in such buttery Pears as Williams' Bon Chrêtien. Doyenné d'Eté and Green Chisels. Crawford and Windsors we do not expect to find much flavour in, and being very fugitive of condition, all being gathered, eaten or rotten in the space of a week or two, one does not care very much about it, but with Jargonelles, Clapps' Favourites and Williams'Bon Chrêtien we do expect to get the respective merits of these varieties. Whatever may be the experience of other growers I do not as yet know, not having been able to compare notes with my neighbours and professional brethren generally, but, in my own case, none of these varieties are up to their normal standard of butteriness and flavour, and notably, Williams' Bon Chrêtien, has not that peculiar bouquet which is one of its strongest claims to notice with Pear lovers.

It is a Pear much desired by the family I cater for, and specially desired for this aromatic quality, and I am met with the inquiry, "How is it that the Williams's are not so good this year?" My explanation is the large quantity and the want of sunshine, but I am very doubtful whether my explanation is received as substantially correct. Perhaps other Pear growers will communicate their experiences, and help either to ratify my conclusions or suggest different ones. The season is so far advanced now that we cannot expect a very large measure of sunshine, but it is hoped that we may have rather more than during the last week or ten days. I am writing on the evening of the 20th September, and, here in the Midlands, we have hardly seen the sun on some past days.

We have housed Beurre d'Amanlis this week with Autumn Nelis, and are hoping that their eating merits may come out stronger than in their earlier brethren. We shall then go on to Louise bonne de Jersey. Hessels Fondante d'Automne, Beurré Superfin, Fondante de Charneuses, Marchal de la Cour, Doyenné Boussouch, Marie Louise, Brown Beurré, Comte de Lamy, Doyenne du Comice, and others, leaving Easter Beurré, Josephiné de Malines, Winter Nells, Ne Plus Meuris, General Todleben, and others as late as we can. If one meteorologist is right, however, we shall have to keep a sharp eye on the early October varieties, and secure them before the "Boisterous weather with gales and perhaps snow in the first ten days" which he predicts sends them down to the ground to their damage and perhaps destruction. Forewarned is forearmed we know, but then we also know that weather prophets are not infallible, and we may have a St. Luke's summer yet.—X.

PRIMULA OBCONICA.

THIS little plant has certainly jumped (if I may so phrase it) into popularity with remarkable celerity, for it was only introduced into England from Central China in 1882. Thus barely twelve years an acquaintance it has yet been a well known occupant of most of our gardens for fully half that time. This is not greatly to be wondered at when we consider what a beautiful and easily contented little plant it is. It has absolutely no pride about it (if a plant can be said to have any pride at all), and will grow as well, and bloom as freely, in the window of the cottager, or in the small greenhouse of the amateur, as it will in the expensive glass erections of the landed proprietor.

It may be propagated very readily in the spring by division of the old plants, or from seed. I prefer the latter method, as one likely to yield the best results. A pinch of seed sprinkled upon a well-drained pan filled with fine soil in April will germinate very readily in a warm greenhouse temperature—provided the seed be not sown too deeply. This is often the real cause of failure with those who fail to raise plants from seed. The cause of failure is often attributed to bad seed, or lack of a sufficiently high temperature, when too deep sowing is the true reason for non-success. As soon as the seedlings are sufficiently large to handle, they should be pricked off into pans filled with compost of a light character. A few weeks will suffice for them to make four or five strong leaves. Then pot them off singly into thumbs. A 5 in. or 6 in. pot will be quite large enough to flower them in.

Of course, if it is desired to have very large specimens, larger pots may be used, but I would not advise their adoption as the smaller sizes cause the plants to throw more flowers in proportion to the room they occupy, than do the larger ones. Large pots mean increased vigour of growth but this is sometimes obtained at the expense of the flowers. Batches of P. obconica may be had in bloom at any time between October and April, if required, by pinching out the flowers of those which are intended for late blooming. Where cut flowers are needed they are of inestimable value, either for the filling of vases, or the making of wreaths and bouquets.—*A*.

COTTAGERS' FLOWER SHOWS.

THERE are happily numerous instances now in which these have been successfully worked for some years, their working being attended with both educational and social advantages of high value. The mingling together of all classes tends to break down that social exclusiveness which is attended with the most pernicious results, and is more prevalent in villages and small communities than elsewhere. There is a larger amount of work to be done in connection with a society of this kind than strangers to the working of them would suppose, and those who undertake their management must be prepared to give both time and labour with no stinted hand, and without fee or reward other than the pleasure which working for a good cause brings with it.

A committee of practical men if new to the work will soon be able to start a society of the kind providing they have the assistance and countenance of the leading residents in the district. This is almost a necessity, because they must generally be dependent upon some one or other of them for a place to hold their annual show in, and on their generosity in affording the necessary time to their employés to stage their products as well as for pecuniary assistance in providing the prize money and paying the expenses attendant on the working of the society. All members should pay a small annual subscription, if only the modest sum of sixpence, which proved enough in one society I was connected with, and in return for which a free pass was given on the show day. All would-be exhibitors not being members had to pay for admission in addition to the entrance fee.

We spread our operations over several parishes, and by so doing made a larger show, but the actual working of the society has long led me to the conclusion that more good would be accomplished if the operations of such a society were confined to its own parish or district, because some are debarred from showing on account of distance, and the wide area covered includes within it diversities of soil and situation which often makes the contest for prizes a very unequal one. The labouring men after a year or two find this out and drop their membership, seeing the chances are so much against them in competing with those who have superior advantages. I well know that this cannot be entirely avoided, but it occurs to me that if the working of societies of this kind were confined to one district or parish, the friction which is often experienced under other conditions would be considerably reduced and a larger proportion of the population would be induced to take their share in helping to make the society a success from a feeling of friendly rivalry with their immediate neighbours and through being on a more equal footing.

This would lead also to the encouragement of improved varieties in both fruit, flowers, and vegetables, and better methods of cultivation than sometimes prevail. At the same time we must confess to having seen instances at some of these shows of very superior cultivation, but the staging and putting up being often at fault, it would be an educational advantage to make and enforce a rule that every exhibit should be named. The interest of these meetings and also the good done by them would be much enhanced, too, if a short lecture by a competent lady or gentleman on some subject connected with horticulture or agriculture, and the awards of the local examination in connection with the technical classes in many instances now carried on under the auspices of the County Councils could be announced on the same day. This, combined with the music and other attractions generally provided, would render the show day a time of recreation, instruction, and enjoyment.—*W. B. G.*

ABOUT POTATOS.

As might well be expected from the past unfavourable season, the potato crop in most districts is anything but a satisfactory one. In some parts the greater number of the tubers are affected and those left, apparently uninjured, are to say the least of it, of very doubtful quality. In seasons of this kind it is an imperative necessity, that those Potatos stored for winter supply should be placed where they can be easily looked over. This is an operation of the greatest importance and one that should frequently be performed. For many of the tubers that appear to be perfectly sound are in reality affected, and will be sure to go rotten in the course of a few weeks. The practice that obtains amongst so many people, of storing the tubers for winter use in pits or graves in the open ground is certainly not the best one, as a single bad tuber at the bottom of the heap will in a short time do an immense amount of damage.

Where practicable, the tubers should be thinly spread over the floor of a dark cellar, or shed, if there is no room for them on the store-house shelves. All diseased Potatos should be burnt. The haulms of those plants affected by the destroyer should also be removed and burnt. How often one sees the haulms lying carelessly scattered over the ground after the crop has been lifted. This is a method of procedure that is much to be deprecated being, as it is, one of the most fruitful causes of the propagation of the fungus. I suppose it is a matter of great question as to whether the disease will ever be successfully combated, although we hear a great deal of talk about the supposed wonderful efficacy of certain methods of treatment by spraying with chemicals. Still I think a great deal might be done towards that much-to-be-desired consummation, by the systematic cultivation of varieties that are more or less disease resisting. Certain it is there are sorts in cultivation to-day that are not nearly so subject to infection as are others.

I consider it is as important a qualification for any sort to possess, that it is not liable to infection, as it is for it to be a heavy cropper. For, it might be asked, of what use is it for any given variety to bear a heavy crop of tubers if they can only be harvested in good condition during exceptionally favourable seasons. Yesterday I saw a fine crop of a Potato, the cultivation of which is a step in the right direction. The sort in question was Chancellor. This is a heavy cropper, and the tubers are well-shaped, and of excellent flavour and appearance when cooked. It appears to be especially suitable for planting on gravelly soil. The most striking feature presented by the patch I saw was that, whilst other sorts which were growing in the same field with it were very badly affected (scarcely worth the digging in fact), Chancellor was comparatively free from infection, the number of diseased tubers being surprisingly small. To the cottager, who can ill afford to devote a great part of his little garden to the growing of Potatos, only to have the crop ruined by the ravages of disease, a Potato like Chancellor will be sure to give satisfaction, and is well worth a trial.—*Solanum*.

SWEET PEA EMILY HENDERSON.

As far as we have seen this variety in a growing state it seems to merit all the encomiums that have been heaped upon it. The stems grow taller, the flowers are much larger than those of Queen of England, pure white, and frequently produced three together on a stalk, so that it possesses to a considerable degree the modern requisite of producing three instead of two flowers on a raceme. Sweet Peas generally in some gardens have taken a fresh lease of growth as it were recently, and are flowering quite freely, as we noted the other day in the garden of J. C. Stogdon, Esq., Inglenook, Bellaggio.

DOUBLE BEGONIAS IN SOMERSET.

On Thursday the 13th inst., the members of the Widcombe Horticultural Club, to the number of about ninety paid a visit to the Rectory garden at Newton St. Loe, near Bristol, which the Rector, the Rev. E. Lascelles, has made world renowned for his magnificent culture of the Tuberous Begonia, and especially of the double-flowered section, of which he grows some 20,000 plants. The party received a most cordial welcome from the Rector, and under the guidance of Mr. Lascelles and of his gardener, Mr. Langdon, the visitors were soon admiring the lovely profusion of Begonias. Despite the fact that September is well advanced the thousands of plants in the Rectory gardens are covered with a wealth of bloom, all of them being seedlings raised under the superintendence of Mr. Lascelles. In the kitchen garden that used to be, the beds have been so arranged that a large space is devated to flowers of white, pinky, or creamy shades which form a very pleasing contrast to the expanse of brilliant red Begonias growing close by. The most perfect and novel of the countless specimens had been marked as worthy of preservation and propagation. Although Begonias are the ruling passion with the worthy and genial Rector of Newton, a collection of remarkably healthy and vigorous chrysanthemums, which were looked at with wondering eyes by amateurs who have been bringing on these plants in their own gardens, showed that other flowers are not completely neglected.

When the company had assembled on the lawn Mr. Lascelles made some very interesting remarks. He assured his guests of the pleasure with which he welcomed them, and regretted that circumstances had prevented him from inviting his friends at Widcombe earlier in the year so that they might have had more time to inspect the Begonias. They had seen what could be done by hybridisation and the crossing of flowers. There were few, he supposed, who would recognise these plants with their upright flowers, dwarf growth and camellia-like blossoms, as the lineal descendants of those drooping, Fuchsia-like pendulous flowers which they knew some twenty years ago like lumps of coloured wool tied together, which they now would not think worth picking up. In these scientific days very much was said about "Man's place in Nature," and he thought they might learn a little from the question of hybridisation as to what man's place in Nature was—it was at the very top. It was a question of great importance when they realised the power of Nature which rested in the hands of man. This power was able to transport plants from a semi-tropical clime into our North temperate zone, and then was able to give it a new habit and unimaginable beauties. This was a power which would have to be reckoned with in the future of the world. It used to be said that evolution, the survival of the fittest in the struggle for life, or natural selection, had hitherto done the work. He supposed it had, but he imagined that now another power had stepped in, and that was the power of man, the power given to him in reason, thought and mind. Man was now beginning to take up the work which had been done by natural selection and was saying, "I will have a word in this, I am above the rest of Creation. I can see I can turn and twist this great question of evolution and selection in ways never thought of." They were developing a power which did not exist before. In the primitive man it had hardly any existence. How did they suppose that the early man learnt anything about sowing seed. It had been suggested, and forcibly enough, that he learnt accidentally, that when he buried corn and seed with the dead, so that they might have food, he found that the seed grew and increased. There were customs still to be found in the world, or lately to be found, proving that this was most likely the origin of it. In some parts of Central Asia it was customary, if possible, to bury a dead man in the harvest field in order that his spirit might be beneficient and restore the seed a hundred-fold. There were certain families set apart who were treated with great reverence, but one of them had to be sacrificed yearly, his flesh was cut up into strips, and each man was given a piece to plant in his field. In the Hartz Mountains there was the custom of carrying a pretended corpse round the fields at sowing time, and then burying it lightly with straw, so that when the people were gone the man could get up and run away. We ought to thank God that he had endowed us with this wonderful power of mind and reason which carried us far above the primitive man, a power which they saw in a little way exemplified by the development of a flower into the stage in which they saw it. They should remember it was a mighty engine for good or for evil, according as we used it. It could mould not only the future of a plant, but it would mould the future of the human race. Let them do nothing to debase or lower the power which God had given them.

Mr. Moger thought that would be a convenient opportunity to return to Mr. Lascelles the hearty thanks of the visitors, not only for his great kindness in inviting them to see his beautiful flowers, but for the interesting remarks with which he had favoured them. Mr. A. A. Walters, in seconding the vote, said if every member of the Club appreciated to the full the beauties of the flowers they had seen and the care and attention Mr. Lascelles had devoted to them, their thanks to him would be doubled. Like Mr. Lascelles he remembered the development of the Begonia. The first double variety was introduced by a German, and plates of it were sent all over Europe, but the English had beaten the Germans in the production of the flower. He had had the pleasure of watching Mr. Lascelles' efforts for several years and he had seen the Begonias grown by the best firms in England, but they did not equal those at Newton St. Loe. English Begonia growers were at the head of the growers in the world, and Mr. Lascelles was at the head of the English growers. The vote having been carried by hearty applause, Mr. Lascelles acknowledged the thanks of the company and said when he was suffering from the effects of his accident in the winter, he was much touched by the kindness of the Society in expressing their sympathy with him. Although he was not able to give so much attention to his Begonias as in the past, he had an excellent gardener to whom he was very grateful.—*Bath Chronicle.*

SOMETHING ABOUT BEET.

The Beetroot as a vegetable, has not yet obtained the favour with the working classes that we should imagine its merits entitle it to. This is all the more strange when we consider its great value as a food plant. Again, nothing is easier to grow, except in very heavy soils and no vegetable gives better returns for the ground it occupies than the Beetroot. There are many large coarse-growing varieties upon the market; the very sorts that no one should attempt to grow, for the large rank roots are never so good in colour, or of so fine a flavour as those of medium size. Pragnell's exhibition Beet can be recommended as being one of the most suitable for the cottager, as well as for the larger gardens of those in more affluent circumstances. The roots are of average size, smooth, and of excellent shape, whilst the flesh is of a rich crimson colour and the flavour all that could be desired. The Beetroot needs an open unshaded situation. It will not grow satisfactorily where it is over-shaded by trees. The action of the sun and light is absolutely essential to the well-being of the plants and to the development of the flavour. A light sandy loam produces, as a rule, the cleanest and best shaped roots. The seed may be sown at any time between the middle of April and the begining of May, as the time of sowing varies with the locality, and the nature and quality of the soil.

It is not advisable to sow too soon or the roots will become tough and stringy by the autumn. On the other hand, too late sowing is a mistake, as the plants will not have sufficient time to develop their full size and flavour. When the seedlings have attained a fair size, they must be thinned out to the requisite distance, as a rule, about nine inches between the plants, will be sufficient, or, if desired, they may be transplanted to their permanent quarters. This latter operation, though, is one that needs a great deal of care, for if the young tap-root be not inserted at its full length, a crippled useless root will result. The crop will grow until the arrival of frost puts a stop to further development. The roots should then be taken up and housed. They will keep through the winter and ensuing spring in splendid condition, if a layer of dry soil be placed upon each layer of roots, care being taken not to cover the crowns.—*A.*

Chrysanthemums and their Culture. By Edwin Molyneux. Sixth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, Gardening World, 1, Clement's Inn, Strand, London W.C.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Dendrobium Phalaenopsis Schroderiana.—I was at Bourton-on-the-Water to-day, September 22nd, and saw a splendid lot of the King of the Dendrobes in bloom in the collection of Orchids lately formed by G. F. Moore, Esq. The plants are well grown and include some specially fine varieties bought when in flower last year. They are arranged at the back of one house among Ferns and fine foliaged plants, and are a lovely sight. On another stage in the same house are some splendid plants in bloom of Dendrobium formosum and several examples of Cypripedium Charlesworthii and C. calurum; also some good Lycaste Skinneri, several with two blooms on a spike. In an adjoining house Cattleya labiata vera promised to make a grand display later on. Mr. Moore has six houses of Orchids, and the whole collection reflects much credit on the Orchid-grower in charge.—*A Visitor.*

Trichopilia fragrans.—This splendid cool house species and its variety T. f. nobilis, should find a place in every collection. They grow well with Odontoglossums, requiring peat and sphagnum, with good drainage to carry off the water which must be given in abundance during the growing season. The flowers produced in winter are white with orange blotches at the base of the lip; T. f. nobilis only differs from the type in having larger flowers, which are also of a shade purer white. They are natives of Columbia, New Granada, etc.—*Rex.*

Oncidium tigrinum.—Without doubt this is one of the showiest of the Oncidiums; and it should now be throwing up its branched panicle of flowers, which, however, will not open before late autumn or winter. The individual flowers are slightly scented; the sepals and petals are yellow, heavily banded with dark brown, the lip is two-lobed and of a bright yellow. It is a native of Mexico and accommodates itself easily to cool house treatment. In this, as in other orchids, it is inadvisable to leave the flower spike on the plant, for too great a length of time.—*Rex.*

Vanda caerulea.—It is a pity this distinct and handsome Vanda is so often grown in too great a heat. Placed at the cool end of a Cattleya house or even with Odontoglots much better results obtain. Treated thus, it should now be throwing out its flower spikes which should be protected from slugs, etc., if necessary by cotton wool. It was introduced from the Khasya mountains, in 1849.—*Rex.*

THUNBERGIA GRANDIFLORA.

Visitors to Kew Gardens greatly admire this handsome climber, now in bloom in the Victoira Regia house. Although introduced since 1820, it is seldom seen in such perfection as at Kew; in fact, but few places can afford it the space and tropical heat and moisture in which it luxuriates. The Kew plant is bearing large trusses of beautiful mauve-coloured flowers, which hang within six or seven feet of the ground. A variety of this species T. grandiflora alba is planted near it, but though evidently a much younger plant, its vigorous growths and healthy foliage give testimony that the situation suits it.—*Rex.*

SCHIZOSTYLIS COCCINEA.

To those whose means are limited, this is one of the most beautiful and useful of winter flowering plants that they can grow. We have had it live out for years without the slightest protection, at the same time anyone whose acquaintance with it is limited to its use as a border plant will have but a poor idea of its real merits, because, although hardy, frost does injure the flowers, which are not unlike those of a Gladiolus. I have tried various crosses with it, thinking that if its size could be enlarged and the colours varied, a very useful and valuable result would be achieved; but after the most painstaking endeavours I have been disappointed. I hope, however, that someone else may prove more successful, because it flowers not only when, with many, any scrap of flower is valuable, but also the kind of flower is somewhat rare during the winter months, and the spikes are of sufficient length, when used for vase decoration, to stand well above other heavier flowers.

My own plan is to plant out small pieces in the spring in any good garden soil, as they make stronger

growth and send up finer spikes than those grown in pots, and will succeed with less than one-half the attention requisite for pot culture, under which, unless well looked after, they are much subject to red spider. Should the autumn prove dry and warm, the middle of October is quite early enough to lift and pot them up in a light rich soil consisting of turfy loam, and peat or loam and leaf soil will do. When potted place them in a shaded sheltered position for a week or two. Do not house them when fresh potted, or much of the foliage will be spoilt. Give a sprinkling with the syringe during dry weather; they will soon make fresh fibres and recover themselves, when they may be removed into a cold pit or house till the flowering season is over. Never let them get too dry until this period, after which keep them rather dry to ripen them off till planting out time comes round again.—*W. B. G.*

THE PLANT HOUSES.

The Stove.

THE dull season of the year is now fast approaching for October is always more or less a month of uncertainties. Sometimes, it is true, the weather is bright and warm, in fact, everything that could be desired—at others, dull, cold, and often foggy conditions obtain. The plant-stove should now receive a thorough clearing out. Old plants which are of no further use should be thrown away, thus making more room for the others. For it must be borne in mind, that increased house-room means increased light, and therefore more favourable facilities for the ripening of wood, and greater sturdiness of growth.

Pots of Panicum, Tradescantia, etc., which have been used for edgings for the larger plants may be thrown away after the cuttings have been taken. The later Caladiums, Gloxinias and Gesneras should be removed to a warm pit to finish the process of ripening off; glass and woodwork should receive a thorough washing, where the climbers do not prevent it. Any climbers that have lost their leaves, may be pruned now if desired—the others must be syringed with some insecticide to remove mealy bug, etc. Sponge the foliage of all plants in pots and let a general air of cleanliness prevail.

A minimum night temperature of from 68° to 70° Fahr. should be maintained, rising to 80° by day, with sun heat. Syringe only on bright days, and that early enough in the day to allow of the plants getting dry before night. Syringing overhead the last thing at night, as practised during the summer, must be discontinued altogether, damping the stages between the pots with a rose can will be quite sufficient. The blinds may now be removed, for after the expiration of September, they will not be required for shading purposes as there will be little fear of scorching; and it is not true economy to leave blinds out through the winter—it only rots and spoils them.

Greenhouse.

AIR should be given here as freely as possible, and great discrimination in watering must be exercised. The inmates of the greenhouse and cool conservatory will, as a rule, need less water now than they did during the spring and summer, but the quantity of water given to a plant must in all cases be governed by its health and vigour. Pick off all unsightly or yellow leaves, for their presence can do no possible good and will infallibly stamp the one who has charge of the house as a careless and incompetent gardener.

Pits and Frames.

A LATER batch of Hyacinths, Tulips, and Narcissi, for succession may now be potted if desired. They should be treated in the same way as recommended for the earlier ones. A particularly sharp eye must, however, be kept upon the visitations of mice. These mischievous little rodents evince a decided predilection for the bulbs of Narcissi and Tulips, and when the pots of bulbs are covered with ashes in the plunging ground their depredations are not so easily perceived.

HYACINTHS IN GLASSES.—This method of growing Hyacinths is particularly suitable for the amateur, although it finds considerable favour in the eyes of those possessing a larger amount of space and more conveniences. Grown in this way they are specially adapted to indoor decoration—the so frequently anathematised, clumsy, unsightly (?) pot being absent. Care should be taken, however, that the glasses are quite clean, and that only soft water is used. A piece or two of charcoal should be placed in the glass, and the water should come as near as possible to the base of the bulb without actually touching it. This last caution is a very necessary one, because if the glasses are filled too full the bulb will very likely rot. If placed in a dark cellar for three or four weeks roots will be freely emitted and the plants may be brought out and inured gradually to the light. A little attention in the way of keeping the glass full of water will then be all that is necessary.

All frames and pits containing rooted cuttings should be thoroughly ventilated. Damp is the great enemy with which the gardener has to contend in this department during the dull season, and free ventilation, consistent removal of dead leaves, and a sparing use of the watering-can, are the surest methods of combating it. Many plants, in fact, will be sure to damp off unless they are kept dry. This is particularly the case with Lobelias, old plants of bedding Pelargoniums, etc.

FREESIAS.—The earliest batch of these beautiful Iridaceous plants which were potted in August must be removed from the plunging ground, as the growth will be weak and spindly if the ashes are allowed to remain on them too long. They should be given a place in a cool greenhouse or frame near the glass. Zonal and Ivy-leaved Pelargoniums that have been flowering during the summer must now be cut down, and placed in a cold frame to break. The latest batches of Primula sinensis varieties, also of P. obconica, may be potted now. It is not advisable to defer this for too long, neither is it wise to use too large pots. A 48-sized pot will be quite large enough for these late plants.

PENTSTEMONS.—Although these are very hardy subjects, a very severe winter will often play a great deal of havoc with many of the finer varieties. It is advisable, therefore, to take cuttings every year of particularly tender sorts. If not already done, these may now be taken from the side shoots which are produced so abundantly at this season of the year. They will strike readily in a cold frame, where they may remain without fear of injury till planting time next spring.—*A. S. G.*

THE ORCHID HOUSES.

CATTLEYA HOUSE: PLEIONES.—These pretty dwarf-growing Orchids are rather reluctant to shed their leaves this season, the continued dull weather being all against the ripening of their growths. P. maculata, which generally flowers in November, will hardly be in bloom before Christmas, that is if they are given that rest usually afforded them after the growth is fully matured and the leaves begin to fall, and it would not be possible to keep them in good health without it. A good place to rest them in is a vinery. Here they get plenty of light and air, which will have the desired effect. Care, however, must be taken that they do not suffer from over-shrivelling, or the flowers will be small. When they begin to push up their flowers, which precede the new leaves, they should be again removed to the more genial temperature of the Cattleya house, where they may be arranged with good effect amongst Ferns, as most of them are deciduous when flowering, the exception being P. Hookeriana, which throws up its leaves and flowers simultaneously. There are not a great many varieties, and those that bloom about December, when flowers are in request, such as P. praecox, P. maculata, to be followed by P. lagenaria, are those which are generally found in collections.

VANDA KIMBALLIANA, although not so stately and imposing when out of flower as V. suavis or V. tricolor, this is when in bloom a real gem and a fine addition to the terete section. I have been fortunate in seeing it growing this year under various conditions, both in private and trade establishments, and generally speaking they were treated to a rather high temperature, and kept very wet at the roots. My experience tells me that a rather dry and airy situation with plenty of light suits them best. We started with a small single lead plant, which we grew in a small pan suspended close to the glass besides a batch of white Laelia anceps. Here it went away and did well, producing a spike last year that opened sixteen flowers. It is now again in bloom, this time with two spikes, each carrying sixteen blooms and buds, besides having made a new break from near the base. The flowers are invaluable for buttonholes, and as they do not all open at one time you have a good succession. Moss and small crocks mixed together is all it requires to grow in. Its cheapness and the little room it takes up should recommend it to amateurs who have but a limited amount of space.

LEAVES.—The value of a bed of leaves underneath the stages of Orchid houses has been referred to at length in the Orchid calendar, so that it only remains for me to point out that the time is near at hand when the old decayed leaves should be replaced by fresh ones which have already begun to fall.—*C.*

THE VEGETABLE GARDEN.

THE glorious weather of late has been a great help in getting rid of the weeds amongst all growing crops, particularly such as the late sowings of Spinach, Turnips, Lettuce, and such like plants. The hoe must, however, be constantly kept going while the weather is fine, so that all small weeds may be kept down till the crops have well covered the ground. This hoeing will cause a healthy growth by sweetening the soil after so much rain. Here in the Midlands the ground appears as though there had been no rain for months. The Potato haulm is still as green in some places as it was in July, while in others it is ripening off splendidly, there not having been any frost.

On heavy soils, where large bulbs of Onions are desired, planting from the August sowings should be proceeded with, so that the roots may be able to take hold of the ground before winter sets in. This, in my opinion, is one of the most important operations in connection with the cultivation of early Onions. Those of the Queen, planted now, should make nice bulbs in April, particularly if they be assisted by watering with liquid manure during the drying winds in March. If planting be deferred till the spring the roots have not time to take hold before dry weather sets in, and are therefore unable to resist its effects, and should sharp frosty nights, with bright sunshine in the daytime, visit us there is a danger of them being drawn out of the ground by its action, but when planted in September or early in October this difficulty is overcome, so that the work ought not to be longer delayed.

Proceed with earthing up Celery whenever the soil and foliage are dry. Press the earth close round the leaf stalks to hold them together, so that blanching may be more perfect; take particular care, however, not to allow any soil to get into the hearts of the plants, as this would cause them to rot. French Beans are still very good, there not having been any frost to check them. Keep all pods picked as they become ready, as this will assist the others to swell. If not required for use they should be put in salt for winter's use. It will be useless to save pods that are formed now for seed, as the Beans would not have time to swell and ripen.

Take advantage of every favourable opportunity to plant out Cabbage, Endive, Lettuce, and such like things, so that they may have time to get established while there is sufficient warmth in the soil to cause active root action. Mushroom beds should now be made up to succeed those becoming exhausted. It will be necessary to make them a little thicker now, so that they may retain the warmth longer, for as the weather gets cooler the spawn will not run so readily as when the weather was warm.—*Kitchen Gardener.*

Climbing French Bean.

THE above name has been given to a new Runner Bean of the French type which we noted in the garden of J. C. Stogdon, Esq., Inglenook, Bellaggio. The variety is late when compared with some other kinds already well known in cultivation, but it is now in full bearing, notwithstanding, so that we are in a position to diagnose the principal features that recommend it. The pods are 6 in. to 9 in. long and borne in racemes of 4 to 6, so that it may be described as a heavy bearer; they are also fleshy, narrow, light green, much thickened, with deep sutures, and when boiled they prove tender, well flavoured, and almost without fibre. The latter in fact is difficult to detect after the pods have been cut and cooked in the usual way. The flowers at first are creamy, but ultimately become white. The variety has quite recently been put into cultivation by Messrs. R. Veitch & Son, Exeter, and from what we have seen of it, it will find many cultivators.

FLORICULTURE.

The Auricula in Autumn.

There is a kind of grandeur in the slow and stately way in which the Auricula is gradually falling away to its winter rest. I think the season—the cool, moist summer months—has been favourable to the plants, as it has been a great contrast to the hot, dry, scorching weather of last year. They may be said to have come through the summer serenely, and they are now beginning to show signs that winter is moving on to meet them, for the basal leaves are beginning to turn yellow. Therefore a a kind of crisis time is approaching, and while the Auricula at all times when choice varieties are grown in pots, needs constant, if not daily attention; it is well during September or early in October, to go over the plants, and examine them thoroughly, to see if they are in a healthy condition, and especially if the drainage be perfect, and the soil sweet and suitable. A plant that is suffering from a water-logged or sour soil soon shows it by the outer leaves turning, a sure sign that rot is setting in somewhere below the soil. The plants should be at once turned out of the pot, the soil shaken from the roots, any affected part cut away, and the plants re-potted in as small a pot as possible. If, as sometimes happens, the whole of the fibrous roots are found to have decayed, or if only one or two remain, careful treatment is required to keep that part healthy, and encourage activity. The best plan to adopt is to place such pieces by the sides of a pot, placing a little fine sandy soil about the stem to induce rooting, and then placing a piece of crock by the side of it so that the plants shall be between it and the pots. It was Mr. Thomas Fife, of Reading, who put me up to this "wrinkle" and I have found it a very good one in practice as assisting early rooting.

The plants should now be in their winter quarters, or at any rate by the end of the month. The rule with growers is, a south aspect in autumn and winter, and a north one in spring and summer; that is to say from April until September. I think that sunshine is good for the plants in the autumn months, it matures their summer growth, a growth put on during July and August. Water should now be given sparingly, enough to keep the soil nicely moist. I have known some persons to allow their plants to go dry in the autumn—much drier than they supposed and so the soil about the roots became almost dust dry; and then a time of going back among the plants sets in and they deteriorate. At the time for housing for the winter, each plant should be examined to see if the soil is nicely moist through the ball, and if there is doubt about it, let the pot be stood up to its rim in a vessel of water, remaining there long enough for the soil to become soaked through, and then it should be allowed to drain away before it is returned to the stage. I have lost plants by having them over-dry during the winter, the fine root fibres perishing for lack of moisture: and of the two I would much rather have my plants thoroughly moist about the roots during winter than dust dry.

In the act of housing the shelves of the frame or house should be clean; and plenty of air given. I have air on in my house during the severest frost, and I think it is best. The pots should be cleansed of all green growth, and the more porous they are the better. Now is a good time to examine the surface of the soil in the case of all established plants in pots, taking off the surface in any case where it appears to be sour, and adding a little fresh sweet soil to take its place. So soon as the basal leaves turn yellow as they decay, remove them.

I have had but very few autumn trusses in my collection, and those which have put in an appearance are mainly on strong seedlings potted in the spring. It is the habits of the plant to flower in the autumn, and there may be pre-disposing circumstances controlled by the size and condition of the plants, the time of flowering, &c. Some collections appear more prone to bloom in autumn than others; and one can only speculate as to the causes, without being able to accurately set them forth. It is sometimes considered that early re-potting will cause the Auricula to bloom in the autumn, but I remember seeing the Slough collection late in the summer a few years ago, when the plants were not potted till August, and a great number of autumn trusses were put forth.

I think there has been less of the Woolly Aphis among the Auriculas this season than usual. I will not adopt the practice of some writers and give the scientific name of the Aphis, because I do not make any pretence to scientific attainment, and no one would be a bit the wiser if I did give it. I think it is generally much more prevalent in hot, dry weather, than in that which is cool and moist, and as far as my own experience goes, plants in a light free soil are more affected with it than those in a heavier and closer one. But it does appear without waiting for an invitation to have found its way into all the collections of Auriculas in the country for I have not heard of one that has been, or is, entirely free from it.—*R. D.*

Single Cactus Dahlias.

There is no question but that Dahlias are receiving a vast amount of attention from various sections of the public at present. A few years ago we noted what was termed the stellate section, which was characterised by the small and starry appearance of the flowers. Latterly striped and spotted varieties have appeared making a fancy single type. For a year or two past we have been noting the development of a strain of single Cactus Dahlias. Whether they will take the public fancy remains to be seen, but they offer a chance of escaping the formality into which the ordinary single type has inevitably been tending.

A boxful of the single Cactus Dahlias has just been sent us by Messrs. Dobbie & Co., Rothesay, N.B. Some of the forms we admire for their size, decided colours and distinctness, but more particularly when the florets are long, pointed, and more or less revolute at the sides as in the true Cactus Dahlias. The darkest one is that named Althea of a rich and glowing crimson, and of great size. Novar is more of a rich carmine hue, tinted with crimson at the base of the florets. The blooms of Earl Ravenswood are of great size, orange overlaid with red, and the long florets are of great texture, standing out stiffly like the spokes of a wheel, and altogether bold in appearance. Chaste and charming is that named Queen Mary, pure white, with a clear yellow zone round the disc. The rosy-purple florets of Ivanhoe have a crimson blotch at the base of each, and are quite of the Cactus type. Guy Mannering is a large white variety, overlaid with primrose on the basal half of the florets. Alice Lee is a clear magenta variety of considerable beauty. The above seven are those that we should select as coming most nearly what we should regard as Cactus Dahlias. All of them are of larger size than the ordinary single varieties generally are, and quite devoid of their formality.

Other people's tastes may differ, but in that we allow them all liberty. Highland Mary is a brilliant crimson scarlet but the florets are too broad and blunt. Bruce is a beautiful clear yellow, but the rays are too short. Lochiel, a brilliant red, has the same fault as Highland Mary; and the same might be said of Lucy Ashton with broad, creamy rays. The upper half of the florets of Anne of Giernstein are of a salmony tint, overlying yellow, which is the dominant hue at the base. Lady Rowena comes too near this to be regarded as distinct, at least in the specimen we received.

SCUTELLARIA MOCCINIANA.

This pretty Mexican plant is scarcely met with so frequently as it deserves to be. True, there are many places where considerable numbers of it are grown, and where it is highly valued for the bright appearance it imparts to stove or greenhouse at one of the dullest seasons of the year. Like many other plants which need stove heat to grow them to anything like perfection, once it is in flower it will stand unharmed for a long time either in the cool conservatory, or in the boudoir or drawing-room, where the bunches of bright scarlet flowers prove singularly effective.

It may be readily propagated by cuttings taken in spring, and struck in any warm propagating frame. The young plants may be potted on as occasion requires, but care should be taken not to over-pot as the plant is not a rampant rooter. Five inch pots will, as a rule, be amply large enough. This is one of the handiest sizes for placing in the flower stands so often dear to the heart of the ladies of the establishment. The plants are not very particular as to soil. A mixture of loam and leaf-soil, with a little sand, will meet all their requirements.

Should the plants exhibit a tendency to become leggy, pinching must be resorted to in order to encourage bushy, compact growth. If a stove heat be accorded them right through the summer, and occasional doses of liquid manure be given them after the pots have become filled with roots, nice bushy little specimen plants may be obtained, which will prove invaluable flowering subjects during the the months of September and October. I should advise the propagation and growing on of young plants each year. Old plants are not so floriferous as the young ones, neither are they so easy to grow. —*A. S. G.*

BEGONIAS AT FOREST HILL.

The trials or cultures of tuberous Begonias in the open air at the nursery of Messrs. J. Laing & Sons, Forest Hill, are as extensive as ever, but much more varied in character. For instance, the plants are not all seedlings, but some of them consist of last year's tubers and some of them are cuttings of older varieties. Altogether, there are close upon a quarter of a million of plants in the ground and in frames, independently of the older plants in pots grown under glass.

Cuttings.

An interesting trial is that consisting of three beds of last year's cuttings from plants with double flowers and which have been selected for their large flowers, upright habit and floriferous character during the last three years. The beds are each 100 ft, long and 4½ ft. wide, and the trial is to test the value of the varieties for bedding purposes. The tubers were small and put out of small 60 size pots, yet the plants are the tallest upon the ground and have been gay all the season, as they practically are yet notwithstanding the cold, wet summer. It fact this has been described as a favourable season for tuberous Begonias on account of the abundance of moisture which they enjoy. The flowers are often as large as those in pots and many of them of fine form, in primrose yellow, rose, scarlet, crimson-scarlet, dark crimson, pink, yellow and white hues, eight in all. We noted some plants of rarer colours such as rose with a neat white centre and a charming orange-apricot hue like that of the Duchess of York, which is the best of this colour.

Dry tuber trial.

A most interesting experiment for gardeners was the planting of seven beds of the same dimension as the above, with the small, unflowered tubers of last year. The dry, unstarted tubers were put in the open ground during the last week in May; they therefore escaped the frost of the 21st of May, and also those in June, because they had not appeared above ground. They have made good growth, are still most floriferous, and considerably dwarfer than the cuttings above-mentioned started in heat. Most of them are double, but there is a certain percentage of singles because improved last year. The main facts of the case are that the tubers may be kept through the winter like Dahlias, planted in their permanent positions without starting, that they will be dwarf, and flower splendidly, though they may be later in coming into bloom than those started in heat. Those who intend planting Begonias extensively, and have limited house-room or glass under which to start the tubers may plant the bulk of them in the dry state, and bring on a smaller lot for an early display.

Seedling Doubles.

Considering the cold and sunless character of the past season, the seedlings have made good growth, and flowered well. The frosty night which occurred a short time ago, injured the foliage to some extent, and for fear of a recurrence of the same, many of the choice sorts have been lifted, though this is unobservable at a distance. Those selected constitute an improvement upon those of last year, though they are less numerous. Marked ones not yet lifted we noted with white, crimson, scarlet, delicate pink, rose, orange-salmon, and scarlet-rose flowers. Most of these have their petals smooth or wavy and arranged round a single centre, like a Rose, Hollyhock or Camellia, as the case may be.

Seedlings with single flowers.

Naturally these occupy the greatest amount of space, seeing that they are the most extensively used for bedding purposes. They are arranged in blocks of a colour all over the ground, and still continue very

effective. When care is exercised in crossing them for seed as is done here, they may be depended upon to come true to name. A mass of one colour is the best way of showing what can be done in the matter of bedding them out, to ensure certain effects with any particular shade of colour. We noticed a pink variety with very large, circular flowers, a rose flower measuring 4½ in. in diameter, and a scarlet one that was even larger. For outdoor culture this is large enough in all conscience.

Begonias that are planted out in the seedling stage, and older plants, whether from cuttings or otherwise, if they have been previously started into growth, may so be planted as to produce the finest effect on any desired aspect. For instance, the flower garden in front of a private residence may so be planted that the flowers all look towards the windows, whatever the aspect may be. The leaves are arranged in two ranks with their points all directed one way, and the flowers all face that direction, so that the planter may proceed according to the way he desires his plants to look. It is true that the flowers are similar in hue on both sides, but the face is always the brightest and best defined. Pot plants produce the best effects when they have three, four or more stems, for then the flowers are regularly disposed on all sides. This applies to single and double kinds, but more especially the former.

OTHER TRIALS.

A very pretty effect was produced by an arrangement of several sorts graduated from the dwarfest in front to a line of variegated Maize in the back. B. semperflorens Vernon's var. the dwarfest was followed by Golden Ball, Dr. Gaillard, Lord Mayor, Emperor, and Lady S. Stanhope, the two latter being mixed. A number of named varieties has been used in small beds by way of trial for bedding purposes. La Fayette is brilliant scarlet, dwarf, floriferous and effective, and was very attractive in the season, but has been badly injured by the frost. With exception of its tenderness it is excellent for bedding. Marquis of Stafford, a double crimson variety, is hardier, very dwarf, with small flowers and neat foliage. Golden Ball has small, globular, clear yellow blooms carried well above the foliage. Free and dwarf is Julia Marnia, with primrose-yellow flowers, and has been good. Rosea Floribunda even now is very gay with small, soft pink, button-like flowers, which are pretty and well set off with small, dark green, shining leaves; the stems are 6 in. to 9 in. high. All of the above are double, but there is a miniature single variety, namely, Bavaria, which even now, in spite of all frost, is floriferous and gay. The stems are tough, wiry, and only a few inches high, with leaves in proportion; it is splendid for edging.

SINGLE BEGONIAS UNDER GLASS.

A large portion of the plants are now in their ripening stages, while many seem still in full vigour, bearing large flowers. The pure white flowers of the strong growing Grand Duchess of Hesse are of fine shape and great size. Much dwarfer is Grand Duke of Hesse, having fiery scarlet flowers. The very numerous stems of Marchioness of Salisbury vary from 1½ ft. to 3 ft. in beight, and bear large, bronzy leaves. That named Marechal Niel has dark yellow flowers of handsome size and shape, and smells distinctly like a Rose, and, in fact similar to Marechal Niel. A large, circular, dark rose-coloured flower is John Roberts. The flowers of Sir Blundell Maple are orbicular, and of a brilliant glowing scarlet. The peduncles are firm and erect. The most distinctly striped variety we have yet seen is a seedling with light scarlet flowers variously and distinctly striped with white. The petals of Duke of Wellington are dark velvety crimson, and of great substance. The long stalks of Duchess of Leinster are perfectly erect, and the flowers of a rich, salmon-orange. Lord Braybrooke is another meritorious sort, with crimson-scarlet flowers developed in great abundance on upright stems; it is still in grand condition. The above are only a few of the best kinds still in a free flowering state, and besides the named ones, a great number of unnamed plants, termed seedlings, are also flowering with greater or less freedom.

THE FERGUSLIE SPECIMEN OF ANGRAECUM SESQUIPEDALE.

AUGRAECUM SESQUIPEDALE.

AMONGST the numerous specimens of finely cultivated plants in Mrs. Coates' well-kept place, Ferguslie, Paisley, under the practical care of Mr. Macdonald, is a remarkable example of this noble Madagascar Orchid, of which I send you a photograph. The plant is in splendid health, has five growths, and has produced this season thirteen spikes with three and four blooms upon a spike. This noble Orchid was known to botanists so long ago as 1822, but it was the Rev. William Ellis, the famous missionary and traveller in Madagascar, who introduced us to the living plant on his final return from that wonderful island, and who first flowered it at Hoddesden in 1857, when Dr. Lindley described and figured it in the *Gardeners' Chronicle*. Mr. Ellis flowered it again in 1859. The plant originally attracted his attention when travelling through its native woods, and more than one of his photographs includes trunks of trees loaded with this Prince of Orchids. It was Mr. Ellis also who introduced in 1855 that still more remarkable plant, Ouvirandra fenestralis, the lattice leaf plant of Madagascar. I have known the Ferguslie plant for many years and watched its progress with great interest. That it is a pet of Mr. Macdonald's goes without saying, and to him high praise is due for its splendid development. It is far the finest plant I have ever seen.—*Alfred Outram, F.R.H.S.*

REINWARDTIAS.

THE genus Reinwardtia holds a prominent position in the none too long list of Autumn flowering plants. The dearth of flowering subjects at this particular time of year has, to a great extent, been minimised by the introduction of so many varieties of early flowering Chrysanthemums. Still the number of plants flowering during the latter end of September and October is even now a small one. Accordingly, we must take advantage of such plants as these, if our stoves and greenhouses are to look gay all the year round. The genus is named in compliment to Reinwardt, sometime Director of the Botanic Garden at Leyden. It comprises only three species of stove or greenhouse plants, natives of the mountainous regions of the East Indies. Only two of them, however, enter into cultivation here, and they are well worthy a place in every garden, viz., R. tetragyna and R. trigyna. This latter species is generally known as Linum trigynum and was figured in the *Botanical Magazine* under that name

They are neither of them difficult to grow, and there certainly can be no question as to their great beauty as flowering subjects, and their consequent value to the gardener. Cuttings may be taken from old plants in April or May (the former month preferably), and struck in a propagating frame having a temperature of not less than 72° Fahr. They must be potted on gradually into 5 in. pots (which size is quite large enough), and accorded a stove temperature during the summer. Pinching must be resorted to, in order to obtain bushy well-grown specimens. Red Spider is often very assiduous in its attentions, frequent and liberal syringings will therefore be neccessary to maintain cleanliness. The temperature may be slightly reduced, and much more air given during the latter part of August and September to encourage the ripening of the wood so essential to free flowering. When in flower, the plants do very well in a warm greenhouse, where they will present a particularly bright appearance. They are, however, of but little use as vase plants for indoor decoration as the want of light inevitable causes them to drop their blooms very quickly.—*A. S. G.*

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

PLANTS RECENTLY CERTIFICATED.

At the Meeting of the Royal Horticultural Society, at Chiswick, on Tuesday, the under-mentioned plants were certificated according to merit as stated :—

Gladiolus Little Dorrit.—The large flowers of this variety are of a delicate creamy blush, edged with purple on the lower segments, and deeper purple in the throat. Award of Merit. Exhibited by Messrs. Burrell & Co., Howe House, Cambridge.

Gladiolus Muriel.—The segments in this case are scarlet, thinly striped with crimson near the edges. Four or five of them have a white mid-rib, and one or two of the lowest are white for three-parts of their length. Award of Merit Exhibited by Messrs. Burrell & Co.

Gladiolus Cygnet.—Ten flowers of this variety were open upon a spike, and several others were on the point of opening. The segments are of a delicate blush, tinted with pale yellow on the lower one, and sometimes streaked with pink on the edges of several. Award of Merit. Exhibited by Messrs. Burrell & Co.

Dahlia The Bishop.—The blooms of this Cactus Dahlia are of average size, but the florets are very long, narrow, and pointed, giving the flower a light and thin appearance. Award of Merit. Exhibited by Messrs. Keynes, Williams & Co., Salisbury.

Dahlia Earl of Pembroke.—The blooms in this case are of large size of the true Cactus type. The sharply pointed florets are violet-purple, tinted with crimson on the upper face, and in that respect very distinct. Award of Merit. Exhibited by Messrs. Keynes, Williams & Co.

Dahlia Harmony.—As the flowers of this Cactus variety expand they are yellow, lightly edged with orange, but the long narrow florets ultimately become suffused all over with a charming orange tint. Award of Merit. Exhibited by Messrs. Keynes, Williams & Co.

Dahlia Mrs. Horniman.—This is a decorative variety, but at some stages of its growth seems to approach the Cactus type. The blooms are large, the florets mostly flat and pointed, and yellow edged with reddish-purple, but the central area soon becomes suffused with a soft tint of the same hue as the edge. Award of Merit. Exhibited by Messrs. J. Cheal & Sons, Crawley, Sussex.

Dahlia John Welch.—The flowers of this Cactus variety are of great size, with long pointed florets of a bright scarlet. Award of Merit. Exhibited by Mr. G. Humphries, Chippenham.

Dahlia Novelty.—In this we have a fancy variety of good average size, and pink or nearly white striped and mottled with soft purple. Award of Merit. Exhibited by Mr. Mortimer, Rowledge, Farnham.

Dahlia Shotesham Hero.—This is an edged Dahlia belonging to the show section, with good sized blooms that are nearly white with a deep purple edge. Award of Merit. Exhibited by Mr. C. Turner, Slough.

Dahlia Mrs. Turner.—The blooms of this decorative variety are of large size, and of a beautiful clear yellow, with broad and flat florets. On the whole it is bold and handsome. Award of Merit. Exhibited by Mr. C. Turner.

Holly Lawsoniana.—The leathery leaves of this variety are oval or elliptic, flat, furnished with a few spiny serratures near the apex, and dark olive-green, variously splashed and blotched with yellow and bright green in the centre. First-class Certificate. Exhibited by Messrs. Paul & Son, Cheshunt.

Acer purpurascens Nizelli.—This is a sub-variety of the Sycomore (A. Pseudo-Platanus) with the under surface of the leaves purple and the upper one variegated or splashed with buff yellow. Award of Merit. Exhibited by Messrs. Paul & Son.

Veronica cupressoides.—The stems of this species seldom exceed a foot in height, but are erect, excessively branched, with the slender twigs covered with leaves like small scales. First-class certificate. Exhibited by Messrs. Paul & Son.

Veronica salicornoides.—The stems in this case are decumbent at the base, then the branches assume an ascending and spreading habit. The whole plant is of a greenish yellow hue; but in other respects has a close resemblance to V. cupressoides. First-class certificate. Exhibited by Messrs. Paul & Son.

Veronica lycopodioides,—This species is of very dense habit, with square branches and small subulate leaves arranged in four ranks. The leaves on sheltered branches are pinnatisect, or cut up into three or five very small pointed segments. First-class Certificate. Exhibited by Messrs. Paul & Son.

Eriocnema Sanderae.—The leaves of this plant are oval with a cordate base, and light olive green, with a metallic tint sometimes, and have five to seven silvery gray bands along the principal nerves, the middle band being by far the broadest. The flowers are purplish pink. Award of Merit. Exhibited by Messrs. F. Sander & Co., St. Albans,

Rose Maman Cochet.—This Tea Rose has creamy flowers, more or less tinted with pink, and often decidedly so. The petals are of good substance, the outer ones being reflexed or spreading as the bloom becomes fully expanded. Award of Merit. Exhibited by Messrs. Paul & Son.

Dahlia Mrs. Francis Fell.—The blooms of this beautiful Cactus variety are of good average size, with long, pointed florets and white. Award of Merit. Exhibited by Mr. T. S. Ware, Hale Farm Nursery, Tottenham.

Dahlia Cissie.—The flowers in this case are single and circular, with broad, over-lapping rays of a soft rosy-purple, with a crimson zone round the golden disc. Award of Merit. Exhibited by Mr. T. S. Ware.

Chrysanthemum Miss Dorothy Frankland.—The blooms of this Japanese variety measure about 6 in. across, and are of a clear bright yellow. The florets are long and tubular, spreading, then incurved at the tips, which are spread open and variously cut, giving the bloom a distinct and handsome appearance. Award of Merit. Exhibited by Mr. W. Wells, Redhill, Surrey.

Chrysanthemum Rose Wells.—In this we have a dwarf and branching early flowering variety about 18 in. high. It would belong to the Pompon section, and bears light, rosy-purple flowers very freely. The plants were lifted from the open ground. Award of Merit. Exhibited by Mr. W. Wells.

Zephyranthes carminata.—This bulbous plant is closely allied to the Amaryllis, and has tubular, rich rosy flowers, becoming paler, almost white, deep down in the tube. The anthers are orange. First-class Certificate. Exhibited by Earl Cowper (gardener, J. Fitt), Panthanger, Hertford.

New Vegetables.

Potato The Field King.—The tubers of this variety are round, flattened, white, moderate in size, and finely scurfy. First-class Certificate. Exhibited by C. W. Howard, Esq., Bridge.

Potato Boston Bountiful.—This is a white, smooth-skinned kidney, usually about 4 in. in length, with very shallow eyes. First-class Certificate. Exhibited by Messrs. W. W. Johnson & Sons, Boston.

Potato The Poor Man's Friend.—The tubers in this case are oblong or sometimes roundish, and flattened with a more or less scurfy white skin. First-class Certificate. Exhibited by Mr. J. S. Eaton, 4, Highurst Street, New Radford, Notts.

Potato Daniel's Special.—This might be described as a pebble-shaped, white variety of good average size, with a slightly scurfy or nearly smooth skin. First-class Certificate. Exhibited by Messrs. Daniel Brothers, Norwich.

Potato Hillside Superb.—The skin of this variety is very scurfy and white. The tuber is round and slightly flattened, with shallow eyes even at the top end. First-class Certificate. Exhibited by Mr. Stokes, Hilperton Marsh, Trowbridge.

Veitch's Climbing French Bean.—The stems of this variety climb much in the same way as the Scarlet Runner and bear very heavily. The narrow but thick and smooth pods are of a light green, and when boiled are of excellent flavour and almost without fibre. First-class certificate. Exhibited by Messrs. R. Veitch & Sons, Exeter.

Plum Monarch.—The fruit of this variety is of great size, and deep purple with a glaucous bloom. The suture is very shallow. First-class Certificate. Exhibited by Messrs. H. Lane & Son, Berkhamstead.

Cucumber Blendworth Perfection.—Four specimens of this were shown, each measuring about 17 in. long. They were cylindrical, with little waste at the neck, and of a rich dark green colour. First-class Certificate. Exhibited by Mrs. Long (gardener, Mr. John Busby), Blendworth Lodge, Horndean, Hants.

THE SAGO PALM.

We take the following interesting communication on the recent fruiting of a specimen of Cycas revoluta in the gardens at Abney Hall, Cheadle, from the pen of Mr. Leo. Grindon, who, writing to the *Manchester City News*, says :—"I begin with a glance at its place in nature, which is remarkable, to say the least, the Cycas being one of a little family which a few tens of thousands of years ago had plenty of indigenous living representatives in England—say, rather, upon the bit of terrestrial surface which became England in course of time—though none of the race are now extant in any part even of Continental Europe. Fossilized remains of various members of this ancient family occur in plenty in the geological formations called the oolite and the lias, as at Gristhorpe, near Scarborough, and at Portland, Dorsetshire. Vegetation served then for the food of animals just as it does to-day, so that when we contemplate these wonderful fossils, we may picture to ourselves, if we please, the Deinotherium and the Iguanodon quietly breakfasting upon the foliage. One population departs; another takes it place. No wonder that the living representatives of a family older far away than the Roses and Lilies present so weird and often grotesque an appearance; they belong in truth not so much to the present order of things as to the pre-Adamite ages.

"Botanists call them collectively the Cycadaceae. At present, to the number of about seventy-five species, they have their metropolis in South Africa and Australia. Illustrations are found also in the East and West Indies, throughout South America, in Madagascar, and the South Sea Islands. In point of relationship to other plants they are outsiders. Scattered memorials of a royal house in so many of its forms extinguished, like the equiseta of our woods, they have no near ties of relationship with any other class of plants; and such points of contact as we discover are with families of corresponding and even greater antiquity. They resemble Palms in their almost invariably simple stem, though they never attain the majestic stature common to Palms. The venation of the leaves is similar to that of many Ferns; there is agreement with both the Palm and the Tree Ferns in their coronals of huge leaves; and lastly, the peculiarities of the reproductive organs are such as pertain to the Conifers, for which reason they are referred to the great primary class of plants called the Gymnosperms. Though sometimes quaint, always perhaps a law to themselves, they seldom fail to carry a certain air of old-fashioned dignity, or, it may be, of native grace, especially when the prodigious and plume-like leaves curve outwards and unite into a kind of cupola. All count with the longevals—in their entire nature they are the beau ideal of the deliberate; the rigid leaves themselves seem able to endure for, say ten years. All the species, too, are dioecious: they make no pretension to 'flowers,' popularly so called; like the eminent among mankind, they can afford to dispense with finery; the inflorescence is still always remarkable, often very handsome, and in a few cases fragrant. Very many develope the reproductive parts cone-fashion, in which case the female plant is immensely the more tasteful and elaborate. Singular to say, the ovules grow to their full size without being fertilised by pollen from the staminate plant.

"In other species, Mr. MacKellar's beautiful Cycas revoluta to wit, we have 'carpophylls,' green leaves that might have been, but now so short, only a few inches in length, as to give the idea of claws or fins the size of a man's hand, along the margins of which the ovules are put forth. The cluster of carpophylls is, in its earliest stage, nearly spherical, and gives the idea of a child's head, covered with short flaxen hair. In Mr. MacKellar's species (the revoluta) the ovules are the size of a plum, flattened at the sides, of an exquisite crimson-rose colour, and covered, like every part of the claw, with a delicate pale brownish yellow wool, as soft as the down of a Peach, and coming off with the least touch. The number of these pretty nuts is about half a dozen to every spray, so that the total produce amounts to several hundreds. A plant more truly ornamental, as well as uncommon in appearance, it is impossible to desire. Happily the revoluta is one of the most accommodating that can be desired.

"No plant is more easily dealt with; when once

established it takes rough treatment indeed to kill a Cycas, though it is rather apt to fall into a sleepy condition after flowering. Old plants yield offsets freely from the base of the stem, and these grow readily. The two sexes cannot be told apart until the flowering period. It would seem, however, that there are many more females in cultivation than staminate, so that on procuring a plant there is abundant grounds for hope that it will prove to be one of the former. Somehow, wherever we look, the feminine idea is always to the fore. There are more women in the community than men. Go to the top of the loftiest mountain we may, in order to secure a wider prospect, we always see more of heaven than of earth. Whichever it may be, for a corridor, vestibule, or spacious hall, there is no more suitable ornament than a Cycas, especially when associated with sculpture. When small, it makes a capital window plant, enduring longer than anything else,

"The Cycas revoluta is said to be a native of China and Japan, but may perhaps have been carried thither from the South Sea Islands, where it is undoubtedly wild. It is believed to have been brought to this country in 1737, in that case probably *via* Amsterdam, as it was then in George Cliffort's famous garden. The first recorded instance of its flowering in England was in 1799, as described in the 'Transactions of the Linnæan Society,' vol. vi. We next hear of it in 1829, when it was the subject of plate 2,963 of the *Bo'anical Magazine*. The first occurrence of bloom near Manchester was at Longfield Hall, in the late autumn of 1859, as stated, with a full description in the *Manchester Guardian* of December 22 of that year. Since then it has flowered at Bowdon, and in the Botanical Gardens, Old Trafford. The name was bestowed by Linnaeus, who adopted it because the appellation, with the ancient Greeks, of some kind of dwarf African Palm. The same great authority classed it with the veritable Palms, and to this day it is usually called in the vernacular the 'Sago Palm.'"

THE ELK'S HORN FERNS.

THE beautiful genus of epiphytal ferns known as the Platyceriums or Elk's Horn Ferns, always excite ones admiration when we see them in anything like good condition, This is doubtless due, in a great measure, to their peculiar habit of growth, and the somewhat singular appearance which they present. The genus is a small one, for it contains only six or seven species, all of which with the exception of Platycerium alcicorne, require a stove temperature. P. alcicorne is a very good tempered plant, for it will grow in either a stove or a greenhouse temperature. The fertile fronds of this species sometimes exceed a length of two feet. It is a native of the temperate regions of Australia, from whence it was introduced about the year 1808. P. alcicorne majus, a coarser form, is common to Polynesia.

P. GRANDE.—This splendid plant well deserves its name, for without doubt it is the handsomest member of the genus, and when in viogorous health is really a giant in size. It is a native of Northern or Tropical Australia.

P. HILLI, a Queensland introduction, is very closely allied to P. alcicorne, although it is generally considered to be a distinct species.

P. AETHIOPICUM is a species hailing from Tropical Africa. The fertile fronds of this plant are from two to three feet in length, and of more drooping habit than those of P. alcicorne, which gives it a very graceful appearance.

P. WALLICHII AND P. WILLINCHII are also two well known species, natives of Malay Peninsula and Java respectively,

To grow Platyceriums successfully a light position must be assigned them in the stove. They may be either grown in suitably shaped pans, such as those at Kew, in baskets of wood or wire, affixed to the wall, or in pockets of virgin cork upon old tree stumps. The last method certainly is the most picturesque, as very fine effects are produced by the long drooping, many branched fertile fronds clothing a tree stump. Still, their culture when in this position is somewhat difficult. The plants will grow exceedingly well for some time after planting, it is true, but when the wood commences to decay, a fungus is generated that will speedily put an end to the career of the plants, unless it is checked. This is always difficult of accomplishment. Perhaps the best plan of action, however, is to syringe the affected parts with a weak solution of Condy's Fluid. This will kill the fungus, it is true, but unless special care is taken it will kill the plants also. In my opinion by far the best method of procedure, is to keep the plants themselves in as vigorous a state of health as possible in which condition they will be much better able to resist fungoid attacks than they are when in a weakly condition,

A mixture of good fibrous peat and sphagnum, with sand and charcoal is the best compost in which to grow them, whilst plenty of water is an absolute essential. At no period of their growth must they be allowed to get dry or failure will be the natural consequence. A light syringing or dewing overhead will prove of the utmost service to them during the spring and summer months. This spraying, however, should only be practised during the mornings of bright days in the autumn and should be discontinued entirely dnring the winter months, at which lattter season water should be supplied by means of the watering can alone. When grown in pans care should be taken that plenty of drainage is given. Fill the pans nearly full of crocks next a layer of fibry peat placing the plant upon the top, pack it well in with the compost recommended, and top-dress neatly with sphagnum moss. Treated in this way way no difficulty in the culture of this beautiful and interesting class of plants need be experienced.—*Filices.*

TREE CARNATIONS.

THOSE plants which are designed for winter flowering should by this time have been safely housed. Nothing is gained by keeping them out of doors too long. The house in which it is intended to flower them should be a light and airy one. A thorough washing should, therefore, be given it; also the pots as the plants are brought in. If the plants need any further tying it should be done before they are arranged. This will serve to economise space, a great consideration in most establishments at this period of the year when so many things are needing shelter, as well as to afford greater security during the shifting process. The pipings are very liable to break, as they are particularly brittle at the base of stem; so that unless care is taken considerable damage is likely to be done.

A minimum temperature of not less than 60° Fahr. must be maintained, otherwise the flowers will not open properly. Occasional supplies of liquid manure must also be given. I prefer farm-yard manure to any other, and in places where it can be procured fresh, I should strongly recommend its use, although very good results may be obtained by the use of Clay's Fertilizer and some of the other good fertilisers now obtainable. The most important point, in the winter cultivation of the Carnation, is that of water. Although the plants are by no means total abstainers in that respect, they strongly resent the frequent application of water. Many fine batches of plants are spoiled by too much attention in this way.—*A. S. G.*

CLERODENDRON FALLAX.

A BATCH of flowering plants of this beautiful stove shrub will give an effect in the plant houses that for brightness and brilliancy ot colour at least is unsurpassed at this time of year. The plant is of erect habit, and the many flowered panicles of bright scarlet flowers contrast vividly with the large, dark green leaves. A native of Java, it is by no means difficult to grow, as it will thrive readily under ordinary stove treatment. Its propagation also is extremely easy, and may be effected either by cuttings composed of young growth taken from the old plants in spring, or by seed sown at the same season.

If the young plants are looked after with regard to potting, watering, &c., nice little specimens, from 15 in. to 18 in. in height, may be obtained that will flower profusely during August and September. A 6-in. pot will be a large enough size to flower them in, and a compost of turfy loam, leaf soil, and sand will suit them well enough. Some growers plunge their plants in a hot-bed during the summer, and it is astonishing to see the size and vigour of the leaves produced by plants treated in this way. Plenty of water at the roots, and frequent and liberal syringings overhead will be necessary to keep down insect pests.

When in flower, the plants will stand unharmed in a much lower temperature than that necessary during the growing period. They form desirable objects either in the conservatory or drawing room. When used for indoor decoration, though they must be accorded a light position, otherwise they will drop their flowers. After flowering, the plants may be cut down and kept in a semi-dry condition, with a temperature of about 55° Fahr. until spring, when more water and a higher temperature may be given, to start them into growth It is advisable, however, to raise new plants each year, as they give far more satisfactory results than do the old ones.—*A. S. G.*

THE BLANCHING OF CELERY.

APIUM GRAVEOLENS, being a native British plant, and in its wild uncultivated condition thoroughly hardy, often proves, when under cultivation and subjected to the earthing up process, quite a tender plant, succumbing to the influence of frost, which, although it may not kill it right out, seriously diminishes its value, and the better blanched it is, the more tender it will be. When sent to the table it should be as sweet as a nut, and snap like a Carrot, without the slightest approach to stringishness; but at the same time Celery thoroughly well blanched is often killed right out by frost, which injures crops not so far advanced in a much less degree. It frequently happens with crops kept over Christmas that one-half to two-thirds are lost during a severe frost, and that, too, where a good thickness of earth is banked up against them; we have frequently found where this occurs that some blame attaches to the way the work has been done, the earth not being so well packed round the heads of the plants as it might be, and so leaving a space between the soil and plant for the inlet of frost, which penetrates down the stem to the heart.

The taking up and laying in under cover of a portion of the crop in view of frost is frequently practised, and answers fairly well to a limited extent, but to our thinking it soon deteriorates in quality when laid in, and therefore every effort should be put forth to preserve it as long as possible in the trenches where it is grown, a process which involves a considerable outlay in labour and material, but which, where choice vegetables are expected, should not be objected to. If well considered, there can be no doubt that the weak point in earthing up is that the foliage is exposed to heavy rains, which leads to the settlement of a great amount of moisture about the stalks, which, when penetrated by the frost, splits them and leads to premature decay.

We have often kept it in good condition till quite late in the season by placing a good covering of long litter down the sides of the ridges, well packing it between the foliage of the plants where exposed to the air, just leaving sufficient of leaves above it to show the plants. We took some pains to lay the litter as straight down the ridges as we could in order to throw off all the rain we could, because the drier the soil is the more frost will it keep out. If V-shaped wooden protectors could be had to place over the crowns of the ridges to throw off heavy rains they would assist in keeping the litter in its place, and when put on during frost would render ridges well thatched with litter as ours were almost or quite frost proof.

During a spell of frost when it became necessary to open a trench to get a supply we got enough out to last for several days, and that without having to use the pickaxe, which we sometimes hear about, and it's a pretty safe thing to say that when that implement has to be much used in order to dig Celery, that soon after a thaw takes place there will not be much Celery to dig. Where grown in large quantities, and much of it used for flavouring and stewing, later earthing up than that essential for the production of stalks fit for salading may, with advantage, be pursued, because the longer it remains without moulding up, the hardier it will be, and a smaller amount of covering will often be sufficient to preserve it from frost. Some will often throw litter along the top of the ridges and let it remain, which favours the rotting of the foliage, and sometimes on that account does almost, or quite as much harm as good. On no account leave a mass of wet covering which lays heavily on the foliage, bearing it down close on the soil, but remove it on all favourable occasions.—*W. B. G.*

FRUIT TREES FOR NORTH WALLS.

There is no sufficient reason why a wall running east and west should not be put to as good use on its north side, and the produce from it be equally acceptable in its season, as that grown on the south side. North borders have a special value, especially in hot dry seasons, for the growth of summer salads, and where sufficient space is at command a plantation of Broccoli on a north border will often do good service, as it can be gathered from for two or three weeks later than plantings of the same variety which have the benefit of the sun's rays.

These north walls ought to be as well covered with fruit trees as any others in the garden. Cherries will often do far better here than on walls of any other aspect. We have had that fine old stewing Pear Cattilac bear fine crops for a long series of years without a single failure on a north wall. This was really one of the most profitable trees we had, the fruit readily selling at a good price. Gooseberries and Currants are both admirably suited for this position, because they can be so readily protected against the birds, and the season for them much prolonged. As regards Gooseberries, dessert kinds should be selected for this position, and those grown for culinary purposes in the open borders, where they will come into use earlier.

As the planting season is near at hand, any vacant spaces should now be filled up. If Gooseberries are chosen, by planting them 2 ft. apart and taking up two leaders, a wall may soon be covered. Currants may be planted further apart and from six to eight leaders carried up. Where there is not much space to spare for Cherries, we regard the Morello as the most useful and most certain bearing variety. Trained fan fashion, and the wood nailed in pretty closely, it is surprising the quantity of fruit that can be gathered from a small space of wall. May Duke, Archduke, Late Duke, and Transparent will all do well on a north wall planted from 10 ft. to 15 ft. apart. A good dressing of manure after the pruning is done, lightly forked in, will well repay the outlay in the improved quality of the produce, but deep digging about the roots of the Currants and Gooseberries should be avoided.—*W. B. G.*

ORCHIDS AT NORTH EASTON, MASS.

All Orchid lovers coming to the States should pay a visit to the world-renowned collection gathered together by the late Mr. F. L. Ames, and now sacred to his memory. The collection is perfectly maintained by Mrs. Ames, who is ably aided by one of the most devoted and enthusiastic of growers, Mr. W. Robinson, who has charge of the plants, and the perfect state of cleanliness, luxuriance of growth, and freedom in flowering are the best evidences of his ability. This establishment is remarkable not for the quantity of plants grown, but for the number of species and varieties it contains, Mr. Ames having made it his special purpose to get the newest and rarest plants. In several cases here may be found the only existing representatives of certain species and varieties, but more numerous are the instances in which the honours of possession are divided with two or three other amateurs, who are the greatest Orchid connoisseurs in Europe.

Our climate is considered to be unfavourable to the cultivation of Odontoglossums, yet we have a wonderful demonstration of American perseverance, inasmuch as here is now to be found what is probably one of the rarest and most valuable collections of Odontoglots in the world—all in fine health and growing with the greatest ease; yet at the time of my call the shade temperature was 98°. The occasion was a little late in the season, so there were but comparatively few specimens to be seen in flower. There were, however, some exceptionally fine pieces of O. crispum and O. Pescatorei, but the greatest attractions in this quarter were the Miltonias; a plant of M. vexillaria Amesiana had one spike of four blooms, each measuring 3½ by 4 in.; the upper part of flower is of a clear rose-pink, the lip white. Among the Cypripediums were C. Wallisii, C. Mastersianum, and that rare gem C. Paris, with two flowers.

Of the Cattleyas the best pieces included C. Warscewiczii Sanderiana, C. Warscewiczii, a white form with five flowers, measuring 9½ in. in diameter; C. Warneri, carrying three flowers of rosy-purple colour with intense crimson-purple throat; C. Parthenia; C. Schilleriana Lowiana, a remarkable variety with yellowish-green sepals and petals, and a lip spotted and blue striped like that of a Zygopetalum. Laelio-Cattleya Guinea x, Cymbidium Lowi concolor (ten spikes), Dendrobium densiflorum, very distinct and large flowered form; Masdevallia Wallisii discoides and M. Rolfeiana were also in flower.

Cattleyas.—Varieties of C. Mossiae were: alba, Howardiana, Reineckiana, Arnoldiana, Wagneri, conspicua, decorum, Williamsi, aurantiaca, R. H. Measures, Hardyana, and Cynthia. Of C. Mendelii, Blunti, Wilsoni, picturata, Wallisi, Backhouseana, Leeana, Mrs. F. L. Ames, Miss Little, and Prince of Wales. C. Warscewiczii and its varieties included the Grand White unique form Rochelliensis, Sanderiana, imperialis, Backhouseana, and autumnalis, also unique. C. Lawrenceanum and its vars., rosea-superba, concolor and Macfarlanei. C. Gaskelliana and vars., alba, Dellense, virginalis, also Cook's var., and Williams' var. C. Bowringiana and var. lilacina. C. labiata, and vars. excellens and amethystina, imperatrix, and Hardyana. C. Trianae, and vars. alba, Backhouseana, Dayana, Eboracensis, Reine des Belges, Hooleana, Sanderae, Leeanum, Amesiana, and fulgens. C. Schroderae, and var. alba. C. guttata, and vars. Prinzi-Leopoldi, Williamsi and immaculata. C. intricata (hyb. Nov.). C. bicolor, and var. Wrigleyana, C. Schofieldiana and vars. Veitchii, and De Buysoniana. C. velutina and C. granulosa. C. Skinneri and vars. alba and oculata.

It would simply be impossible to enumerate all the varieties and species, but the above embrace some of the most desirable and beautiful, both species and natural hybrids. Masdevallias and Cypripediums are grandly represented, but we have not entered into those groups at present. The orchid houses are seven in number; two of 100 ft. each devoted to Odontoglossums; these are on the cool side and slightly sunk, yet not enough to cause the cold, dark atmosphere noticeable in some cases, which must in course of time lead up to bad results; here was a bright, cheerful atmosphere and a fair amount of light, the shading being done by roller blinds raised some distance from the glass. There are also: Cattleya house, 20 ft. by 100 ft, one East India house, three miscellaneous houses, two large plant houses, one stove and one fernery; several of these have also to give shelter to Orchids, for instance, we noticed fine pieces of Dendrobes in the stove. But Orchids are not the only plants cared for, many rare and beautiful exotics giving evidence to the contrary. In cooler houses were noticed some very rare hybrid Rhododendrons; a Rose house, two vineries, one Nectarine house and a vegetable house complete the glass erections. One great feature attached in this very handsome block of glass is the charming reception room, an idea so seldom carried out that it deserves special attention. The room, which is quite a large one, is finished in hard pine wood, the floor is made of English red tile, herring bone fashion; a part of the wall is covered with ornamental tiles, and the mantel is in brown stone with Orchids exquisitively carved on the face and corners. On the walls are some valuable paintings of rare specimens which have flowered in the collection from time to time.

The pleasure grounds surrounding the hall cover some forty acres, and a noble piece of water twenty acres in extent, meanders through and lends its name to the residence—Langwater. There is something very beautiful about the landscape here, the hard lines and formal hills and dales, and formal planting of trees and shrubs have all been studiously avoided and a strictly pastoral effect is obtained; sheep and cattle feeding here and there on woody knolls making the scene complete. There are many rare and beautiful trees, but space forbids their mention; the same has also to be said for the wilderness walk where American Orchids and other flora abound, but a word must be said for the fine piece of Hydrangea scandens (climbing) we have seen. Its white panicles of bloom covering both trunk and branches of an old Hickory tree that stands near the entrance door, and in Mr. Ames' youthful days, doubtless he came and gathered Hickory nuts therefrom, then in later years with a happy thought, he caused the climbing Hydrangea to be planted there.—*Am. Cor.*

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

GARDENING MISCELLANY.

ROSE MADAME BRUANT.

This brave new Rose is a very persistent bloomer, for it has gone on persistently or rather continuously in the garden of W. Stopher, Esq., Bellaggio, from June last to the present time, and is still plentifully supplied with flowers and buds in various stages of development, and the last of which must expand many weeks hence if the weather continues open and fairly mild. It shows that an interesting and beautiful race of garden Roses can be raised from the Japanese Rosa rugosa crossed with various other garden sorts. The chief features of the new race would be their hardiness, leathery wrinkled foliage, large bright red fruits, and prickly stems (if that be any recommendation). Mr. Stopher's garden is on the Weald Clay, which is very stiff, cold, poor, and impermeable to water, but when bringing it into working order he burnt much of the clay, thereby rendering it porous and permeable to water and the roots of plants, so that trees, shrubs, and herbaceous plants grow with great vigour.

COAL ASHES.

My experience in connection with the application of coal ashes to the soil has led me to the conclusion that somehow or other a larger amount of fertility follows their application to the soil than chemical analysis would lead us to expect. It is pretty generally conceded that on wet, clayey soils coal ashes have a most beneficial mechanical effect in improving their texture and making them work better. In many instances a considerable amount of other refuse from the house gets intermixed with them, which may in part account for the difference between the actual effects produced, and what the supposed low manurial value of the material would warrant us in expecting. The too free use of them should, however, be guarded against, as there is a considerable amount of sulphuric acid in them. The best method of using them is with rich animal manures, or mixed well in the compost heap with old potting-shed soil and other vegetable refuse. When used in this way they cannot possibly do any harm, as some suppose, but will, with the coarser particles removed, prove beneficial to almost any soil. I have observed that their effects are more visible the second year after application than during the first one in rendering the soil more friable, and I believe this arises from their getting better incorporated with the soil during the various processes of digging, hoeing, &c.—*W. B. G.*

DUKE OF YORK TOMATO.

Please allow me space for a few words in reply to the remarks in your last issue, which are stated to have been made by Messrs. Carter's traveller to his firm. The facts are these. He did call here in June, and directly we received his advice that he would call on a given date, we decided to ask him to inspect the plants of the Duke of York, which I should say now have been grown in a new house, five minutes' walk away from the nursery, along with the other varieties I have mentioned. On his calling at the nursery he was particularly requested to go and look at them, but declined either for want of time or some other reason. He was only through one small house at the home nursery that was planted with Tomatos to provide shade for Adiantums, and from which we never expected much in the way of a crop. What sort of a crop we did get from them, however, you will see by the photograph I have sent you. No other variety than Duke of York was referred to by name, and the plants of that sort, though a "novelty" of his firm, he did not see, so that how he could make the statement imputed to him passes my comprehension. — *J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

TWO FLOWERS FOR SMALL GARDENS.

For a minimum of trouble, there are few annuals which, from a packet of mixed seed, give such a quantity of flowers for cutting or for garden decoration in beds or borders, as Scabiosa atropurpurea and the double Dianthus chinensis Heddewigii. The former is rather a tall growing plant even in the case of what is sometimes at least sold for dwarf German Scabious, but a good strain produces flowers of great size and of various beautifully dis-

tinct colours such as velvety crimson, lilac, rose, purple, pink, and pure white, like those we noted in the garden of J. C. Stogdon, Esq., Inglenook, Bellaggio. The large-flowered form of the Chinese Pink, above mentioned, varies to a still greater extent, and many of the hues are richer and glowing in tone. A dark crimson sort named Crimson Belle may be had separate from the rest, and is notable for the intensity of its flowers as well as the darkness of its foliage. Mixed seeds give rise to colours of endless arrangement and distinctness, and both single and double strains may be obtained; we prefer the former. The stems of both these easily raised subjects facilitate the plants being used for cut flower purposes, for which they are exceedingly showy.

ASTER TENELLUS.

The histories of some plants are full of food for reflection even if not always interesting except to the botanist. That under notice is a native of Cape Colony, and has had a large number of names conferred upon it by botanists. It is an annual with slender, much branched stems, bearing numerous, mauve flowers with a yellow disc in a sort of corymb. The leaves are small, linear, entire, dark green, and somewhat hairy. In short it may be described as a plant of similar habit to the Swan River Daisy, but differing in the foliage and other respects. We noted an edging of it recently in the garden of J. C. Stogdon, Esq., Inglenook, Bellaggio, where it looked very pretty indeed, and quite uncommon. The *Geneva Plantarum* refers it to Felicia fragilis. On the other hand the Index Kewensis has two names for what it considers two plants, namely Asters tenellus and Felicia fragilis. Thunberg in his *Flora Capensis* gives it two appellations—namely, Aster dentatus and A. tenellus, for varying forms. Harvey and Sonder in their *Flora Capensis* call it A. tenellus, and give numerous synonyms besides describing five varieties which do not remain true to character. They record it as abundant in the western districts, and varying from annual to biennial and perennial according to conditions. The stems also vary from 2 in. to 14 in. in height or length, and are erect, or procumbent at the base, ascending or prostrate. The varying forms might prove serviceable for bedding purposes, but particularly for edging.

ERYNGIUM PANDANIFOLIUM.

The leaves of this plant in a state of nature attain a length of 4 ft. to 6 ft. and are spiny-serrate, concave along the upper surface and glaucous. They therefore resemble very much the leaves of a Pandanus or Screw Pine as the specific name implies, and are therefore very different from the European species of Eryngium, with which most cultivators are more or less acquainted. The species is a native of Monte Video and in this country may be considered as half hardy only. A plant of it flowered last year in the garden of W. Stopher, Esq., Bellaggio, Surrey, and the stems were 7 ft. high. The frost in winter injured the plant to some extent and the flowering doubtless weakened the plant also. The flower heads are moderate in size, globular, with very little of the involucre which is so ornamental in better known species, and the flowers are purplish. The stems it may be acknowledged are very stately, but the foliage is even a more striking feature, because so unlike most kinds of vegetation that can be grown in the open border. Several suckers came up from the old root of the plant in question, and the leaves are now 3 ft. to 4 ft long. A little protection of bracken or something that would keep frost from the crowns would render considerable assistance in bringing such plants through the winter.

SOCIETIES.

Royal Horticultural, *Sept. 25th.*—The Conference on hardy trees and shrubs, held at Chiswick on Tuesday, was unfortunately marred by unpropitious weather, so that the attendance was very small, and owing to the want of any definitely defined useful object in the programme, no importance attaches to the meeting. A large quantity of cut sprays and branches of trees and shrubs were sent to the meeting from various places, but the bulk might well have been kept at home, for any possible interest that attached to the specimens. They were arranged on benches in the open air, while Dahlias and Gladioli in grand form, Orchids and fruit were staged in the large vinery. Orchids were not numerously represented, but those shown were of a varied character. A small group of new kinds came from Messrs. F. Sander & Co., St. Albans, including the curious Dendrobium cruentum, Aerides Lawrencae, Cattleya albanense, the new Cypripedium Arnoldiae, the pretty Oncidium triquetrum, and the beautiful Cattleya Walkeriana. A group of Orchids, consisting chiefly of Dendrobium formosum giganteum, set up with Pancratiums, Palms, and Ferns, was exhibited by Mr. J. Prewett, Swiss Nursery, Hammersmith. The flowers were large and plentiful. A small lot of Orchids was also sent up by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. Cattleya aurea superba, C. Leopoldi, Stand Hall var., and C. bicolor caerulea were handsome and interesting.

A collection of cut branches of hardy shrubs exhibited by His Grace the Duke of Wellington, Strathfieldsaye was awarded a Silver-gilt Banksian medal. Colonel Murray received a Silver Floral medal for a very fine collection, a like award being made to His Grace the Duke of Buccleugh, Dalkeith, gardener Mr. Dunn, for a similar collection. Messrs. R. Veitch & Sons, Nursery, Exeter, also received a Silver Flora Medal for shrubs, whilst Messrs. J. Veitch & Sons of Chelsea received a Silver-gilt Floral medal, in a like class. Silver Banksian medals were awarded to A. Waterhouse, Esq., Yattendon Court, Newbury, to W. H. Maxwell Esq., and to Viscount Powerscourt, Powerscourt, Enniskerry, for collections of shrubs. Mrs. Halford, Westonbirt, and Mr. G. Wythes, Syon House, received Silver Knightian medals, and the Right Hon. the Earl Cowper was awarded a Bronze Banksian Medal in this class of exhibits, Mr. Hudson, gardener to the Messrs de Rothchilds was awarded a Gold Medal for a remarkably fine collection of specimen scented leaved pelargoniums, in pots. Some of the plants were six feet in height, and about five feet in diameter.

Tables were placed in the great Vinery and here the cut flowers with a few of the shrubs were laid out. An interesting exhibit was made by Mr. O. Thomas, The Royal Garden, Frogmore, of seven distinct species of trees upon which Mistleto was growing. Messrs. Paul & Sons, received a Silver-gilt Floral Medal for a collection of hardy and semi-hardy shrubs. Such plants as Pernettya alba and Prosea nanus were in pots, but a great portion consisted of cut branches. Ulmus plumosa aurea looked very bright as did also the scarlet-berried alder. Messrs. Bunyard & Co., Maidstone, Kent, received a Silver Flora Medal for a magnificent exhibit of evergreen, and deciduous shrubs. Many kinds of Cornus, Spireas Acer, Berberis and Weigelia were in first-class condition. Dahlias, with the exception of the single varieties, were splendidly represented in quality. A group of Cactus, single, and Pompon varieties, exhibited by Mr. Thomas S. Ware, of Tottenham, received a Silver-gilt Banksian Medal. Mrs. Francis Fell, Ernest Plasse, and C. and J. S. Roach, amongst the Cactus, and Rev. Geo. Boggies amongst the singles, were particularly noticeable. The blooms were tastefully arranged with sprays of Asparagus and pieces of Eulalia gracillima, and looked very effective. Mr. Hudson, gardener to the Messrs. de Rothschild, of Gunnersbury House, was given a Bronze Banksian Medal for a pretty little group of Cactus and Pompon Dahlias, lightened by sprays of Asparagus, and edged with neat little plants of Asplenium bulbiferum. Mr. G. Humphries, of Kington Langley, was awarded a Silver Banksian Medal for a good collection of Dahlias, which comprised twenty-four blooms of eight varieties of Cactus, May Pictor, Robert Cannell, and Countess of Radnor being especially good; and sixty blooms of show and fancy varieties. Blooms of Rev. J. Goodday, Rebecca, Vice-President, and Mrs. Langtry were amongst the best in this latter section. Seven dozen blooms of show and fancy Dahlias, together with sixty Cactus and decorative varieties, exhibited by Mr. J. Walker, Thame, Oxon, met with appropriate recognition in the way of a Silver Flora Medal. Blooms of Mrs. Gladstone, Majestic, Duke of Fife, and John Heckling, were in excellent condition amongst the show and Fancy varieties, Lady Penzance, Robt. Cannell, and Lord Lyndhurst being some of the best Cactus sorts. A Silver Banksian Medal was awarded to Messrs. Keynes, Williams & Co. for a very good exhibit of Cactus and decorative Dahlias, sorts like Earl of Pembroke, Mrs. Haskins, and Gloriosa being particularly fine.

A collection of Liliums exhibited by Messrs. Wallace & Co., Colchester, together with a few Watsonias and Montbretias received a Silver Banksian Medal. Mr. S. Mortimer, of Rowledge, Farnham, received a Silver Floral Medal for a magnificent collection of cut blooms of show and fancy Dahlias. Messrs. J. Burrell & Co., Howe House, Cambridge, were awarded a Silver-gilt Flora Medal for a superb exhibit of cut spikes of named varieties of Gladiolus, hardy cut flowers and Dahlias. Mr. C. Turner, of Slough, also exhibited some good blooms of the decorative Dahlia, Mrs. Turner; also two dozen blooms of show and fancy varieties. A fine group of cut flowers, of early-flowering Chrysanthemums (principally of the Japanese type), exhibited by Mr. W. Wells, The Nurseries, Earlswood, deservedly obtained an award of a Bronze Banksian Medal. A group of fine foliage stove plants, shown by Messrs. F. Sander & Co., St. Albans, is deserving of mention. The specimens exhibited of Begonia Rajah and Eriocnema Sanderae were particularly fine. Specimen branches of a number of hardy trees and shrubs were exhibited from the Royal Gardens, Kew. Amongst them a splendidly-berried branch of the Sea Buckthorn—Hippophae rhamnoides, attracted much notice. Fruit and vegetables were fairly well represented. A collection of mixed fruits was shown by Lord Foley, Ruxley Lodge, Esher. A collection of vegetables sent from the Borough of Richmond Allotments, contained some clean and well-grown specimens. An exhibit of Tomatos from Frogmore grown upon a wall outside were in exceedingly good condition for the past unfavourable season. The variety grown was Frogmore Selected.

QUESTIONS AND ANSWERS.

Names of Fruits.—*W. Keen*: 1, Beurré Diel; 2, Beurré Hardy; 3, Duchesse d'Angouleme. *Argyle*: The numbers being pinned on, all got loose and mixed up in such a way that we cannot identify them. The best plan is to wrap each fruit separately in a piece of paper, enclosing a number with the specimen. *J. P. C.*: Pear Grosse Calabasse, Plums. 1, Sandall's; 2, Mitchelson's; 3, Coe's Golden Drop, 4, rotten.

Names of Plants.—*Omega*: The flowers sent were those of Matricaria Parthenium. The large-flowered forms of the Chrysanthemum belong to Chrysanthemum morifolium, better known as C. sinense. *J. N.*: 1, Dimorphanthus mandshuricus; 2, Ligustrum japonicum; 3, Ornithogalum longebracteatum; 4, Not recognised; 5, Griselinia lucida; 6, Abies Veitchi; 7, Abies Nordmanniana; 8, Clematis Flammula; 9, Liriodendron tulipfera. *Broughton*: Monarda didyma, the Oswego Tea.

Ant Hills.—*Omega*: Your best plan would be to wait till November or December when there is a chance of some frosty weather. Then cut off the turf above the nests and dig the la ter out, spreading the contents upon the grass. The frost will destroy the pupae, but fowls might be encouraged to follow the operator and pick up both ants and pupae, which will be very dormant about that time. You may drive them away now by opening the top of the nest and dropping guano in and around the opening. Asafoetida, Carbolic acid or some other strong-smelling substance may be used instead.

Fern Scale.—*R. S. W.*: The scales you send are what are known as the Fern Scale (Dactylopius longifilis). The chief difficulty you will have in getting rid of them will be owing to the delicacy or tenderness of the fronds of Adiantum farleyense, on which they have established themselves. We should begin by rubbing off the large brown specimens with the fingers or a small brush. Those scales are dead, but they harbour beneath them a large number of eggs or young ones if hatched out. The oldest and worst infested fronds may be cut off, after which the plant should be syringed every second day with a quarter of a pound of soap dissolved in a gallon of water or with kerosine emulsion at the rate of a gill in six gallons of water, washing it off with clean water two hours after. Do it carefully so as not to break the fronds with the weight of water. A new vapourising preparation, named "Xcell All," is warranted to destroy scale, but you had better use it carefully till you see how it acts upon the fronds. It is sold by Mr. G. H. Richards, Old Shot Tower, Lambeth, who will doubtless give you directions for its use.

Dictionary.—*A. Curtis*: We think Johnson's *Gardener's Dictionary*, published by Messrs. Bell & Sons, York Street, Covent Garden, will be most useful to you. Price 8/-

Cotton Bug.—*C. M. Didsbury*: The name you give is quite new to us, but since you mention it as infesting Apple trees, we should understand that you mean the American Blight or Woolly Aphis. You have been using paraffin to get rid of the insect, and

that will certainly kill it if brought in contact with the same. The fault lies not with the material but the mode of application. You should begin in winter by scraping off the rough bark around the crevices in which the pest is sheltering. All the scrapings should be burnt. Then rub the paraffin into the crevices by means of a stiff half worn brush. Doubtless there may be insects upon the roots of the trees and which will spread up the trees in summer. Uncover the roots carefully, and scrub the worst of them with strong soap suds; then pour in a sufficient quantity to soak all the surrounding soil and cover up the roots again. Watch the trees in summer, and upon the slightest appearance of a fresh attack, apply the paraffin again each time the blight is seen. By persistent effort you will be able to destroy those which may have escaped on previous occasions. Prevent them from reaching the winged state if possible. Instead of paraffin you may use methylated spirits, kerosene emulsion or Gishurst Compound with which to scrub the affected branches, avoiding the buds and leaves

COMMUNICATIONS RECEIVED.—E. L.—J. C.—J. G. P.—H. C. P.—W. I.—P. Mc A.—G. J. I.—Rex.—T. B.—H. J. V.

TRADE CATALOGUES RECEIVED.

H. CANNELL & SONS, Swanley.—Autumn Catalogue of Plants.

LOUIS LEROY, Angers, France.—Wholesale Trade List of Trees and Shrubs, Fruit Trees, etc.

C. R. SHILLING, Winchfield, Hants.—Bulbous Flowering Roots.

GEO. CHAUNDY, New Marston, near Oxford.—Select List of Carnations and Picotees.

LONDON SEED TRADE.

September 25th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a better enquiry for Winter Tares at low rates now current. Trifolium incarnatum sells steadily at last week's prices. Ryegrasses unchanged.

COVENT GARDEN MARKET.

September 26th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	3 0	5 0	Peaches & Nectarines, per doz.	2 0	10 0
Cherries, per hlf. sieve	0 0	0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	22 6	24 0	Plums .....half Sieve	1 6	2 6
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0
Melons .....each	1 0	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 3	0 4	Lettuces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 8
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Ferns, small, per 100	3 0	6 0
—specimen plants, each	5 0	15 0	Foliage Plants, doz.	12 0	60 0
Campanula, per doz.	6 0	9 0	Heliotrope...per doz.	3 0	6 0
Cyperus .....per doz.	4 0	12 0	Hydrangea...per doz.	9 0	18 0
Chrysanthemums, per doz.	4 0	15 0	Marguerites, per doz.	6 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	3 0	6 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Evergreens, invar. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar., per doz.	3 0	8 0	Pelargoniums, scarlet per doz...	3 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Lilium speciosum doz. blms.	1 0	1 6
Asters, English, doz. bchs.	3 0	6 0	Maidenhair Fern, 12 bs.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Carnations...per doz.	0 6	1 0	Mignonette... 12 bun.	1 0	3 0
Carnation, doz. bchs.	4 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Chrysanthemums, doz. blooms	0 6	1 0	Pelargoniums 12 sps.	0 4	0 6
,, doz. bunches	3 0	9 0	—scarlet.....12 bchs.	2 0	4 0
Cornflower, doz. bchs.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Eucharis ...per doz.	2 0	3 0	Primula, double, bun.	0 6	1 0
Forget-me-Not, doz. bchs.	1 0	2 0	Roses .....doz. bchs.	2 0	9 0
Gardenias 12 blooms	1 0	3 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. blms.	0 6	1 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Saffrano...per doz.	1 0	1 6
			— Tea ..... per dozen	0 6	2 0
			Tuberoses, per doz	0 4	0 6

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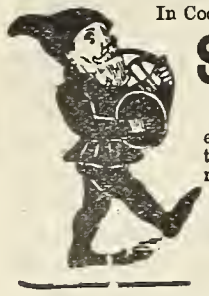

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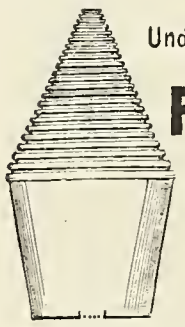

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FLOWER SHOW FIXTURES, 1894.

OCTOBER.

9, 23.—R.H.S., Drill Hall.
10, 11, 12.—N.C.S. at the Royal Aquarium.

NOVEMBER.

2, 3.—Chrysanthemum Show at the Crystal Palace.
2, 3.—Battersea Chrysanthemum Show.
5.—St. Neots Chrysanthemum Show.
6, 7.—Leeds Paxton Society's Chrysanthemum Show.
6, 7, 8.—N.C.S. at the Royal Aquarium.
7, 8.—Bournemouth Chrysanthemum Show.
7, 8.—Hereford Fruit and Chrysanthemum Show.
7, 8.—Wolverhampton Chrysanthemum Show.
8.—Buddleigh Salterton Chrysanthemum Show.
9.—Exeter Chrysanthemum Show.
10.—Crewe Chrysanthemum Show.
13, 27.—R.H.S., Drill Hall.
13, 14.—Kingston Chrysanthemum Show.
14, 15.—Aylesbury Chrysanthemum Show.
14, 15.—Birmingham Chrysanthemum Show.
14, 15.—Bristol Chrysanthemum Show.
14, 15.—Hull Chrysanthemum Show.
14, 15.—Tunbridge Wells Chrysanthemum Show.
15, 16, 17.—Edinburgh Chrysanthemum Show
16, 17.—Bolton Chrysanthemum Show.
16, 17.—Bradford Chrysanthemum Show.
16, 17.—Stockport Chrysanthemum Show.
16, 17.—Sheffield Chrysanthemum Show.
20, 21.—Chrysanthemum Show in the Town Hall, Manchester.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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For Index to Contents see page 94.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 8th.—National Chrysanthemum Society: meeting of General Committee at 7 p.m.
Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.

TUESDAY, Oct. 9th.—Royal Horticultural Society: Committee Meetings at 12 o'clock.
Sale of Nursery Stock at Woodlane Nursery, Isleworth, by Protheroe & Morris.
Sale of Nursery Stock at the Milford Nurseries, Godalming, by Messrs. Mellersh (3 days).
Sale of Nursery Stock at Cripp's Nursery, Tunbridge Wells, by Protheroe & Morris (3 days).

WEDNESDAY, Oct. 10th.—National Chrysanthemum Society's Show at the Royal Aquarium, Westminster (3 days).

FRIDAY, Oct. 12th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 6th, 1894.

LESSONS OF THE FRUIT SHOW.—The general impression throughout the country is that Apples are a scarce crop this year, and the allegation is doubtless true so far as orchard fruit in the ordinary acceptation of the term is concerned. Those who visited the show at the Crystal Palace at the end of last week and the beginning of this, for the purpose of verifying this impression, were doubtless agreeably surprised, except, perhaps, in the case of some less fortunate who had no fruit at home. Apples were present in great quantity, and in fine condition. except that colour was not so highly developed as it is in seasons favoured with a greater amount of sunshine. It is only another illustration of the fact that "with all appliances and means to boot" the certainty of outdoor crops is entirely dependent upon the weather, except where it is possible to apply a little protection to palliate the influence of a fickle climate. A number of nurserymen and fruit growers are indebted to their plantations of dwarf bush, pyramidal, and cordon trees for their success at the Exhibition, and private gentlemen would obtain their best fruits from the same sources and from wall trees. The success of a London exhibition of hardy fruits does not in any year depend upon the crop obtainable from standard trees. The latter are mostly a failure in the case of Apples, whereas dwarf trees on the Paradise stock have, in many localities, yielded a bountiful crop of fruit of the first magnitude. The difference between success and failure in a bad year should act as a salutary lesson which ought to be laid to heart. Last year, with its abundant sunshine, ripened the wood of fruit trees admirably, and the blossom in spring was profuse, yet the late frosts of May destroyed all prospect of a crop on large trees, whereas the dwarf ones were loaded in other gardens and plantations. That is a fact to be borne in mind.

Pears blossomed earlier and set an abundant crop, which was invulnerable to frost. The theory that late flowering varieties of fruit trees escape frost has now been blown to the winds, and has no significance. The plentiful crop of Pears has presented nothing remarkable on the Exhibition table, either as to quantity or size, though perhaps quite up to the average in the latter respect. The fruits are greatly lacking in colour, owing to the short duration of sunshine, though they may improve by keeping. The Pear requires a longer season and more sunshine to bring it to perfection than the Apple, so that the best samples always come from the south. A collection from the Channel Islands looks like strangers, both as to size and colour, amongst the smaller and greener specimens of home growth. The inference is that the Pear is more truly a native of the south than the British Islands. The specimens of Uvedale's St. Germain Pear, weighing three to four pounds, and other varieties in proportion require special culture in a specially favourable climate. One lesson of the show was that the premier awards, say for eighteen or twelve dishes of Pears, went to those whose fruits of all the varieties were most evenly balanced as to size.

Orchard house fruit has much to recommend it, though we may rest assured that it will never be the salvation of fruit growing in this country, even if brought to maturity without fire heat. Both Apples and Pears look clean skinned, and in the case of the latter, especially, they have a riper appearance. The difference is so great in a good collection of fruit that the public is apt to be led away with the idea that it is a matter of culture or variety. The educational value of a show would be greatly improved if all orchard house fruit were prominently labelled as such, so that the public might grasp the meaning of the difference. The promoters of a show might attend to this matter even if exhibitors are indifferent to it. Trees in pots require a greater amount of attention than those planted out; but when fire heat is used the expense must be greater. The attendant's time, the average cost of the house over a given number of years, the fuel bill, and feeding must all be taken into account in calculating the cost of the fruit produced. Even with fairly advanced prices this mode of culture could hardly be expected to pay. The trader has, of course, other interests to serve by this method of culture, and the private grower has to study the needs of a family and the possibility of obtaining an early supply of fruit till those in the open ground come to hand. Not only are the

fruits earlier, but beyond the reach of smoky towns at least, the skilful cultivator can make more certain of an annual return in fruit for his outlay. Peaches, Nectarines, Plums, Figs, and similarly perishable kinds of fruit are now mostly out of season and were of course of secondary or even third-rate importance to Apples and Pears.

The first prize collection of Grapes from the south-west of Fifeshire bore the stamp of high cultivation, and remind us of the fact that the heaviest bunch of Grapes (26½ pounds) grown in this country came from the south of Scotland. The record has been beaten for actual size of berries, the largest recorded being 4 in. in circumference. Some of the berries of Gros Colman, exhibited by Messrs. Wm. Thomson & Sons, Clovenfords, measured 4½ in. in circumference. The nearest approach, perhaps, to this in the neighbourhood of London were those shown by the Messrs. de Rothschild. The exhibits of Grapes did in some measure relieve the monotony of flat tables, and the collections of fruit trees in pots, as well as the hardy herbaceous and other flowering plants, contributed in no small measure to the same desirable end. The arrangement of Apples and Pears in baskets shows what can be done with a quantity of a few well-selected kinds to impart an attractive effect to the show.

Narcissus Exhibition.—The Birmingham Botanical Gardens will hold a great exhibition of Narcissi in April next, and schedules can be obtained from Mr. W. P. Latham, the Curator.

An Exhibition of Pansies and Violas will be held in the same gardens under the auspices of the Birmingham Botanical Garden Committee, about the end of May next, when very liberal prizes, open to all, are contemplated. Communications respecting it to be addressed to Mr. William Dean, Dolphin Road, Sparkhill, Birmingham.

Indian Maize in Private Gardens.—It seems that never before in Cornwall were the gardens so well supplied with Indian Maize as is the case this year. Indeed it seems to have formed quite a new industry. Dr. Whitfield Perkins, of Port Isaac, has gathered frequent dishes of this green corn from his garden. This delicious vegetable could be successfully grown in many sheltered gardens, and both pleasure and profit would be the result.

Suttons A. I. Tomato.—"W. D." writes:—From what I can see of this very fine variety, Messrs Sutton & Sons have scored a success, for it is a great cropper, producing fine clusters of large handsome uniform-sized fruit of perfect form and free from the customary spot so generally seen at the apex of the fruit. At least this is my experince of it as seen undergoing cultivation with other sorts.

How the Labourer Lives.—A correspondent sends us some interesting facts relating to garden and agricultural labourers. He states that, as compared with the first half of the century, the labourer's life is almost luxurious. Fifty years ago the Cornish labourer was reckoned to cost weekly 9/-, the price of a bushel of wheat, now he costs 15/-, the price of five bushels. The labourer's wife got 3/- a couple for her fowls fifty years ago, now she gets 6/-, and the cost of feeding is now not half what it was then. A Cornish labourer's pig costs half of what it did to fatten half a century since, if he sells his pig he gets nearly double.

Mr. George Ross, who has been gardener to Mr. McHardy of Cranford, Aberdeen, for the past fourteen years, was the other evening, on the occasion of his leaving for a situation with Captain J. G. Baird Hay, Belton, Haddingtonshire, made the recipient of a handsome marble clock and a couple of bronze statuettes by his professional brethren. The chair was occupied by Mr. Alex. Robson, vice-chairman of the Royal Horticultural Society of Aberdeen, who, in making the presentation, made reference to the respect in which Mr. Ross was held, and to the devotion he had given to the work of horticulture. Mr. Ross made a feeling reply. A number of toasts followed, including "Success to Horticulture," to which Mr. A. M. Byres, C. A., secretary of the Royal Horticultural Society of Aberdeen, replied; songs and recitations were given during the evening and a pleasant social hour was spent.

National Chrysanthemum Society.—A Floral committee Meeting was held on the 26th ult.; but the exhibits could hardly be expected to be numerous in view of the excessively wet weather, which is causing the plants to make a deal of sappy and soft growth. Mr. W. Wells, Earlswood, Redhill, was the only exhibitor who had several stands of large Japanese blooms and some baskets of Ruth Wells, a soft rosy purple pompon variety lifted from the open ground, and which was commended. Miss Dorothy Frankland, previously certificated (see p. 74) received a First-class Certificate. Other good Japanese varieties in his stands were La Chirene, yellow, Albert Clark, pink, Sir Trevor Lawrence, white, Mrs. Nisbet, dark reddish purple with a silvery reverse and Frank Wells,, white. A bronze medal was a awarded the exhibit. That which received the certificate was certainly the best and most distinct, but Sir Trevor Lawrence is a promising variety which may appear later.

Verbena Aubletia is an American hardy plant with showy purple flowers, and it isn't uncommon in cultivation. An English contemporary having read in an American paper that "Verbenas of recent years * * probably from overfeeding and propagation have been so much diseased that the florists have largely discarded them." And advises us to get an infusion of Aubletia blood into them. Bless you, no. Our Verbenas are all right. In fact, notwithstanding the severe drought we are now suffering from, there are fields of Verbenas in bloom on Long Island and in Monroe Co., N.Y., that would turn a European's hair gray with envy. The real fact of the matter is, we get Verbenas so good and so easily from seed, and, too, in such variety that we can't be bothered perpetuating them from cuttings with all the winter room and labour that entails.—*Gardening (American).*

The Proposed Vegetable Show in 1895.—Vegetable growers did not turn up in large numbers at the meeting held at the Crystal Palace on Saturday afternoon last to consider the advisability of organising a great Vegetable Show on the lines of the old International Potato Shows, but there were enough of enthusiasts of the right sort present to give the project a good business-like start. Mr. H. Balderson presided, and the letters read by Mr. A. Dean from all parts of the country were of a most encouraging character, the prevailing tone being that the exhibition should take a wider scope than was originally intended, and be a Vegetable Show with the Potato as the *pièce de résistance* rather than a show of the noble tuber only. After some discussion it was resolved—(1) "That for the wider encouragement of Vegetable Culture it is desirable to hold a great National Vegetable Exhibition at the Crystal Palace in 1895." (2) "That for the purpose of organising such exhibition a large representative general committee be formed, and from that body a smaller executive committee be appointed to arrange the programme and carry the same into effect." (3) "That the General Committee do consist of a chairman, vice-chairman, treasurer, and secretary, and representatives of the Seed Trade, growers for market, professional and amateur gardeners, allotment-holders and the gardening press, the number to be unlimited, and that the Executive Committee do consist of a chairman, vice-chairman, treasurer, secretary, and twelve other members to be elected at a subsequent meeting." Mr. H. Balderson and Mr. A. Dean were elected treasurer and secretary *pro tem.*, and a small committee appointed to draw up a programme for presentation at another meeting to be called at an early date. Numerous suggestions were made as to the selection of officers, &c., which will be considered by the Sub-committee; and it was also suggested that the movement should in some measure be under the sanction and control of the Royal Horticultural Society, against which a vigorous protest was made. It was considered that while it was neither necessary nor desirable that any spirit of hostility to the Society should be imported into the movement, it was most essential in order to secure wide and popular support that the show should be organised by an independent body, free from any suspicion of cliquism or personal aggrandisement.

Devon and Exeter Gardeners' Association.—The annual meeting of this Association was held at the Exeter Guildhall on the 26th ult., under the presidency of the Mayor (Mr. E. J. Domville). The committee's report—a somewhat lengthy one—was to the effect that the work of the association and its position, both as regarded finances and membership, were eminently satisfactory. The balance in band amounted to £28 17s. 9d., and the membership roll showed 104 members. The papers that bad been read at the various meetings during the session were marked by that practical application and plain handling which had, from the first, been characteristic of the society, and the discussions that followed them were most beneficial. The attendance had been excellent at all the meetings. On the motion of the chairman, seconded by Mr. Dallas, the report was adopted.—The retiring president, Sir Dudley Duckworth King, was thanked for his services, and Sir Stafford Northcote, Bart., C.B., M.P., was elected president for the year. The following vice-presidents were then appointed:—Dr. Dangar, the Rev. A. H. Cruwys, Messrs. R. N. G. Baker, G. D. Cann, J. Dallas, E. A. Sanders, H. W. Mitchelmore, R. R. M. Daw, J. M. Snow, H. D. Thomas, and P. C. M. Veitch. Messrs. Hope and Bartlett, were re-elected hon. secretaries, and Mr. W. Mackay hon. treasurer. The committee were elected as follows:—Messrs. W. Andrews, G. Anning, G. C. Crabbe, Hill (Whipton), G. B. Landsdale, J. Luxon, W. Physick, S. Radley, W. Rowland, E. Sparks, T. Stoneman, and J. Weeks—Mr. Crabbe proposed, Mr. A. Hope seconded, and it was decided to hold another Spring Show next year, either just before or just after Easter.

Edible and Poisonous Mushrooms.—It is remarkable that so many cases of poisoning occur every year in view of the fact that very few kinds of poisonous fungi can be mistaken for the two most generally known edible species, the common Mushroom, Agaricus campestris, and the parasol Mushroom, Sepiota procera. The fungus which is most often the cause of poisoning is probably the Amanita phalloides (Fries), which has a white or very pale yellow cap about the size of that of the common Mushroom, but differs from it in having permanently white gills and a large loose sheath or volva surrounding the base of the stem. The active poisonous principle is a vegetable toxalbumine called phalline, which is not destroyed by heating, so that the common plan of frying Mushrooms does not destroy the poison, but in the case of other poisonous Mushrooms thorough cooking renders them innocuous. In some of the rural districts of France fungi are first cooked for a few minutes in anise water, the liquid drained away, and the cooking finished according to taste. Strong alcoholic drinks should never be taken along with nor soon after eating fungi, as very disagreeable symptoms may be produced by varieties which under other circumstances do not cause any inconvenience. The genus Amanita, which includes the most poisonous species and those most frequently mistaken for edible kinds, is easily recognised if attention is paid to the following points:—1. The gills remain permanently white and do not touch the stem. 2. The stem is furnished with a long thin ring or frill at some distance from the top, the bottom of the stem is surrounded by a loose sheath or volva.—*British Medical Journal.*

Pentstemons from Laurencekirk.—In the southern part of England, Pentstemons are practically summer flowers but, in Kincardineshire, they flower in autumn as a rule when grown from cuttings. Mr. D. Stuart, Frogfield Cottage, Lawrencekirk, sends us a box of seedling Pentstemons, many of which are quite equal to named kinds, and better than some, particularly the scarlet and purple sorts, with a white throat and striped. Several were nearly white, slightly tinted with pink at the tips of the segments. Another was purple, shaded with crimson and without stripes in the white throat; a white one, lightly tinted with mauve, was also fine. They were sent under number, but every one was displaced coming through the post. Some of his seedlings bore thirty-five open flowers at one time. The value of seedling Pentstemons is too much overlooked.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, GARDENING WORLD, 1, Clements Inn, Strand, W.C.

EXHIBITION OF BRITISH GROWN FRUIT.

The Exhibition inaugurated by the Royal Horticultural Society and opened at the Crystal Palace on Saturday last, and continued over Monday and Tuesday, was in all respects, save certain administrative details, of a most satisfactory character. Notwithstanding the reputed lack of Apples, on account of the spring frost, they made a brave show, and were more fully up to the standard of merit than were Pears, doubtless owing to the want of sunshine to ripen and finish up the latter with regard to colour. Nor did the Pears show anything extraordinary in the way of size. Those grown under glass were of course much more mature than those from the open. The miscellaneous collections of fruit were quite a feature of the show, and the hardy herbaceous plants, Dahlias and other subjects, served to brighten it up. The premier award for a collection of fifteen varieties of ripe fruit in the open classes was awarded to Sir Joseph W. Pease, Bart., M.P. (gardener, Mr. John McIndoe), Hutton Hall, Guisborough, Yorks. He had a huge bunch of Musa Cavendishii, a dish each of Gros Colman and Foster's Seedling Grapes, Apples, Pears, Peaches, Nectarines, Figs, Apricots, Passiflora edulis, Gooseberries, two dishes of Plums, and two Melons. He was the only exhibitor in this class. For nine varieties of fruit the first award was taken by the Countess of Camperdown (gardener, Mr. J. Masterson), Weston House, Shipston-on-Stour, Warwick, who showed three bunches each of Black Alicante and Muscat of Alexandria Grapes, Peaches, Nectarines, Figs, Pears, Apples, Morello Cherries, and a Melon. The Hon. D. P. Bouverie (gardener, Mr. S. Haines) took the second prize, and Mrs. Wingfield (gardener, Mr. J. Empson), Ampthill House, Ampthill, Beds, was third, showing fine Grapes. J. Thomson Paton, Esq. (gardener, Mr. Alec Kirk), Norwood, Alloa, Scotland, took the first award for six varieties of Grapes, two bunches of each, with flying colours. He had grand samples of Gros Maroc, Muscat of Alexandria, Madresfield Court, Mrs. Pearson, Duke of Buccleuch, and Black Hamburgh. He was followed by C. Bayer, Esq. (gardener, Mr. J. Bury), Tewkesbury Lodge, Forest Hill, with fine bunches of Trebbiano, Alicante, and Buckland's Sweetwater. Sir Joseph W. Pease here took a third place with some fine samples. Messrs. de Rothschild (gardener, Mr. Geo. Reynolds), Gunnersbury Park, Acton, took the first award for three varieties with Alicante, Muscat of Alexandria, and Gros Maroc, all beautifully finished. Charles J. Massey, Esq. (gardener, Mr. Jas. Day), was second with larger bunches, but much smaller berries. W. K. D'Arcy, Esq. (gardener, Mr. W. Tidy), Stanmore Hall, Middlesex, was third. Earl Cowley (gardener, Mr. J. Gibson), was second in both cases for Black Hamburgh and Madresfield Court Grapes; Mrs. Wingfield took the first award in the latter case. Messrs. de Rothschild were first for Gros Colman Grapes, the berries being like Plums for size; Sir Joseph Pease, Bart., was second; and C. Lee Campbell, Esq, (gardener, Mr. S. T. Wright), was third. There was good competition for Alicante Grapes, and T. Astley, Esq., (gardener, Mr. C. Griffin), Coombe Bank, Kingston-on-Thames, was first; Messrs. de Rothschild (gardener, Mr. J. Hudson), Gunnersbury House, Acton, second; and Wm. Sanders, Esq., Junction Road, Andover, Hants, third. Charles J. Massey, Esq., was first for any other black Grape, showing Gros Guillaume. There was a fine display of Muscat of Alexandria Grapes, the first award going to W. K. D'Arcy, Esq., who was followed by F. A. Bevan, Esq. (gardener, Mr. W. H. Lees), Trent Park, New Barnet. L. J. Baker, Esq. (gardener, Mr. Thomas Osman), Ottershaw Park, Chertsey, had the best of any other white Grape in Dr. Hogg. Mr. J, Gore, Polegate, Sussex, had the best three dishes of Peaches, and Ralph Sneyd, Esq. (gardener, Mr. J. Wallis), Keele Hall, Newcastle, Staffs, took the leading awards for single dishes of Peaches and Nectarines. Mr. Wm. Pope had the best Figs. Mr. J. Gore again came in first for four dishes of Tomatos and six ripe clusters of the same. Mr. G. Garraway, Bailbrook, Bath, had the best single dish of Tomatos. For the collection of hardy fruit grown under glass, Sir Mark Collet, Bart. (gardener, Mr. R. Potter), St. Clere, Kemsing, took the leading award with, amongst others, magnificent examples of Emperor Alexander Apple, &c. He was followed by Sir J. W. Pease, Bart., with a weaker lot; and J. W. Melles, Esq. (gardener, Mr. J. Nicholson), Sewardstone Lodge, Chingford, was third.

In the nurserymen's division, Messrs. T. Rivers & Son, Sawbridgeworth, took the premier award for a collection of fruit-bearing trees in pots. Their pyramidal Apple and Pear trees were finely fruited in most cases. Messrs. Geo. Bunyard & Co., Maidstone, had smaller trees, including some Figs and Plums, taking the second place. For the collection of hardy fruits grown partly or entirely under glass, the latter firm easily took the first place with a fine exhibit, Messrs. T. Rivers & Son being second. In both cases trees and gathered fruits were shown. A gold medal, the highest award, was accorded to Messrs. Geo. Bunyard & Co., for a collection of hardy fruits in baskets, and which were very attractively arranged, of large size and highly coloured. Messrs. J. Cheal & Sons, Crawley, Sussex, took the second award with a varied and fine exhibit; Mr. Henry Berwick, Sidmouth, Devon, taking the third position.

In the division open to gardeners and amateurs only, the premier award for eighteen dishes of Apples was taken by Roger Leigh, Esq., (gardener Mr. Geo. Woodward), Barham Court, Maidstone, with some magnificent examples, and A. T. Killick, Esq., Weavering, Maidstone, carried off the first prize for twelve dishes of Apples, showing grand specimens; Viscount Gage (gardener Mr. G. Helman), Lewis, Sussex, being second in the latter class. Mr. Geo. Woodward again came to the front with six dishes of cooking Apples, as many dessert Apples, eighteen dishes dessert Pears, three dishes stewing Pears, and three dishes of Peaches. A. T. Killick, Esq., had the best three dishes of cooking Apples. Sir Mark Collet, Bart., was first for three dishes dessert Apples. H. C. Moffat, Esq., (gardener Mr. Thos. Spenser), Goodrich Court, Ross, Hereford, took the second award for eighteen dishes dessert Pears. H. S. Vincent Ames, Esq., (gardener Mr. Bannister), Cote House, Westbury-on-Trym, Bristol, took the leading place for twelve dishes dessert Pears. Lord Suffield (gardener Mr. Wm. Allan), Gunton Park, Norwich, had the best nine dishes dessert Pears, and Mrs. Crawford was first for six dishes. The Dowager Lady Freak (gardener Mr. A. H. Rickwood), had the best three dishes. The Countess of Camperdown took the leading prize for a dish of stewing Pears. The Viscountess of Falmouth (gardener Mr. H. Markham), Mereworth Castle, had the best dish of Peaches. Mr. William Pope carried off the first prize for three dishes of Nectarines. Andrew Pears, Esq., Spring Grove House, Isleworth, had the best single dish of Nectarines. W. H. Long, Esq., M.P. (gardener Mr. W. Strugnell), had the best four dishes of dessert Plums. There was a good competition in Coe's Golden Drop Plum, and the first prize was taken by John Hargreaves, Esq., (gardener Mr. T. Turton), Maiden Erleigh, Reading.

For four dishes of cooking Plums, distinct, Mr. W. Pope was again first with good samples of Coe's Golden Drop, Pond's Seedling, Victoria, and Magnum Bonum, a like place being taken by Mr. Empson, gardener to Mrs. Wingfield, for one dish of the same. Mr. John Masterton, gardener to Countess Camperdown, was first for one dish of any green or yellow variety of Gage Plums with Reine Claude de Bavay, while Mr. Charles Herrin, gardener to Lady Fortesque, Dropmore, was first for a dish of any purple Gage. For three dishes of Damsons and Prunes Mr. A. T. Killick was first, and a like place was taken by Mr. George Tebbut for one dish of Bullaces. Mr. Arthur Pentney, gardener to A. J. Howard, Esq., was first for Quinces. In the open classes for single dishes of fruit grown in the open air some splendid samples were exhibited, whilst the competition was in many cases very keen, particularly in the classes for Apples, both dessert and culinary.

For single dishes of dessert Apples Mr. Geo. Woodward was very successful. He took first prizes for single dishes of each of the following sorts:—Adam's Pearmain, Margil, Reinette de Canada, Scarlet Nonpareil, Worcester Pearmain, and Washington. The following exhibitors also took first prizes for single dishes of dessert varieties:—The English Fruit and Rose Co., for Braddick's Nonpareil; Mr. W. Strugnell, for Cox's Orange Pippin; Mr. C. Ross, gardener to Col. Houblon, for Duke of Devonshire; Mr. W. Cotterell, for King of the Pippins; Mr. Richard Edwards, for Lady Sudely; Mr. John McKenzie, gardener to F. S. W. Cornwallis, Esq., for Mannington's Pearmain; Mr. H. Berwick, Sidmouth, for Mother (American); Mr. S. T. Wright, for Ribston Pippin; and Mr. T. Turton, for Rosemary Russet.

In the open classes for single dishes of culinary Apples Mr. Geo. Woodward again won very heavily. He had first prize for each of the following sorts:—Beauty of Kent, Golden Noble, Gascoigne's Scarlet, Golden Spire Grenadier, Lord Derby, Peasgood's Nonsuch, Spencer's Favourite, Stones, The Queen, Warner's King, Waltham Abbey Seedling, and Belle Dubois. Other competitors who took first prizes for single dishes of culinary varieties were:—Mr. G. Wythes, Syon House, for Alfriston; Mr. John McKenzie, for Bismarck; Mr. S. T. Wright, for Bramley's Seedling; Mr. H. Berwick, for Cellini; Mr. John McKenzie, for Cox's Pomona; Mr. Austin T. Killick, for Duchess of Oldenburgh; Mr. T. Turton, for Dumelow's Seedling; Mr. S. T. Wright, for Ecklinville Seedling; Mr. John McKenzie, for Emperor Alexander; Mr. T. Turton, for Hawthornden (new); Mr. S. T. Wright, for Lane's Prince Albert; Mr. John McKenzie, for Lord Grosvenor; Mr. Austin T. Killick, for Lord Suffield, also for Mere de Menage; The English Fruit and Rose Co., for Northern Greening; Mr. Will Tayler, for Pott's Seedling; Mr. John McKenzie, for Stirling Castle, also for Tower of Glamis; and Mr. H. Berwick, for Tyler's Kernel.

In the open classes for single dishes of dessert Pears, some fairly good fruit was shown. It did not, however, reach the same standard of excellence as the Apples, there being a manifest lack of colour all round. Mr. Geo. Woodward was again ahead of all competitors for dishes of the following:—Beurré Hardy, Beurré Superfin, Comte de Lamy, Maréchal de la Cour, Durondeau, Emile d'Heyst, Josephine de Malines, and Triomphe de Vienne. First prize-takers for single dishes of other dessert sorts were Mr. G. Thompson, gardener to Messrs. H. & C. Wells, for Beurré Bosc; Mr. Will Tayler, for Beurré Diel; Mr. Thos. Spencer, gardener to H. C. Moffat, Esq., for Beurré d'Amanlis; Mr. James Day, gardener to Charles J. Massey, Esq., for William Bon Chrêtien; Messrs. T. Rivers & Son, for Conference; Mr. G. Potter, gardener to Sir Mark Collet, Bart., for Doyenné du Comice; Mr. T. A. Hester, gardener to G. W. Dawson, Esq., for Fondante d'Automme; Mr. W. Allan, gardener to Lord Suffield, for Glou Morceau; Messrs. T. Rivers & Son, for Louise Bonne of Jersey; Mr. C. J. Salter, gardener to T. B. Haywood, Esq., for Marie Louise: Mr. Thos. Spencer, for Nouvelle Fulvie; Mr. W. Allan, for Pitmaston Duchess; Mr. C. Ross, for Souvenir de Congres; Mr. W. Allan, for Thompsons; Mr. W. Cotterell for Winter Nelis; Mr. Hater, gardener to Mrs. Hulse, for General Todleben.

In a series of classes for dried fruits, not preserved in fluid or sugar, and grown and dried within the limits of the British Islands. Mr. W. A. Trotter, The Gardens, Bromeberrow, Ledbury, carried everything before him. He took first prizes for a collection of dried fruits; for Apples sliced; for Apples whole, for Plums whole; and for Cherries whole. In a class for six varieties of Hardy Fruits, two gallons of each grown in the open air, and open only to *bona fide* market growers, Mr. A. Wyatt carried off first honours. He had good samples of Pears, Pitmaston Duchess, and Brockworth Park, and Apples, King of the Pippins, Yellow Ingestre, Duchess Favourite, and Worcester Pearmain in good condition. In a similar class for ten bushels of cooking Apples of any one variety and ten half bushels of Dessert Apples of one variety. Mr. Geo. Tebbutt, Mogden House, Isleworth, obtained a first award. A Silver Banksian Medal was awarded to A. Weir, Esq., of Bendarrock, Ottery St. Mary, Devon, for one bushel of any variety of Culinary Apple, and a half bushel of any Dessert Apple packed for market. This class was open to Amateurs and Private Gardeners only. Mr. Geo. Woodward received a first award in a class for a box of twenty-four Peaches, received by rail, also in a similar class for packed Pears he obtained first honours. Mr. Wright, gardener to C. Lee Campbell Esq., took first prize for a collection of Fruits, Nuts, Grains, Seeds, and Pulses. The prize in this case was given by the Vegetarian Federal Union of the Memorial Hall, Farringdon Street.

The miscellaneous exhibits formed no small part

of the show, nor the least interesting. On the contrary some of them created great interest and others added to the extent and variety of the exhibition, Her Majesty the Queen (gardener Mr. Owen Thomas) contributed a unique and attractively arranged collection of fruits consisting of a large number of varieties of Pear, a smaller number of Apples, thirteen Smooth Cayenne Pineapples, Grapes, Peaches, Nectarines, Melons, Plums, Tomatos, Siberian Crabs and Nuts. A four-sided tower in the middle, with two at either end and eight smaller ones, all covered with fruit relieved the monotony which a flat table would have given. The Pineapples occupied the top of the elevated portions. A basket of grapes from the Cumberland Lodge vine which is 110 years old, and now bearing 2,200 bunches of grapes, created much interest. (Silver Gilt Knightian Medal). Messrs. J. Veitch & Sons, Chelsea, occupied two large tables with fruit. Amongst the Apples on one table were fine samples of Peasgood's Nonsuch, Red Bietigheimer, Hollandbury, Mere de Menage, Warner's King, Tyler's Kernel, Alfriston, Lord Suffield, Winter Hawthornden, Bramley's Seedling and others. On the other table were fine samples of Pitmaston Duchess, Triomphe de Vienne, Duchesse d'Angoulême and other Pears all in baskets. They had also Plums and Blackberries. (Silver Gilt Knightian Medal). Messrs J. Laing & Sons, Forest Hill, also occupied two tables with fruits including grand samples of such Apples as Emperor Alexander, Frogmore, Prolific, Bismarck, the Queen, Gascoynes's Scarlet, Red Bietigheimer and Lord Suffield. Amongst Pears, they had large sample of Beurré Superfin, Pitmaston Duchess, Grosse Calabasse, Doyenné du Comice, Catillac, Beurré Clairgeau, and the new Marguerite Marillat. On the second table were grand samples of Peasgood's Nonsuch and Gloria Mundi Apples. (Silver-Gilt Knightian Medal.) Messrs. Chas. Lee & Son, Royal Vineyard Nursery, Hammersmith, had a table of Apples, including good baskets of Lord Suffield, Stirling Castle, King of the Pippins, Queen Caroline, Peasgood's Nonsuch, and Lane's Prince Albert. They also had half of another table occupied with Pears. (Silver Banksian Medal) Messrs. S. Spooner & Sons, Hounslow, Middlesex, had a showy display of Apples of even size and nicely coloured set up in baskets and on plates, such as Hoary Morning, Cellini, Gloucester Apple, and The Baron. They also had a few Pears. (Silver Knightian Medal.) Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, occupied a large table with Apples and Pears. Amongst the former were good samples of Bismarck, Lord Suffield, King of the Pippins, and King of Tompkin's County. Good Pears were Marguerite Marillat, Souvenir du Congrès, and Triomphe de Vienne. (Silver Banksian Medal). Mr. A. J. Brown, School of Handicrafts, Chertsey, staged a collection of Apples and Pears, some of which were handsome. An exhibit of eighty-five varieties of Apples was brought up from the gardens of the Royal Horticultural Society at Chiswick, including good keeping samples of many well known kinds. The English Fruit & Rose Co. showed a collection of Apples of the leading kinds. A collection of Onions, Leeks, and Carrots, but chiefly of Ailsa Craig Onion of enormous size, was exhibited by Mrs. H. Deverill, Banbury, Oxon. Messrs. Paul & Son, Cheshunt, exhibited a collection of Apples and Pears of the leading kinds. Mr. Seal, Vine Nurseries, Sevenoaks, had a table of show Cactus, single and pompon Dahlias. Mr. W. Wells, Earlswood, Redhill, showed a collection of Japanese Chrysanthemums and some Pompons lifted from the open. Messrs. B. S. Williams & Son, Upper Holloway, had two baskets of large flowering Cannas in many varieties. Messrs. Gaymer & Sons, Banham, Attleboro, staged a collection of Apples. Mr. J. Clarke had a collection of black Grapes. Messrs. W. N. White & Co., Covent Garden, had a table of fruits including Apples, Pears, and Cucumbers. At the north end of the Palace, Messrs. Sutton & Sons, Reading, had two baskets of Alpine Strawberries raised from seed on the 13th April, 1893, and which have been fruiting for the past three months. Sutton's Alpine is a red variety, and the best of its class. The others were red and white Alpine improved. They also showed Prize-winner and A 1 Runner Beans, the pods of the latter with ordinary field culture being 10 in. to 12 in. long. Messrs. Wm. Cutbush & Son, Highgate, staged a collection of Asters, Rudbeckias, Gladioli, Eryngiums, &c. They also showed Apples and Pears, and in another stand the new Grapes named Lady Hutt and Appley Towers (Silver Banksian Medal). Messrs. J. Cheal & Sons, staged a collection of Dahlias in all the leading types. They had beautiful samples of Belle de Bruxelles, Louis Bonne and other Pears grown under glass (Silver Banksian Medal). Messrs. Wm. Thompson & Sons, Tweed Vineyards, Clovenfords, N.B., exhibited a basket of fine Gros Colman Grapes, and a bunch of the same variety which weighed 4½ lbs., and the berries of which measured 4½ in. in diameter, their huge size being quite remarkable and attracting much notice. They were certainly the largest berries in the show, and were the result, we understand, of an extra dose of their famous manure. Messrs. H. Cannell & Sons, Swanley, Kent, had an arrangement of double Begonias, Cactus, and other Dahlias, and Cannas (Silver Banksian Medal). Mr. B. Ladhams, Shirley Nursery, Southampton, staged a collection of Asters, Sunflowers, Phloxes, Pink Ernest Ladhams, and other hardy herbaceous plants (Silver Banksian Medal).

COTTAGERS' FLOWER SHOWS.

In his eminently practical and highly common-sense remarks on p. 69, "W. B. G." dealt with a question that is of great moment to the cottage gardener. At this season of the year with so many shows of various sizes and degrees of importance taking place around us, our thoughts naturally revert to the subject of—How are these shows managed? or, sad to say in far too many cases, mismanaged. It goes without saying, that any body of men who set to work to form a committee for the purpose of furthering the interests of the cottage gardener, and of giving him inducements to take increased interest in his garden, and a greater desire to improve the quality of its products, have a most laudable object in view. But from sheer necessity—want of funds perhaps it ought to read—too wide an area is included in the sphere of operations. Usually five or six parishes (containing no great number of inhabitants it is true, but covering a considerable area) are invited to compete against each other with samples of kitchen garden produce at some centre fixed by the committee.

In most cases each parish takes its turn to have its own at home day. That is to say each of them becomes the centre in its turn. As "W. B. G." truly says, the question of distance is of importance. For in one or two cases of local shows that have come within my personal sphere of observation, exhibitors are expected to have their exhibits at the show ground as early as eight o'clock in the morning. And as the area covered is a wide one, it is a more or less serious consideration to convey any bulky exhibits (as, for instance, a collection of vegetables) so great a distance at so early an hour. Why not let him hire a conveyance to convey his matter says someone. That, of course, is all very well; but, as a rule, most of the agricultural classes can scarce afford to pay for the hire of a conveyance to convey an exhibit of vegetables to a distance on the bare chance of obtaining a prize. This difficulty might be got over if the farmers of each parish would place their horses and carts at the disposal of their fellow-villagers free of charge. Surely it would not be asking too much.

Then, again, as "W. B. G." has expressed it, there is the natural friction that almost always exists between the inhabitants of neighbouring villages. This is an important consideration, for like "W. B. G." I am certain it militates very strongly against the success of local flower shows. The only complete way out of the difficulty is to let every village that can boast of a fair population have its own garden show, and to let it be restricted to inhabitants of the village in question. As a rule garden show days are looked upon as general holidays by those who attend them, and rightly so. At one place in particular a refreshment ticket, value one shilling, is presented to every unsuccessful exhibitor. This is a practice which is quite good enough to be followed. It is astonishing what wonderful powers of consolation to disappointed parties is possessed by so small a gift. No one who has visited a few country shows will, I think, deny that their powers for good are incalculable. The close communication of all classes with each other on such occasions must tend to destroy that pride of caste that is far too often characteristic of rural districts, a feeling alike prejudicial to the best interests of society, and unworthy the toleration of an educated and enlightened community.—*A*.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids were certificated by the Royal Horticultural Society, at Chiswick, on the 25th ult.

Cypripedium Arnoldiae, *Nov. hyb.*—The seed parent of this hybrid was C. bellatulum crossed with the pollen of C. superciliare. The leaves are broadly oblong, dark green tessellated with gray, and 2 to 4 in. long. The scape is about 4 in. high, bearing a single flower of great size. The upper sepal is ovate, concave, creamy-white, and spotted with crimson-purple in lines along the viens. The declining petals are broadly oblong, creamy-white, and densely spotted all over with crimson-purple. The lip is greenish-white, suffused, and densely spotted purple near the mouth and on the claw. First-class Certificate. Exhibited by Messrs. F. Sander & Co., St. Albans.

Cattleya albanense.—The parentage of this Cattleya is not stated, but it seems to have a considerable affinity with Laelia crispa. The sepals are slightly twisted and of a soft pink. The petals are folded backwards along the middle like the Laelia mentioned, much crisped at the edges, and soft pink netted with a darker hue. The tube of the lip is white on the outer face, and nearly so in the interior; the lamina is much waved, crisped, rich crimson-purple, and paler at the edges. Award of Merit. Exhibited by Messrs. F. Sander & Co.

Dendrobium cruentum.—The stems of this species are terete and leafless when in flower. The ovate petals and the linear petals are pale green. The three-lobed lip is a curious organ; the side lobes are falcate and brownish-scarlet; the middle lobe is greenish-white and furnished with a large and curiously warted crest passing into two lamellae, which run to the base. This is also brownish-scarlet. There are some bands on the face of the column, the middle one being blood-red. Some forms are inferior to this in the size of the crest. Botanical Certificate. Exhibited by Messrs. F. Sander & Co.

Cattleya bicolor caerulea.—The stems of this variety are long, terete, and slender. The sepals and petals are of a uniform soft green. The lip is strongly curved, deeply furrowed along the centre, and of a very distinct though not very bright shade of slaty-blue. First-class Certificate. Exhibited by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Cypripedium insigne Gortoni, *Nov. Vars.*—A very distinct variety of this old and popular species has turned up in the collection of Mr. P. McArthur, The London Nurseries, 4, Maida Vale. The upper sepal is obovate and entirely without spots. The larger portion is of a light Apple-green suffused with brown, while the upper third and the edges are pure white. The slightly-declining petals are wavy at the upper edge, shaded with brown on a yellow ground and netted with a darker shade. The lip is of a bright shining brown overlying yellow which shows itself prominently at the edge surrounding the mouth of the pouch. The staminoide is large, bright yellow and downy with brown hairs. The plant, though flowering for the first time, is a strong, healthy piece. There are now several unspotted varieties of C. insigne, and they are amongst the most distinct of their kind.

THE FLOWER GARDEN.

Where early frost has placed its destroying hand upon the occupants of the flower garden, plants that have been affected should be cut down to within a few inches of the ground, and the old stems removed to the rubbish heap. Dahlias thus treated may have their tubers left in the ground for awhile yet without fear of injury. They must be taken up, however, and housed before severe and continued frost sets in; but that is not likely to occur for the present, at least. Continue to pay strict attention to the mowing and rolling of lawns and grass walks, for although growth will now be checked to a very great extent, neither the scythe nor the mowing machine must be entirely laid by. Leaves swept from lawns and paths should be placed in a heap in an out of the way place in a shrubbery, or in a

corner of the soil yard, to rot. The material thus obtained will be of the utmost service for the top-dressing of herbaceous borders and shrubberies. A good heap of leaf soil is one of the things no gardener should be without, the uses to which it may be put being so many and varied.

Old plants of Pelargoniums, Calceolarias, and other summer flowering subjects should be cleared entirely away. The beds should then receive a light forking over and have all rubbish cleared from them. They will then be ready for the reception of Wall-flowers, Stocks, Erysimums, and any other hardy subjects suitable for display during the spring months. It is a great pity that the planting of such hardy plants as these is not more commonly practised than it is. Under the present system of summer bedding a show is obtained for only a comparatively few months of the year, leaving the beds and borders bare, and the garden desolate, during a much longer period than need be.

Hyacinths, Tulips, and Anemones may now be planted in beds and borders, amongst the grass on lawns, or in thinly-planted shrubberies. Bulbs quite good enough for the purpose can be obtained from any nurserymen at surprisingly small cost, and there can be no doubt that any extra outlay in this direction meets with ample reward.

Tuberous Begonias.—These are immensely popular at the present as bedding plants, and few indeed are the places in which the flower garden does not boast a bed or two filled with them. When the tender succulent stems are destroyed by frost, the tubers should be lifted, placed in shallow boxes with a covering of sand or dry soil, and given a place upon the shelves of the store-house. Failing that, they may be kept through the winter very easily in a cellar or shed from which the frost is excluded. But at any rate they should be got out of the ground as soon as possible, as from the tubers lying so close to the surface of the ground they may readily take harm from severe frost.

Gladioli, too, are very sensitive, and it is not advisable to leave them out too long, or the corms will be sure to take harm from sharp frost. The corms should be lifted with the stems and leaves attached, as soon after the first check as possible, a placed in a shed or outhouse to ripen. After which the stems may be removed (cut off with a pair of shears) and the corms packed away in sand or dry soil.—*A. S. G.*

THE VEGETABLE GARDEN.

Vegetable Supplies.

The supply of these in many places will have been somewhat reduced by the frosts last week. Here in Derbyshire, in all the low-lying districts, Runner Beans and late Peas that were not protected have been cut down. The late Potatos, however, in some places are still green, therefore scarce ready to lift; there is but little signs of disease, particularly on the light soils. When time permits, clear away all sticks from Peas and Beans, and prepare the ground for future crops, such work being of the greatest importance, for the longer the soil is exposed to the weather the better will it be for future crops.

Asparagus.

In many places this has to be forced very early in the season, and if special preparations were made as previously advised in these pages, by reserving some of the most forward beds, by allowing them to make their growth early in the season, these will now have become ripe and may be cut down. When doing this, all those having seed should be reserved, as this will be useful for sowing next spring. It is a good plan to remove some of the soil when the growths have been cut off and cleared away, as this will induce the crowns to ripen more quickly and cause them to start into growth more readily when placed into heat. Forcing Asparagus is not such a difficult task, but to keep up a constant supply is another thing, and where space is limited the chief drawback is in producing the roots, as much ground is required to grow them of sufficient strength to be of any use. Those, however, who have spare ground would do well to sow a piece each season and grow as many plants as are likely to be required for lifting, if this be done the permanent beds need not be touched.

Such plants can be grown in most gardens without any special preparations, but where the soil is too heavy it will be necessary to add that of a different texture to cause it to be more porous, otherwise the roots will not make satisfactory progress. Asparagus, as all gardeners know, thrives best on a light, rich soil of a good depth resting on a subsoil of gravel or sand, in such it can be fed to almost any extent without any fear of the roots becoming stagnant in winter, whereas if the ground be heavy, resting on a bed of clay, the water cannot pass away quick enough to cause a healthy and robust growth. On the former it will be necessary in dry seasons to feed liberally, while in wet the growth will be extra strong. On the other hand, if the soil be too cold and retentive, the roots often perish in winter; and many of the crowns go blind and are therefore useless for forcing, When lifting the roots do not expose them to the atmosphere longer than can be avoided, or they will not start so readily when put in.—*Kitchen Gardener.*

THE HARDY FRUIT GARDEN.

The harvesting of the crops of the later varieties of Apples and Pears, must still be carried on. Most of the sorts will be fit for gathering by the middle or end of the month. At any rate, after the expiration of this period, they will obtain no benefit whatever from hanging upon the trees. Indeed, it will be much better for the fruit as well as for the tree, if the crops are gathered and allowed to finish their work of ripening in the store room. Late Plums on north walls, such as for example Coe's Golden Drop, will keep for some time if picked (when dry), wrapped in cotton wool, and laid in shallow boxes on the shelves of a dry, but not too warm, store room. This late fruit, although it will not have the fine flavour of the earlier varieties will yet be fairly presentable if treated in this way. Filberts must be all harvested as soon as possible and laid on hurdles to dry before storing.

Raspberries.—Where new plantations of these are to be made, no time should be lost in making a start, for if planting be deferred for too long (especially on heavy soils), the tramping about necessary during the operation will result in a hard beaten plot of land more like a brickfield than anything else. Raspberries like a deep, rich soil, and the ground on which it is proposed to plant them should receive a liberal manuring—afterwards trenching two or three feet deep—if three feet so much the better. A distance of 5 ft. should be allowed between the rows, and about 3 ft. between the plants. A greater space may be given, however, on very rich soil when planting strong growing varieties. Some growers allow 8 or 9 ft. between the rows—the spaces between being devoted to the growing of various kitchen garden crops. Very good results are obtained in this way, the only thing of importance being to notice that the spade or the fork is not allowed to approach too closely to the stools of the plants, or they will be sure to suffer.—*A. S. G.*

FRUIT UNDER GLASS.

Vines.—Houses of late Grapes must have as free ventilation as it is possible to give them if the berries are to be anything like well-coloured. In the South of England less difficulty in the perfect ripening and colouring of late crops of Black Alicante, Lady Downe's Seedling Muscat of Alexandria, etc., is experienced than is the case in the north of England, and in Scotland. There, in seasons like 1894 has been, to obtain well coloured berries in the late vineries is always a work of great difficulty. The application of fire-heat will therefore be a matter of necessity, if grapes of good appearance, as well as well-ripened wood are to be looked for. The atmosphere in the houses must be kept pretty dry, and the temperature should not fall below 60° Fahr. by night. Water at the root should be given very sparingly. Late crops of Figs must also be treated pretty much the same way. The fruit ripening now, however, will soon begin to deteriorate in quality.

Melons.—Every possible advantage must now be taken of bright sunny days. The houses should be shut up very early in the day, and plenty of fire-heat applied. By this means some very good fruit may be obtained, although very much will depend upon the state of the weather during the next few weeks. A dull damp period would seriously affect the prospects of success.

Gleanings from the World of Science.

Luminous Plants.—Many of our readers have doubtless heard of the fire flies that dance through the Myrtle boughs, and many more have heard of the glowworm of this country, or even seen it. Luminous plants constitute a subject that is less familiar, though by no means new. The fact that certain plants give out light was known to the naturalists Aristotle and Pliny. So far as has yet been discovered, this property of giving out light is confined to the lower classes of plants which are not distinctly separated into stems and leaves. This particular kind of luminosity is known as phosphorescence; but there are luminous plants which do not give out light of their own production, but gather together the rays of sunlight which they can find in their dark and shady abodes and reflect it again.

Phosphorescence.—Decaying wood sometimes appears luminous, but this is owing to no property of the wood itself. It is due to the presence of the mycelium of a fungus named Agaricus melleus which lives upon the decaying wood of trees. Decaying meat and vegetables sometimes become phosphorescent owing to the presence of some Schizomycete living upon the rotting materials in question. In several other cases the light is entirely given out by the fruiting part of the plant, or what we should call the Mushroom or Toadstool. One of these (Agaricus olearius) is a native of the South of Europe, while several light-producing Agarics come from Australia. Other Toadstools that behave in this remarkable manner come from Amboyna, Manilla, and Brazil. That from Amboyna has been named the Fiery Agaric, or Agaricus igneus. Other plants have been recorded from time to time as being phosphorescent, but there are still some doubts of of certain of them being luminous at all. They are water plants, and in that case the light given off by some of them at least might be due to incrustations of foreign matter upon them.

Electricity.—At intervals for many years past, instances have been recorded of light being given off by certain flowering plants. The light in these cases is intermittent, consisting, in fact, of flashes or sparks, and if the observations were trustworthy, may be attributed to electrical discharges. According to record, the daughter of Linneaus was the first perhaps to notice, or imagine she noticed, sparks, as it were, of fire emanating from the flowers of Tropaeolum majus. Other observers have noted similar phenomena from the flowers of Oenothera macrocarpa, Polyanthus, Phytolacca, Calendula officinalis, Helianthus and others. In the case of the first three the light was continuous, but might have been due to the presence of light producing fungi. All these cases, however, require more elucidation to guard against mistake, for anyone can determine for himself that white and yellow flowers are remarkably luminous during the summer evenings. This is, doubtless, of great advantage to the night-flying moths and other insects which visit them. Even the small white flowers of Anthriscus sylvestris are very noticeable all through the night.

Luminosity from other causes.—Those who explore the caverns or mountain caves of Central Europe without previous knowledge of the phenomena will be astonished at the presence of innumerable specks of golden green that flash and sparkle in the darkness. Detaching a piece of rock and conveying it to the light, he will find nothing but a thin crust of Moss covering very dull coloured stones. The cells of this Moss are of peculiar construction, being spherical, and found in such a way as to gather up and concentrate the rays of light upon the chlorophyll which they contain. But they also reflect the light, hence their brilliant and sparkling appearance in darkness or semi-darkness. This kind of luminosity is, therefore, concentrated and reflected light, and is, therefore, quite different from phosphorescence.

Cause of Phosphorescence.—The fungi above mentioned can only give out their peculiar light when living and actively carrying on their chemical changes. The plants have to be in contact with air or oxygen and the temperature must range within a certain limit. When too low, luminosity ceases, and when too high it also ceases as the plant gets killed with the heat. Part of the energy of the plant is released in the form of light, which is, therefore, a waste product, the result of the destructive metabolism of the plant.

FLORICULTURE.

About Pansies.

In your leading article in last week's issue on Public taste and Florists' flowers, in alluding to exhibition Pansies, you remark that "exhibition Pansies seem to have had their day, notwithstanding the fact that many of them are very pretty in spite of their formality." What you evidently intended to infer was, that the old-fashioned Florists' Pansies originally the only exhibition varieties, were seldom seen now at our exhibitions or in gardens.

The fancy section, originally called the Belgian varieties, have such a wide range of beautiful colours and marking, and are now so perfect in form, and in the possession of other qualities which our Florists' require, that it cannot surprise even the old school Florists', that the fancy section should have become so very popular and universally grown. You allude to them as being valued, not only for their great size, and large showy attractive blotches which constitute their leading characters. We Florists', exhibitors and judges, must have something more than that. We must have found in all its requirements, substance, smoothness, brightness and distinctness; extreme size being the last consideration: refinement being a *sine qua non*. Thousands, I may say millions, of seedlings are bloomed every year and a large number are sold, but ninety-nine out of every hundred of these would not be tolerated in the exhibition stands of our best growers.

You pay a just tribute to bedding Violas, which are now most popular plants, and it is impossible to say too much in their favour as early spring and continuous blooming decorative plants, and they should be in every garden; but I do not fall in with your remark "that this flower in a large number of cases are very far from circular," because we do not look for that point in form as an essential qualification.

I have been so mixed up with Viola work ever since Mr. John Wills startled us with the glories of V. cornuta as a spring bedding plant, and have grown and seen many hundreds of varieties since as well as raising some of the best, that I now unhesitatingly say that we are having far too many new varieties forced upon us each year. We want now in Violas for general decorative work, a close sturdy habit of growth, great floriferousness, with very early and continuous blooming. Good constitutions and decided bright colours; whites to be pure and free from blotch or ray, and the same rule, as far as possible, guiding in yellows and other colours. Many fine varieties do not meet these requirements *as bedders*, but are, nevertheless, very lovely in border or mixed beds and for exhibition purposes, and I cannot too strongly recommend their culture. In these, as in the fancy Pansies, we are getting very lovely shades of colour which will find ardent worshippers.—*William Dean, Sparkhill, Birmingham.*

Flowers from Thornton Dale.

Mr. Thos. Wright, of Thorton Dale, near Pickering, sends us some more Carnations of his own raising, together with fancy Pansies also of his own production. He also sends flowers, stems and leaves of what we suspected to be a hybrid between the Carnation and the large flowered form of the Chinese Pink. The leaves were truly those of a Carnation, but the stems were branched almost from the base, and still very profuse in flowers and buds. All appearances tend to confirm us of the hybrid nature of the plant, but particularly is this the case with the flowers. Several other Carnations arrived in bad condition, so that we could not determine their real value, and No. 17 was missing. The fancy Pansies, on the contrary, were quite fresh. A very dark one with blackish-violet blotches, velvety-crimson lacing, and the upper petals of a still darker hue, was a good thing, but we should have liked a paler lacing, for then it would have been more clearly defined. Very distinct and pretty was that with black blotches and a bright yellow lacing; but the latter is liable to be displaced by red from the edges of the upper petals. Somewhat similar to this was another with golden lacing; the upper petals were also of that hue and edged with crimson. Another with dark velvety blotches, yellow lacing, and violet-purple top petals was also good. The blotches of the rest were not so well defined, and the colours liable to run on the top petals. Mr. Wright is an ardent florist, and goes in for the cultivation of many other florists' flowers.

AMERICAN COWSLIPS.

American Cowslips is the common name for those most beautiful hardy flowers, the Dodecatheons, though I have sometimes thought it a misnomer, for had they been styled American Cyclamens, the name would have been more appropriate, the form of the flower coming nearer to the Cyclamen than to those of the Cowslip of our meadows. They both belong to the Primulaceae; our own Cowslips are meadow plants, these American ones denizens of the woods. In North America, their native home, they are called Shooting Stars, a pretty and appropriate designation, which one would well wish had been adopted here.

It is to be regretted that they are not better known and more widely cultivated among us than they are at present, there being no good reason why they should not be as plentiful in our gardens as Polyanthuses, as they are not very particular as to soil, that of a light loamy texture being possibly the most

Dodecatheon media.

suitable. They will also do well in peat and leaf soil. Situation is, however, of more importance, and a cool, shady place is a first requisite. On rockwork or in a shady nook in the herbaceous border should be selected for them; here they will soon establish themselves, and when in flower during the spring will prove among the most beautiful and attractive subjects in the garden.

All the varieties grow freely under these conditions, and form tufts, which require dividing every third or fourth year, which operation should be performed during the latter part of January or early in February, when the roots become active, taking care not to divide into too small pieces as there is some danger attending it, the plants coming away weakly and dying under the process. They may be readily raised from seed when obtainable, but this is only to be had under very favourable circumstances.

The best known of all is D. media, of which there are varieties differing in colour, size of flower, and height of plant. Well grown clumps of it, with from ten to twenty stems, each having from six to twelve flowers and sometimes more, are gems among flowers available for pot culture in frames. The flowers are light purple, fragrant, borne on erect, slender stems, from 12 in. to 15 in. high. A most desirable plant to grow where the necessary shade and moisture can be found.

The Giant American Cowslip, D. Jeffrayana, grows from 24 in. to 30 in. in height. This has large, deep green leaves, from 9 in. to 12 in. long, and a red mid-rib. The flowers are reddish-purple, while the flower stems are stout, and resist wind well. It succeeds well in a rich, moist border, is quite hardy and among the elite of our hardy perennials.

D. integrifolium, the most beautiful of all, has flowers an inch in length, purplish-crimson, with an orange ring round the orifice of the corrolla. It is perfectly hardy and of free growth, and ought to find a place in every garden where hardy herbaceous plants are valued.—*W. B. G.*

A SHOW OF ONIONS.

The boom directed against the big Onions appears to have had the opposite effect intended, and made them bigger still. Such was the impression left upon our mind as we looked over the collections of Onions contributed to Deverill's Annual Onion Show, which were staged in the shop and in the market place, at Banbury, with an overflow in the street. The date was September 27th, and, it being market day, there were plenty of visitors to look upon the superbly finished specimens laid out to view. The Onion grower seems independent of weather, for whether the season be a dry, hot one, or whether it be cold and wet, the Onion is always flat, sleek, handsome and attractive. There is no make-up about Onions, it is of no use to apply a pair of tweezers to them. You may, by a skilful manipulation of the petals, transform an indifferent Carnation into a very good one, and so mislead the judges and public alike, but all the finessing in the world won't transform an ugly, ungainly, rough Onion into a perfect specimen.

The Deverill Onion Show of Banbury is now one of the institutions of the town; and shares with its famous cakes, its cross, the old lady who rides the white horse, and its antiquities at the old Rainbow Inn and elsewhere—the approval and confidence of the townspeople. The shop boys, the mayor, the yokels from the country, the common councillors and the uncommon aldermen, tramps, clergymen, and even the cattle for sale in the market, come to look at them. Nobody is charged for admission, but Mrs. Deverill, whose kind, womanly sympathies are with the Gardeners' Orphan Fund, has a collecting box in her shop for such as like to drop in silver. Let us hope it was well filled by night.

The prizes offered are given solely by Mrs. Deverill, who carries on the business since the death of her husband. The firm have made a speciality of Onions, and they encourage the growth of their fine stock by offering prizes for finely developed bulbs, and there is brought together a display the like of which can only be seen in Banbury, a town which has been famous for the growth of Onions for years past. The first class is a champion one, one prize is offered; a piece of plate for the six largest and handsomest specimens of either one of Deverill's Pedigree Onions. The fortunate winner is Mr. Noah Kneller, The Gardens, Malshanger Park, Basingstoke. He has six Ailsa Craig, a large, solid, globular Onion, weighing 12¾lbs. There are twelve competitors, and among the varieties staged by others are Lord Keeper, Anglo-Spanish, and Southport Red Globe, remarkable for its fine colour. The next class was for twelve specimens; largest and handsomest of Ailsa Craig, Advancer, Cocoa-Nut, all Deverill's specialities, or the Original Excelsior. Here Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood House, Blandford, was first out of twenty-one competitors, having twelve Ailsa Craig weighing 23½lbs. Mr. Kneller came second with the same variety, a little heavier, but not so well finished as those shown by Mr. Wilkins. Mr. C. J. Waite, The Gardens, Glenhurst, Esher, was third with the same, and Mr. R. Lye, The Gardens, Sydmonton Court, Newbury, fourth with finely finished Cocoa-nut. This class was really for the globe-shaped types. Class three was for twelve of Rousham Park Hero, Anglo-Spanish, The Lord Keeper, or Royal Jubilee, Deverill's flat types. Here Mr. T. Wilkins was again first with superbly finished

Rousham Park, weighing 16¾lbs. Mr. Haines, The Gardens, Colesbill, Faringdon, was second with excellent Anglo-Spanish; Mr. R. Lye, third with the same; and Mr. J. Pease, The Gardens, Swalcliffe Park, Banbury, fourth with Lord Keeper. The Improved Wroxton, a very fine keeping globe-shaped Onion, which is being much grown by gardeners, had a class to itself. Mr. Pease was first with a very fine selection; Mr. T. Wilkins, second; and Mr. W. Pope, the Gardens, Highclere Castle, third.

The best twenty specimens of Onions shown by cottagers and allotment holders were Ailsa Craig, very good indeed, from Mr. F. Rogers, Basingstoke. Mr. H. Moss, Hackwood, was 2nd with the same; and Mr. G. Wells, Kineton, 3rd with the same.

Further four prizes were offered for eight dishes of vegetables, to include certain varieties of Mr. Deverill's own sending out. Some of the best growers of the day competed, there being five competitors, Mr. C. J. Waite taking the first prize with a superb collection, having Glenhurst Favourite Tomato, a splendid dish of Duke of Albany Peas, Exhibition Scarlet Intermediate Carrots, Oxonian Leek, Middleton Park Favourite Beet, a very fine selection. Aylesbury Prize Red Celery, Satisfaction Potato and Eclipse Cauliflower. Mr. R. Lye was second, having Autumn Giant Cauliflower in the place of Eclipse. Ailsa Craig Onion instead of Peas, and Purple Perfection Potato in the place of Satisfaction. Mr. T. Wilkins was third, and Mr. Masterson, the Gardens, Weston Park, Shipston-on-Stour, and Mr. Doherty, the Gardens. Wroxton Abbey, Banbury, equal, fourth.

After the awards were made Mrs. Deverill entertained a large party to luncheon, her health and continued prosperity being drunk with hearty enthusiasm.—*Onionist.*

ERYTHRINA CRISTA-GALLI.

To know this noble old plant is to love it! Anything more magnificent than a good specimen of it, carrying a few of the large racemes of vividly scarlet flowers, it would indeed be difficult to imagine. Although it is nearly hardy in the South of England it requires protection of some kind during the winter. The winters in the north of England are as a rule much too severe for it. It is a good plan, therefore, to grow large specimens of it in pots, start them into growth early in the spring, and as soon as all danger of frost is past, plunge them deeply enough to cover the rims of the pots in the situation in which it is intended for them to flower. Great care must be taken, however, that a plentiful supply of water is given the plants, as when plunged in pots after this fashion it is astonishing the amount of water they require. In the autumn they may be cut down, and the pots lifted and placed in a cold frame, or under the stage of a greenhouse, out of harm's way. They must be kept dry during the winter and complete rest afforded them.

Propagation may be easily effected by cuttings, which should consist of the young shoots taken in spring. If cut off with a small heel and inserted in light sandy soil with a little bottom heat, they will strike readily, and a stock may soon be worked up. Erytherina crista-galli, treated like this, is certainly one of the most useful sub-tropical subjects we have. Although one may often come across in very many gardens stray, unhappy-looking plants of it, in most cases it is regarded as a ne'er do weel, and its beauty and value not recognised. In some cases, indeed, that have come under my particular notice, its name has not even been known, and its presence has only been tolerated because of that very conservative feeling exhibited by so many gardeners who say—"Oh well! the plant has been in that very place for a number of years, and I have come to regard it as an old friend (although a useless one), and I don't like to throw it away." In cases like this where the plant has never flowered I have always noticed that it has been kept very wet during the winter, and I am of opinion that this is the most fruitful cause of failure with regard to flowering.

Like most other subjects of a like character, the plant impresses one most strongly when grown in bold and conspicuous masses in beds or borders. One such bed I have in my mind's-eye at present. It was circular in form, some 12 or 14 ft. in diameter, and cut out of the grass in the middle of a small sub-tropical garden. At the particular time at which I saw it (it was during the month of August) it was quite a picture. I thought then that this beautiful plant was well worthy the name of the Coral Tree—a title that its beautiful, rich, scarlet flowers have deservedly earned for it. When it is permanently planted out, the rootstocks will need some protection during winter, which may be afforded by a good layer of dried bracken or leaves.

In choosing a situation in which to make a permanent planting, it will be necessary to select a warm, open spot—for the Erythrinas are essentially

DODECATHEON MEDIA GIGANTEUM.

sun-loving plants, and it would be useless to plant them in shady covered-in positions, for, while they will grow in such a position they will emphatically refuse to flower. They like a deep strong loamy soil. If therefore the soil is poor and sandy, the greater part of it should be removed, and the bed filled in with a compost of rich turfy loam, and well rotted stable manure. A further top-dressing of manure should be accorded the plants each spring, and abundance of water given during the growing period, but none during late autumn and winter. If this kind of treatment be followed up, plenty of flowers will be obtained, and the plants can hardly fail to give complete satisfaction.—*G.*

Chrysanthemums and their Culture. By Edwin Molyneux. Sixth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London W.C.

WOKING NURSERY.

THE Woking Nursery of Messrs. George Jackman & Son, is conveniently situated less than a mile from Woking station. It occupies a very extensive area of variously undulated ground planted with ornamental trees and shrubs, flowering and otherwise, including Roses, of which about 150,000 are raised every year, and grown both in pots and the open ground. About 60,000 fruit stocks, strong stuff, are also raised, and may be seen on a piece of ground on the right before entering the nursery from the main road separating the two portions. From the gate a long straight path runs right from end to end of the main body of the nursery, so that a general view of the stock may be obtained on either side of this as the visitor passes along.

CONIFERS.

These are well represented in different parts of the nursery by trees of different sizes. Almost the first to be noticed is a fine lot of Cupressus Lawsoniana erecta viridis. We noted fine, shapely specimens of the ordinary C. Lawsoniana, 4 ft. to 8 ft. high. The finest specimen of C. L. lutea we remember seeing was a specimen 6 ft. to 7 ft. high of perfectly pyramidal shape and good yellow hue. Many other specimens of various sizes may be noted in different parts of the nursery. Trees of the Black Spruce (Picea nigra) about 2 ft. high, are neat in form and have glaucous foliage. Close by here the columnar form of Cupressus macrocarpa may be noted. Retinospora pisifera is a beautiful tree that ought to be met with more commonly in cultivation; the golden form (R. p. aurea) is equally graceful but presents a distinct tone of colour in plants about 2 ft. to 3 ft. high. The Hemlock Spruce (Tsuga canadensis) forms graceful drooping trees about 4 ft. to 6 ft. high. Abies grandis is a beautiful and fast growing tree of which there are specimens here 2 ft. to 3 ft. high. Green and Golden Irish Yews may also be noted of various sizes and in good condition. Cupressus Lawsoniana argentea is of a silvery glaucous hue and much more compact in habit.

For single specimens upon the lawn, Retinospora plumosa aurea affords a pleasing bit of colour by contrast with the grass beneath and other subjects around, and is perfectly hardy. Close by is a healthy plantation of Araucaria imbricata about 2 ft. to 2½ ft. high with good leaders. Tall plants of Thujopsis borealis may be noted in plenty. The Atlas Cedar (Cedrus atlantica) about 6 ft. high is in fine condition for transplanting. Abies canadensis alba spica is singularly distinct and handsome with its drooping sprays tipped with white, and which retain their colour all the winter. It is seldom we have the pleasure of seeing Juniperus japonica aurea 5 ft. to 6 ft. high, yet here it is in good form and plenty. Healthy trees of Abies lasiocarpa stand about 3 ft. high. The Colorado form of Abies Douglasii may be noted in young trees 1 ft. to 2 ft. high. Very singular are the Golden Weeping Yews, with umbrella like heads worked upon stems 3 ft. to 4 ft. high. Taxus Dovastoni is a green, weeping form of similar habit mounted on stems 2 ft. to 3 ft. high.

A Golden Yew of beautifully pyramidal shape stands about 6 ft. high and is a picture in itself. The Corsican Pine (Pinus Laricio may be seen 3 ft. to 5 ft. high, and close by the Austrian one is 2 ft. to 3 ft. high, and a plantation of Red Cedars is higher. The Blue Spruce (Abies pungens glauca) is a handsome and slow growing tree with blue foliage. The common Spruce is grown in quantity from 1 to 2 ft. high. A graceful and rare tree is Retinospora filifera aurea, differing from the type in being golden. The Scotch Fir in a small state is grown in quantity. The golden Chinese Juniper is equally as handsome as the Japanese one, but grows more rapidly.

OTHER ORNAMENTAL TREES AND SHRUBS.

The names of the flowering trees and shrubs and those with fine foliage are legion, for many are grown here we seldom see elsewhere. A silver-leaved Ash (Fraxinus pubescens argentia variegata) is a very distinct thing and would be even better in the early part of the season. The darkest green Lime we have ever seen namely, Tilia euchloro is grown here; it retains its leaves a fortnight later than the common Lime, and the young branches are yellow. The common and Caucasian Laurels are grown in quantity, the latter being the better; distinct, too, is the short-leaved form known as rotundifolia. The False Acacias are also plentiful and in fine condition. The Mop-headed form iner-

mis is grown on stems 6 ft. to 8 ft. high, Robinia hispida is 8 ft. high; R. Pseud-Acacia Bessoniana is well known as a handsome form; but none exceed the graceful beauty of R. P. angustifolia, the foliage of which is graceful and feathery; R. glutinosa is notable for the red bark of the young wood.

A good many Hollies are grown here including the flat-leaved and golden edged Watereriana. Golden Queen Holly is notable for the bright golden yellow of its shining leaves, some of which are wholly golden. The Golden Weeping Holly stands on stems 6 ft. high, and must be fine when the branches reach the ground. There are also tall trees of Waterer's Holly about twenty years old. The berries of Contoneaster Simonsii are now finely coloured. Portugal Laurels are in very healthy condition. Persian yellow Briers and Pyrus floribunda are practically going to rest. Very handsome is the foliage of Cornus Spathii, in bushes 2 ft. to 3 ft. high. A large bush of the green form of Aucuba japonica measures 4 ft. high and as much through. Magnolia Soulangeana is 6 ft. high and still flowering. In summer the leaves of Spiraea opulifolia aurea assume a fine golden hue. Those of Cornus Mas elegantissima have a silvery border with a bright red edge, and are very beautiful. The leaves of Pyrus Aria lutescens are much longer than those of the Beam Tree and hoary.

The golden foliage of Ptelea trifoliata aurea is as fine as ever, and the bushes are 7 ft. to 9 ft. high. Laurustinus is now flowering freely. Large quantities of the oval-leaved Privet are now in fine condition. Diplopappus chrysophyllus is also in excellent order and in quantity, as are Myricaria germanica, and Kerria japonica flore pleno. The Virginian Creeper is now of a rich red. The glaucous leaved Judas Tree, the Purple Hazel, and the silvery-edged Cornus alba variegata are still very beautiful. Other valuable subjects we noted were the glaucous leaved Handsworth Box, the golden Van Houttei, and the common Box; also Staphylea colchica, Cytisus Andreanus on the Laburnum, Coluta arborescens, Lilacs in variety, Rubus odoratus, Rhodotypos kerrioides, Hypericum oblongifolium, the Snowberry in fruit, and a host of other things, many of which are still flowering. Roses in the bush state are very plentiful.

Park and Street Trees.

The size of some of the trees in liftable condition is astonishing, and until comparatively recently such trees would hardly have been obtainable. The variegated Negundas is very fine: and the variegated Tulip Tree is worthy of more attention. Prunus Pissardi and the Purple-leaved Peach are handsome objects at present. Other fine foliaged subjects are the variegated London Plane, the purple and variegated Sycamore, the purple Elm (Ulmus corylifolia purpurea) 6 ft. to 10 ft. high, Acer Schwedleri, whose purple foliage in spring is grand. Populus Bolleana, 18 ft. high, erect, with white foliage, and Liquidambar styraciflua, whose leaves will presently be aglow with red and crimson. The Lombardy Poplar (18 ft. to 25 ft.), Norway Maple, Sycamore and Silver-stemmed Birch, each 15 ft. to 20 ft., Ash (15 ft.), Mountain Ash (10 ft. to 15 ft.), Abele Poplar, Weeping Mountain Elm, with 6 ft. to 8 ft. stems, standard Thorns, 6 ft. to 10 ft., the Maidenhair Tree, the common Beech (12 ft. to 15 ft.), the Purple and Weeping Purple Beeches, the Black Italian and the broad-leaved Balsam Poplars, Chestnuts in variety, Acer platanoides aurea marginata and A. p. laciniata, the Golden Van Houttei Elm, Laburnums (6 ft. to 10 ft.), the Scarlet Oak, the Scotch Elm (15 ft. to 20 ft.), and the silvery variegated Acer dasycarpum Yulki are some of the many fine things which may be obtained here, and by which streets and parks may be made to look furnished at planting time, or very soon after. Fine Walnut trees (6 ft. to 8 ft. high) must not be overlooked. Ten to twelve thousand Clematis, in great variety, are raised every year, and Ivies of sorts are largely grown. The beds of seedlings of Hazel, Holly Oak, Chestnut, Oak, Spanish Chestnut, and Turkey Oak make a strange contrast against the tall trees above mentioned. Sweet Briers are also largely raised, as well as Rhododendron ponticum, seedlings and named kinds.

Fruit Trees

We noted large quantities of Early River's Nectarine, chiefly budded on the Mussel stock in September, 1893. They have now made healthy growths 3 ft. to 4 ft. high. Plums are also largely grown. At the far end of the nursery, considerable areas are planted with dwarf trained Plums, Pears, Cherries, Apricots, and Peaches. Brompton stocks are largely used for Plums. Altogether about 65,000 stocks of various kinds are used annually. In an adjoining field about five minutes' walk from here are standard Apples, Plums, and Cherries. There are about 2,000 bush Apples trees on the Paradise stock. Another field is occupied with horizontally trained Apples, Nectarines, Peaches, Plums, and Pears, all maidens. Some of the Plums have made growths of 6 ft. Others have made proportionately vigorous growth, although grafted in spring. The rich character of the soil and the abundant rain must doubtless be held accountable for the great progress made.

Herbaceous Plants.

Messrs. Jackman & Son have just recently commenced adding hardy herbaceous plants to their collections, and have already got together many fine things, some of which are grown in quantity. There are 1,000 plants of the perpetual flowering Pink Ernest Ladhams, and the Carnation layers have been put in pots. About 100 varieties of single and double Pyrethrums are grown. Amongst things which are uncommon we may mention Campanula glomerata dahurica alba, Scabiosa caucasica alba, Linum Lewisii, Stokesia cyanea, Geranium Wallichianum, Saxifraga longifolia in quantity and newly imported, and Tritoma glaucescens. The Sunflowers are now in their glory, including Soleil d'Or, Bouquet d'Or, and Miss Mellish, the latter being 5 ft. to 6 ft. high. Asters are also in season, including ptarmicoides, A. laevigatus, and A. Amellus bessarabicus. Dahlias, Cannas, Hollyhocks, Violas, and Lilies have also been taken in hand. A small piece of rockwork has been planted with choice things to make some growth. It is hardly possible to do justice to such a wide and varied collection as is to be found in the Woking Nursery in the brief space at our command. The present is a splendid opportunity for making a selection of valuable trees and shrubs for planting directly after the leaves have fallen, or partly so.

A RAMBLE ROUND THE GREAT ORME'S HEAD.

Following precedent, which has been freely set in recent issues of the Gardening World, I purpose noting a few things about Nature, which appealed to me during the course of a ramble round this noble promontory. But first, I would re-echo the sentiments of a recent writer as to the advantages to be derived from such a ramble, physically, mentally, and botanically. I ought also, perhaps, to add that the *locale* of our present visit is on the coast of North Wales, near the Isle of Anglesea, over which it towers its wild and ragged head.

Let us then ascend its ancient steeps, for otherwise we cannot become acquainted either with its botanical or its geological treasures. So passing by the Pier Gates and across the "Happy Valley," we are soon ascending the precipitous sides of the Great Orme, without which, the substantial but modern town of Llandudno, would be shorn of half its charms. On our right hand the beautiful bay is all aglow in the sunshine, while on its margin just beneath us, the common Ragwort flaunts its numerous golden corymbs in our face. It is at least three feet high, with a stout stem, or rather stems, and we fancy we can detect a honey-like odour. Poppies, Knapweeds, and a host of other things, still linger on, while the Sea Wormwood is being collected by an old man, who informed us that it was good stuff for the appetite, and that his "old 'oman" always kept some in the house. Old people, evidently, believe in old remedies, and will not hear anything against their favourite medicines. Just by here there grows some nice little clumps of the Nottingham Catchfly (Silene Nutans), with white sweet-scented flowers, the wild Fennel, and the bright rosy-coloured Crane's-bill (Geranium lucidum). Several species of Geranium seem to thrive amongst the *debris* of the rocks, Herb Robert, or the stinking Crane's bill, being one of them; while a near relation, viz., Erodium cicutarium, or the Hemlock Heron's-bill, may easily be distinguished. The white variety is very conspicuous, not to say disagreeable, when the plant is brought too near the nostrils.

On the grasy slopes the common, though very beautiful, Rock-rose is in abundance, its gay, canary-coloured blossoms studding the turf with spots of gold. Its sister, the Hoary Dwarf Rock-rose, is less abundant though equally as pretty, for its small decumbent stems and hoary leaves are, on examination, full of interest. This is one of the varieties common to the Great Orme. It is so mixed up, however, with other low growing plants, that it is not likely yet to be exterminated. The technical term Helianthemum, is a very appropriate one for this genus of plants, for they really are Sunflowers, and delight to follow the attractions of Sol's bright rays; yellow flowers particularly seem to be the especial favourites of our fiery orb, for what Wither writes of the Marigold, may, with equal grace, he applied to this lovely flower:—

"How duly every morning she displays
Her open breast when Phœbus spreads his rays."

The Wild Thyme ought, perhaps, to be mentioned in this connection, for it is essentially a sun-loving flower, and, moreover, much sought after by the bees. While I was examining a tiny sprig, a bee positively also came to look, but he did not stay long, perhaps he was apprehensive of danger, or being intelligent, flew away to fields of greater promise. It is sometimes alleged of the Thyme that sheep do love to crop its fragrant leaves, and that, as a consequence, a fine flavour is imparted to their flesh. Whether this be so or not, I can fully enter into Punch's parody on Taffy's supposed propensity, that:—

"Taffy was a Welshman; Taffy's not a thief;
Taffy's mutton's very good—not so good his beef."

Another very aromatic plant about here is the Corn Mint, which produces its pale purple flowers in whorls, has a spreading habit, and is covered with little hairs. If the foliage be drawn through the fingers there will be no doubt as to its aroma, but what that is like will always be a matter of opinion. The Hairy Mint is also present where there's moisture in the soil; while up above, where the sun shines fiercest, on the rocky shelves, and in the numerous interstices, we shall find the Biting Stonecrops and the Wall-rue Spleenwort. What a a contrast! For while the foliage of the former is brown, red and yellow, the tiny little fronds of the latter are of the deepest green. But, best of all, because the most graceful of all, is the charming, though common, Hare-bell. Common! If the hills were blue with it, and if the fields contained no other flower, it could scarcely come under such a designation. What beautiful bells! How they swing to and fro in the briny breeze; and who shall aver that they do not ring? It is of this little gem that the Lancashire poet, Edwin Waugh, sang so sweetly:—

"And when it died, the south wind sighed,
And the drooping fern dooked dim."

There is no doubt, that to the true lover of nature, wild flowers possess a charm which no garden can give.

But we must advance. Just here, however, the limestone cliffs demand attention. What a lesson they afford to the constructors of rockeries! How natural and yet how confusedly regular! How well they set off the alpine vegetation! So much so, that I could wish some tons of them were mine, that I might transpose my little pleasure garden into a miniature mountain scene. Now we are right up amongst the craggy precipices; a little further and the open downs are reached. Here grow the Ling, the Heath, the Gorse, the Scabious, the Wild Thyme, and a thousand other sweet and lowly things. Here the climber may pause and take breath, imbibe the pure air of the mountain and watch, with Jefferies, the "fleecy clouds smiling in the ether, when there is sure to come into the mind a felling of intense joy in the simple fact of living."

In a dip over the prominence upon which we are reclining lies the little church of St. Tudno, which gives its name to the prosperous town beneath these hoary hills, where fashion and folly contend for the mastery. What the patron saint would think of such worldliness, I know not; certain it is that in his day—although little is known of him, except his name—no such scenes could have possibly met his gaze. Llan means a consecrated enclosure, or church, and is the prefix to the name of the Saint; which prefix is a very common one in these parts, for nearly every village has its church, hence this term largely enters into the composition of the names of Welsh places.

Having ascended the highest point—750 ft.— and absorbed the view, we push on to the extreme end,

overlooking the lighthouse, where the scene is of the wildest description. Here huge boulders lie about in the utmost confusion. Surely some infernal agency has been at work—the Titans themselves, perhaps, have been playing at bowls. Anyhow, the picture is of an extremely rugged character, in this wild North-west corner of the great Orme's Head, and well worth a visit on that account. The view is sublime! Before you there is a wide expanse of ocean, beneath you the everlasting cliffs, which are being perpetually triturated and worn away by the ceaseless action of the waves. Even on these apparently barren and precipitious rocks vegetation finds a footing, for besides the commoner limestone plants, which are here in plenty, such things as the mountain Cudweed, the alpine Hawk.weed, and the sea Plantain, nestle among and between the projecting boulders. and craggy interstices.—*C. B. G. Acton, W.*

FRUIT FARMING IN CALIFORNIA.

On Tuesday evening an interesting lecture on this subject was delivered at The Gallery, 9, Conduit Street, under the auspices of the Balloon Society, by Mr. Frank Karslake, of Placer County, California. The chair was taken by Mr. Everett Millais, and several experienced colonists were present.

Mr. Karslake said that after twenty-five years of sedentary life in London, he had been ordered abroad for the sake of his health. He had now been in California with his family for many years, and had been deputed to come over here by the Directors of the English Colony to transact business in connection with an Agricultural Training College lately started there, which had for its object the education of young men, with energy and capital, who desired to take up fruit farming. It would be impossible, within the short time at his disposal, to speak about a stretch of country 770 miles long, and from 150 to 330 miles wide, but he would try to deal with a section of the country with which he was thoroughly acquainted, namely, the Yosemite Valley. After describing the lovely scenery of the famous valley, which, he said, resembled that of Devonshire, Cornwall, Derbyshire, and North Wales, Mr. Karslake remarked that though California had been discovered by the Spaniards in 1534, it was only in comparatively recent years that emigrants had become aware of its value as a money-producing country.

Among the lantern slides with which the lecturer aided his descriptions was one representing a fruit ranch in Placer County, where, said Mr. Karslake, the Oranges ripen earlier than in other citrus districts, and the grower is therefore able to sell his crops free from competition. The fruit was gathered in the winter, when the weather was even sufficiently warm to enable the colonists to work in their shirt sleeves. When rain fell it did so at distant intervals for perhaps six or seven days almost unceasingly, and then the weather again became fine and genial.

Whilst dealing with the subject of the Agricultural Training College, which appears to be conducted upon lines similar to those adopted by the Agricultural College at Cirencester—with this difference, that the College in Placer County has been organised for the benefit of colonists intending to grow fruit in California—Mr. Karslake made some straightforward and sensible remarks. "The boy," he said, "has to learn, and he cannot learn in England, for if he attempts to do so his learning has to be unlearnt, and he has to begin again, and learn the methods in the new country, with the disadvantages of having acquired prejudices which it is hard to dismiss. So he goes, perhaps, to some farmer or rancher, who may or may not try to teach him in return for the premium he receives. In a private house it is impossible to provide or to enforce teaching by system, and the pupil more often than not has simply a twelvemonth's holiday, and leaves no wiser than he went. Or he goes, possibly, to some farmer, who takes him without a premium on the specious pretence that the pupil will be taught in return for his work. There are those in England who will assure one that this is possible, and that one can really learn under such a system. We who live in America know better. You can no more effectually and economically do anything on the cheap in farm instruction than you can in anything else in life. In that more, perhaps, than in anything else, 'cheap' and 'nasty' are synonymous terms. The pupil becomes the drudge of his master for the time being. I have known young Englishmen—sons of gentlemen—who have had to rise before daylight, clean out the stables, milk the cows, and perform the most menial work of the common labourer from dawn till dark, feed upon a diet of pork and beans, seated on bare forms, eating from bare tables, housed in shanties with bare wooden walls, under roofs through which the rain dropped on to their beds, pulling stumps out of the ground for three months at a time. This is the cheap and nasty way of acquiring experience. And at the end of their twelve months, what can these boys know of scientific farming, or of the higher forms of horticulture from which the larger profits are made? Nothing—absolutely nothing. These two extremes were the chief features of the notorious 'pupil system,' and they are condemned in the report of the British Consul this year. And so, recognising the scandal, some of the most prominent English and American residents of Placer County devised a means by which it might be ended. The result has been the establishment of the Placer County Agricultural Training College.

The lecturer then referred his audience to the *Times* of Friday, September 21, in which one of the leading fruit dealers in Covent Garden stated that "while English Pears were realising from two to four shillings a bushel, he was selling thousands of cases of Californian Pears per week at from ten to fourteen shillings a case. They prefer," Mr. Karslake continued, still quoting the dealer's words, "to pay this price for a first-class article rather than pay a low price for English Pears. He accounts for the superiority of Californian fruit partly by reason of climate, and partly from the care taken to keep insect pests in check."

Having drawn the attention of the audience to specimens of fruit received in Covent Garden during the past three weeks, Mr. Karslake said that "The profits of fruit-growing depend very much, as in every other calling, on the knowledge, skill, energy, and intelligence of the individual. In the case of young men, almost everything depends upon whether they take an interest in the work. Provided they do this, and are properly trained, failure is not possible. Life in California can be made very pleasant. There is plenty of time for diversion, but if a young fellow goes out thinking that he can occupy his time with doing nothing but amuse himself, and leaves his ranch to take care of itself, he will fail, and will probably return to England and seek to excuse his non-success by writing to the newspapers, and sending up the false cry that 'There is no money to be made by fruit-ranching.' Those who have no capital at all, are strongly advised not to go to California." What he maintained was that California is a new country, and consequently not over run, and that money can easily be made there by the application of capital, assisted with energy and determination.

Living was cheap in California, the mails reached England within eleven days, and a first-class return ticket from Chicago to England cost £50. Shooting and fishing might be obtained on Lake Tahoe, which could be reached by rail and stage from Placer County within two hours. At present the railway rates were high, but they were gradually being lowered. It was also hard to obtain good servants, though now that a Servants' Agency had been opened in San Francisco, this difficulty would soon be overcome, and it would become possible to obtain trustworthy Swedish servants. Lastly, it was wrong to suppose that Englishmen, living in California, were obliged to be constantly armed. Young Englishmen invariably brought revolvers with them, as though they expected to become amateur policemen, but they soon found out that such weapons were not needed.

Methods of fruit-farming were well illustrated by photographs and views, and samples of fruit kindly lent for the occasion.—*Land and Water.*

AGAPANTHUS UMBELLATUS.

This old friend, which is better known perhaps as the blue African Water Lily, is in truth a noble and stately plant. Grown in pots, and placed outside during summer and autumn by the banks of streams, or round the margins of fountains and other pieces of ornamental water, it looks magnificent. The dark green glossy leaves, with the large many-flowered umbels standing well above them upon the vigorous erect growing scapes, produce an effect in such situations the beauty of which can be better imagined than described. Although it is said to be hardy in the more southern districts of this country, in most localities it will require protection during the winter.

The bringing of the plants indoors is an operation that should not be deferred for too long. A place under the greenhouse stage will be quite good enough for them, and but little water should be given them, In some places they get no water at all from the time of bringing in in the autumn until they are sent out again in the spring. I do not agree, however, with letting them get in too dry a condition. True it is, they are very contented. Their wants are few, and easily satisfied, and they are very hard subjects indeed to kill. Following the principle, therefore, of the willing horse having to bear the heaviest burden, they are often sadly ill-treated. I have seen plants which have never been potted within the memory of man, some with pots and others with pieces (or none at all), bloom most profusely during summer or early autumn when they were stood in water about eight or ten inches deep. Such a beautiful plant is, I contend, well worthy of more kindly consideration.

A. Umbellatus albidus.—This is a white flowered form of the afore-mentioned species, and like it, is a native of the Cape of Good Hope. It is a vigorous grower and a profuse bloomer, although the individual flowers are somewhat smaller than those of the type. Still it is a showy and a useful plant, forms a pleasing variety when grown with the blue flowered kind, and should find a place in every garden. Like A. umbellatus it needs a plentiful supply of water during the growing period; and occasional doses of liquid manure will prove of inestimable service. Water must, however, be carefully withheld from it during the winter to ensure success in its cultivation.

UNFRUITFUL FRUIT TREES.

This is a subject that requires the closest and most skilful observation and the calmest judgment. Whether it be only one or two or a few trees, or the general bulk of them, all must be taken into account, and the real reason in each individual case respectively noted and judged. A wide subject truly, necessitating much thought and patience in order to arrive at the proper treatment to be given at the proper time, and that no mistakes may be made if it is possible to avoid them. Errors of observation and judgment, of decision and practice, will occur, no man is perfect, but still, given the attentions which practical skill and experience dictate and healthy and substantial results will follow.

The subject is so wide that I feel it will be best to narrow it down and bring it as near home as we can. I may as well, therefore, give one of my own life experiences. An ounce of practice is worth a ton of theory. Some sixteen years ago I came into the management of a fruit garden and orchard which had been treated partly in the "let alone" way, and partly in a bad form of the once popular "restricted" way of management. The old trees in the orchard, some eighty years old or thereabouts, were choked into either partial barrenness or they produced fruit so small, colourless, and insignificant as to be, comparatively speaking, almost worthless. After much study of them these were treated at the winter pruning to a strong dose of saw, to let in the light in the majority of instances, and some were marked for heading down, to be regrafted in the spring. Of these, I may say here and now that by this treatment they are producing as good crops as any orchard trees in the neighbourhood. The trees in the fruit garden were a greater difficulty. As to the wall trees they consisted of, first, a very mangy lot of Peaches and Nectarines. These were, after much deliberation and study of them and the elevation of the place and the climatical conditions surrounding, weeded out, and their places filled with chiefly Apricots, which were a fruit crop generally doing well, and much in request by the family I worked for.

Second, the wall Pears had been for a long period pruned on the stag horn spur principle, most of the spurs standing out from the wall some 12 to 18 in. or more. These were reduced by degrees until now, all the spurs lie close to the branches, and we

are getting annually a fair crop of fruit, whereas before I was told that they never or very seldom bore any fruit, and that when they did it was only in a fitful way, a Pear or two here and there on a few trees, and some had never been known to produce any. These latter I found were two trees of the old Crassane, each tree covering a wall space of 20 or 30 ft. They had been when first planted and trained well done, the side branches being at regular distances and well placed. One of these I grafted two years in succession, every alternate side branch, with Pitmaston Duchess, so that the tree is now producing fine fruit of this splendid Pear year by year. The other being a younger tree, as I thought, and certainly looked healthier, I let go on for a year or two to see if I could coax it into fruiting. It was of no use, however. I got a few Pears now and then, but nothing to repay me for the trouble spent on it and the wall space it occupied. I therefore set on and regrafted it entirely one spring with that other useful and always acceptable Pear, Doyenné du Comice. This is now coming into bearing, and altogether I am satisfied with my treatment, for there is not one tree this year in the whole length of the wall that is barren.

The bush trees were a more serious subject. They had been bought to be grown on the restricted, pyramidal or dwarf bush style, popular thirty or forty years ago, when they had been planted, but my predecessor not having been properly drilled and trained into that form of management had certainly restricted the trees by cutting of their tops every year; thus, whilst not getting scarcely any fruit, he did succeed in giving an excellent crop of flower-sticks. I was told that one or two of the trees had produced a few odd fruits now and then, but that some of them had never been known to fruit at all. Well! that would not do for me; and so, after much cogitation I determined to adopt very stern measures, and I set on and had them all root-pruned as soon as the leaves were at all ripe. Some time in October I thinned out the heads and regulated them, leaving the best wood in to form the foundation of a tree and waited developments. Very well, at this time, those who knew the trees in the old days can scarcely believe their eyes on seeing well-developed either round-headed or pyramidal trees carrying full crops every year and finishing these crops off well.

I may be asked, but how did you root prune them? To this very commendable question I might give that old one as to manuring. I root pruned them "with Brums, sir." Quite so, but how? I just studied each tree or bush and decided by my practical judgment how much root pruning it would stand or require to give the result I desired. Some trees were only partially root pruned, but the generality were done absolutely. One I know was done so absolutely that it died, but I could spare that, and as I found that it was a comparatively worthless one (Pius the IXth) I did not pull a long face about it.

At the end of sixteen years I am quite satisfied with the result. I do very little top pruning. I like to encourage the formation of natural spurs by keeping them open in their branches, and I much prefer to take a branch out entirely than to shorten back. This shortening back only produces a mass of twiggy growths which choke up the centre of the tree. My advice to a young gardener who comes in the course of his life experience into some such difficulty as I had to face, is to study it out, and then act decisively and trust the future. It may be thought that in this record of my experience the first personal pronoun is a little too conspicuous, and that the successes are too prominent and rosy. That may be, but as in life it is wise to remember kindnesses and blessings and to forget difficulties and injuries, so in gardening it is good to remember what has succeeded, and to think as little as possible of the difficulties that we have passed through. Those difficulties have had their influence in giving us experience, and the successes have had theirs too in making us go on more cheerfully to face in the future whatever hard and perplexing things we may have to meet.

I confess freely, as every old gardener is only too ready to confess, that all through the sixteen years of upward struggle of bringing the trees into a state of fruitfulness, I had need of all the husbandman's patience; but then a gardener without patience is an anomaly. No man can be a gardener without patience, coupled with perseverance; it is the secret of his strength and success.—*X.*

CHRYSANTHEMUM NOTES.

Securing the Buds.

The main object in view when taking the crown bud is to procure large and substantial blooms, either for show or decorative purposes. Most varieties show this early, or crown bud, in August. Much, however, depends upon the time at which the cuttings were struck. The crown bud may be easily distinguished from its appearance. Below the two leafy appendages, or bracts, which it usually carries, several growths will be made. These should be rubbed off so as to throw the full vigour of the plant into the work of developing these early buds, if fine large flowers are expected.

For market purposes many varieties like the Salters, Elaine, Lady Selbourne, Jeanne d'Arc, and Fair Maid of Guernsey should be allowed to develop these growths, afterwards rubbing out the small buds they bear, and leaving only the central and terminal one, for if all are allowed to open, the flowers will have but little substance, and will soon fall when cut. These remarks do not apply to the Pompons, which are generally grown for their free-blooming qualities. My opinion is that two-year-old plants are the best to furnish cut bloom for market. They generally throw stronger shoots and more of them, and thus one can afford to take all crown buds, a fine lot of bloom resulting; whereas the quantity of flower obtained from the crown buds of a cutting (unless exceptionally well grown) scarcely pays.

Let those who doubt the efficacy of this system of culture try a few two-year-old plants, of sorts like Avalanche, Val d'Andorre, Mons. Bernard, Alfred Salter, and Wm. Robinson. Strong plants of these are capable of carrying from eighteen to twenty-four blooms each, and varying in size, from as large as the top of a cup, to as big as an ordinary sized saucer. For blooms of this kind one can always command a fair price either cut or when sold upon the plant. Besides, it does a grower infinitely greater credit to turn out such specimens as these than it does to sell those obtained by other systems of treatment.

Although this way of growing Chrysanthemums is hardly known amongst hundreds of market growers. I am quite sure that there is a future before it. If given a fair trial it will be sure to give satisfaction, providing suitable varieties are selected.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

WINTER ROSES OUTSIDE.

Roses at any time are most welcome, especially during the dull months of the year, when they are to the great majority almost forbidden luxuries, as being without the means of growing them under glass they cannot well afford to pay the price asked for cut flowers; but still in the majority there are very many possessors of small gardens, and some wall space sheltered possibly by over-hanging leaves, where at least two varieties of Roses might be planted with a fair prospect of their presenting their possessors with a few presentible buds up to Christmas in ordinary seasons. The old monthly common blush China is one of them, and in reference to this I may remark that having frequently gathered beautiful buds of it long after Christmas from plants on a north wall, I have every confidence in recommending it to the notice of intending planters whose accommodation is of the limited description.

The other sort I have in view is the Gloire de Dijon, possibly far better known than the old China, though the latter was introduced half a century before the "Glory" was raised. This in addition to being one of our earliest out-door Roses is one of the latest. Buds of it just opening if gathered during the winter and placed in a warm room often develope most beautifully, and have a chasteness and refinement about them which is wanting sometimes in flowers of this variety gathered during the summer months. I have seen it flowering beautifully as a pillar rose a few miles North of London at Christmas during a mild winter, and flowers of it are sometimes gathered from the open quarters in Nurseries very late in the season, but these ought when they can be had to be cut just as they are beginning to expand, because the continual dampness in the air causes the outer petals to decay. This universal favourite with the protection of a wall, will seldom fail to produce at least enough flowers to warrant its being called a Winter Rose.—*W.P.G.*

LINDEN HOUSE, CARLISLE.

When recently visiting the collection of Orchids belonging to B. Scott, Esq., at Linden House, Carlisle, I was much struck with the admirable condition which the plants are in, and the beautiful order in which everything is kept. The plants are in grand health, and amongst them are many fine things now in flower. Mr. Scott is certainly to be congratulated on so earnestly taking up the pleasant task of Orchid growing, and on the beautiful varieties of which his collection is composed, and which, under the practical care of Mr. George Accleton, the gardener, is a great credit to both.

The Cattleya house contains some good plants of Cattleya Mendeiii, C. Trianae, C. Lawrenciana. Some fine pieces of Cattleya aurea, showing well for flower; Cattleya gigas, several fine young specimens; Cattleya Mossiae, good pieces; and C. Gaskelliana Maud Scott. This last-named is an extraordinary fine variety. The sepals and petals are long and broad, white, shaded with rose, with a light coloured border near the ploins. The lip is a rich deep purple, shaded with violet, with an orange throat and a deep white margin beautifully crisped.

Amongst the Cypripediums the following are now in flower:—Cypripedium tonsum superbum (this is a grand form, having a dorsal sepal very broad and petals beautifully spotted), C. Harrisianum nigrum (a fine specimen carrying several of its dark, beautifully varnished flowers), C. Harrisianum superbum, C. hybridum, C. villosum (some distinct varieties of this were present), and a well-flowered specimen of C. calurum, C. Spicerianum, and about 100 other varieties will soon be in flower.

This class of Orchids is much favoured by Miss Scott who takes great interest in their cultivation. There is a fine specimen of Brassia verrucosa which had a number of spikes of flowers and Epidendrum prismatocarpum, showing well for flower. I noticed also a fine specimen of Oncidium Papilio majus.

In the cool Orchid house there is a fine lot of Cypripedium insigne, several varieties of the same showing well for flower and a quantity of Odontoglossums Alexandrae, Pescatori triumphans, Hallii, Rossii majus, and many others. One O. Alexandrae is a very beautiiul large-flowered variety, very heavily spotted, and carrying about twelve flowers on a spike. Not only were the Orchids in good health, but I noticed the stove and greenhouse plants were all thriving, and the whole place beautifully kept up.—*H. F. Tracy.*

MULBERRIES.

Next to the Cedar, perhaps, there is no tree which confers greater distinction upon an old-fashioned garden than the Mulberry. Having regard to the luxuriance of their growth, the picturesqueness of their appearance, the richness of their fruit, and the readiness with which they adapt themselves to our climate, it is a little surprising, says a writer in the *Evening Standard*, that Mulberries are not more frequently planted by the modern gardener. But there is a fashion in arboriculture, as in other less important pursuits, and delightful as they are on a lawn, or in a quiet corner of the orchard, the trees of this family have long ceased to be the objects of particular notice. Of course there are still to be found some noteworthy specimens, which have come down to us by inheritance, and for which we are mostly indebted to the labour and care bestowed upon the ancient monastery gardens. One historic tree flourished for centuries in the Old Monks' Garden at Canterbury, and some others of patriarchal age have long been objects of interest at Oxford. Another remarkable tree used to stand in the Garden of St. James' Priory House, near Bridgnorth, in Shropshire, which at four feet from the ground measured nearly ten feet in circumference. In spite of its situation in a considerably higher latitude, this was rather larger than the famous Mulberry tree at Bourg-le-Roi, in Southern France, which is known to be above 250 years old, but whose circumference a yard from the ground is only nine feet.

Another Mulberry of great size was cut down a few years ago in the grounds of the old Jacobean house of Floore, in Northamptonshire, which was certainly as old as the garden which it adorned. These, and indeed most of the ancient Mulberry trees found in similar situations, were planted and

encouraged by real lovers of horticulture, who were satisfied that others should reap the advantages which their labour secured. For the tree makes but tardy returns; it matures very slowly, and its fruit is not of great account until it has attained a considerable age. It was long thought that the earliest Mulberry cuttings were brought to this country from the East by the Templars and Knights of St. John, who planted them in Kent. But it is probable that many richly canopied trees were even then flourishing in the secluded gardens of the religious houses. Only from the tenants of such establishments were they likely to meet with the patience which the deliberate nature of their development exacts from their custodians. A Mulberry, long famous at Sion House, is said to have been planted by the Duke of Northumberland in 1548; but though for many years this challenged attention as one of the oldest living specimens, it is quite certain that it had many predecessors in England.

What may be called the second era of the Mulberry existence in England bore for a short time a more utilitarian aspect. Late in the sixteenth century Henry IV. introduced the culture of the silkworm into France; and, not to be behindhand with his Royal cousin, James I. made a similar attempt in England shortly afterwards. In this enterprise the French King had the assistance of the famous De Serres, known as the "Father of French agriculture," who soon covered the neigbourhood of Paris with Mulberry trees. But, as the inhabitants failed to manage the silkworms successfully, they soon grew tired of the attempt, and uprooted the newly-planted trees which were to further it. In England, also, the project came to nothing, but from a different cause. It has been said that, "to produce the best silk, the Mulberry requires the same soil and exposure as the Vine does to produce the best wine;" but it is likely enough that the result, among ourselves, was as much due to the national character as to the supposed unfitness of the climate. In the present condition of horticultural science there would be no difficulty in producing any amount of food, and rearing any number of silkworms, in England; and the difficulties experienced in a former day were not intrinsically more formidable or less capable of being dealt with. There was, however, a seeming effeminacy about the pursuit which by no means accorded with the national turn of mind, and our ancestors steadfastly declined to regard themselves as a silk-growing people. But as James I. persevered for some time in his crotchet, Mulberry trees became the fashion, and it was considered a loyal proceeding to plant as many of them as possible.

John Evelyn was amongst those who warmly espoused the cause of silkworm culture in England; but he was really less concerned for the success of the new industry than for the increase of his dearly-loved trees that must have ensued from it. At all events Mulberry gardens became the rage, and many of the lieges who could not plant a garden devoted their attention to a single tree. James I. had set the example in 1609 by establishing the famous garden which afterwards supplied the scene and title of Sir Charles Sedley's best-known comedy, and which was long thought to have occupied the site of Buckingham Palace. Later investigations have, however, shown this to be incorrect. As a matter of fact, it consisted of the ground now covered by Arlington Street, and of portions of the Green and St. James's Parks. In 1629 Lord Ashton was appointed curator of this establishment, including the silkworms, but, as the whole scheme was a failure, the gardens were afterwards converted into a place of public recreation. Such success as this subsequently attained was due to the fact that Cromwell shut up and took forcible possession of the more popular Spring Gardens. But its reputation was never very great. In May, 1654, as John Evelyn records, "My Lady Gerrard treated me at Mulberry Garden, now the only place of refreshment about the town for persons of the best quality to be exceedingly cheated at." Fourteen years later, when Mr. Samuel Pepys paid his first visit to the Mulberry Garden, he found it a "silly place, with but little company." Nevertheless, the reign of James I. was the most important period of the cultivation of the Mulberry tree in England. Nor is it ever likely to receive the same amount of attention for its fruit or picturesque appearance, as it was then awarded as an object of supposed profitable trading.

Probably the chief reason for the neglect into which the mulberry has fallen is the exceedingly perishable nature of its fruit. It is said that every berry on a tree has but a single day of perfection; of little value therefore but at the very crisis of fruition, it shrinks at that moment from the most delicate touch, and can only be brought to market at the great risk of the grower. For this reason, although among the most delicious and refreshing productions of the autumn months, the mulberry is almost a stranger to our markets. Its wealth of refreshing juice lies so near the surface, and is protected by so fragile a covering, that it will not submit to the rough usage of the market place. Shakespeare alludes to this fact in the advice which Volumnia gives to her son in the play of *Coriolanus*:—

> "Correcting thy stout heart.
> Now humble as the ripest mulberry
> That will not hold the handling."

In the last century Mulberry juice was regarded almost as a specific for gouty and rheumatic affections, and the syrup was extensively used both for medicines and confections. Devonshire was then famous for a particular kind of cyder, made by mixing a certain proportion of ripe berries with the Apple pulp in the press. The beverage resulting from this union was highly prized; and it may be supposed that its present scarcity is due to an ever-decreasing number of the Mulberry trees in the district which produced it. From its habit of withholding its buds until every sign of frost has vanished, Cowley named it the "Cautious Mulberry." And old Fuller says of it, "It is a tree which may pass for the emblem of prudence; slow in consultation, swift in execution; for it putteth forth its leaves the last of all trees, but then all in one night. The Mulberry trains readily against a sheltered wall; it will submit to the espalier process, while, planted in a large pot and raised under glass, it becomes not only a beautiful object to the eye, but yields fruit of surpassing richness and flavour.

LAPAGERIAS.

WHILST these pretty Chilian climbers are deservedly held in exceptionally high esteem, it is very rare indeed that we meet with them so thoroughly at home as they are at Park Place, Henley-on-Thames. The late owner of this fine establishment was especially fond of and took particular pride in these beautiful greenhouse climbers. Although they are planted in several of the houses, in one (the cool Orchid house) there is an especially fine display.

The house in question is a small light span roof running east and west, nearly. Upon the stages, which are about 3 ft. 6 in. in height, a collection of cool house Orchids are arranged, the Lapagerias covering the roof above them. Regularly each year, from July to the beginning or middle of October, this house affords one of the most pleasing pictures imaginable. The long growths with their profusion of waxy white or coral red flowers hang from the roof almost upon the heads of those who walk beneath them. They are planted in a compost of peat and sand, and the roots are enclosed in ordinary brick beds. Needless to say abundant supplies of water are given. Indeed, at no time of the year are the roots allowed to get dry. Occasional supplies of farmyard manure also are applied during spring and summer.

If green fly makes its appearance, light fumigations are made, which soon settle it, or induce it to seek fresh fields and pastures new. Slugs are perhaps the greatest enemies of the Lapageria, and certainly they are of all others the most to be dreaded. They are particularly fond of the young suckers thrown up from the roots, and if not watched pretty closely, will eat them off as fast as they appear. It is advisable, therefore, to surround the young shoots with a piece of cotton wool as a safeguard against the inquisitive propensities of the pests in question. A pinch of salt spread round the young stem at an inch or so from it, so as to form a ring, will answer the same purpose, for the slugs will not cross the salt.

Again, it will be almost useless to attempt to grow Lapagerias if they are trained to galvanized iron wire, for they will absolutely refuse to grow. I will not pretend to say why it is—I will leave that for some explorer of the realms of science, but I do say that it is so. Although I have seen some fairly good plants grown upon copper wire, I do not care very much for its use. By far the best material is common string. The young succulent shoots will cling to this most lovingly, and no apprehension need be entertained as to their well-doing.

One very important item that should enter into the calculations of those who intend to plant Lapagerias is the selection of a good variety. There are several sorts upon the market, and although, like the boy with the biscuits I will not call any of them bad, some are decidedly better than others.—*G.*

GARDENING MISCELLANY.

AUTUMN TINTS.

I HAVE not referred back for dates as to the time when the trees have usually assumed their autumn tints in recent years, but I have an impression that they are doing so very early this year, a result certainly not of drought. This somewhat unexpected result has, I think, been brought about by the absence of sunlight accompanied by the unusual amount of moisture in the air. Some Elm trees and Sycamores I pass daily are quite yellow; and, while still green, Apples are fast shedding their leaves.—*W. B. G.*

TUBEROUS BEGONIAS.

ALTHOUGH the culture of the Tuberous Begonia in pots is at all times extremely simple—to those who know how to go about it—they are apt at this time of year to be treated rather carelessly. Where they have been standing in a conservatory or show house during the summer, as soon as they begin to get unsightly, they are often treated with scant mercy. Oh! they are done with is the thought, which if not expressed is often acted upon—out they go. Perhaps they are bundled into a cold frame, and no water at all given them, with the consequence that the too sudden transition from plenty of water to none at all, causes material injury to the tubers. The ripening, and drying off process should be a gradual and a natural one, and great care should be exercised that undue pressure is not used in the removal of the half-ripened stems, which should be allowed to stay upon the tubers until they naturally drop off.—*Z.*

FERNS FOR BASKETS.

I DO not wish to even appear critical, but a few remarks may be made respecting the article on "Ferns for Baskets" in your issue of the 22nd ult. "Felices" speaks of Adiantum caudatum being known in gardens as Adiantum ciliatum. The two are quite distinct, at least as distinct as Adiantum cuneatum and Adiantum gracillimum, though in a different way. Asplenium foeniculaceum is not a variety of A. fragrans. Davallia parvula is scarcely fit for baskets, as its fronds are only about one inch long and of very slow growth. We are credited with the honour of sending out Nephrolepis davallioides furcans. This honour, however, I believe belongs to Messrs. J. Veitch & Sons. Woodwardia radicans frequently attains a length of ten ft. The remarks generally in the article by "Filices" are very good.—*J. Birkenhead.*

QUESTIONS AND ANSWERS.

ASPARAGUS BED.—*Jersey*: The bed ought to be trenched 2 ft. or 3 ft. deep and well manured. If the soil is heavy and clayey great part or the whole of it should be removed and its place taken by rich and lighter materials. See that the drainage is naturally good, otherwise it will be necessary to have a drain to conduct away the superfluous moisture. Brick bats or rubble should be placed over the bottom to the depth of 9 in. or a foot. Should the soil naturally be good and the drainage perfect, trenching and manuring will be the chief points to observe. The fowls' manure you mention is excellent, but very powerful and liable to burn the plants if applied in too great quantity. The best plan would be to use a sprinkling over the bed in spring, when the plants commence to grow, and another in July. Being near the sea you should employ the sandy seaweed cast upon the shore, and use it as a winter top-dressing. It is excellent for Asparagus, which is a seaside plant in its wild state. Farmyard manure is also a good winter covering for the bed. In a bed 6 ft. wide you can get four rows, the outer ones 9 in. from the edge of the bed and 18 in. from line to line. The plants should be 18 in. apart in the rows to give them justice. At this rate you would require 120 good plants to fill the bed you mention.

CATERPILLARS ON CHRYSANTHEMUMS.—*A. B.* The Chrysanthemum is occasionally attacked by a large number of insects but particularly by the caterpillars of various moths which usually feed on low growing plants of many different kinds. Several of them are large moths, but those you sent were the caterpillars of a small moth belonging to the Tineina or Tortrices, but very probably the former. The moths of those groups are so numerous and the caterpillars so much alike, that it is impossible to distinguish or determine their names in the caterpillar stage. We do not recollect the Chry-

santhemum being attacked in the same way as those you sent. If not too numerous you can get rid of them by removing the leaves with the groups of caterpillars upon them; otherwise you can dust them with hellebore powder while the leaves are wet so that the powder may stick.

STURTERANT'S GOOSE FLOWER.—*X.Y.Z.*: This is the popular name given to the new Aristolochia gigas var. Sturtevantii, in Chicago.

FRUITS TO NAME.—*J. Simons, J. B., J. S. and B. W.* (next week).

NAMES OF PLANTS.—*J. R.*: The Shepherd's Rod (Verbascum Thapsus). *James Nicol*: Polygonum cuspidatum. *W. N. H.*: 1, Solidago canadensis; 2, Solidago Virgaurea; 3, Hibiscus syriacus; 4, Carpinus Betulus; 5, Helianthus cucumerifolius; 6, Veronica Traversi. *A. G.*: Hedysarum coronarium. *S. V.*: 1, Pteris scaberula; 2, Adiantum Ghiesbreghtii; 3, Peristrophe speciosa; 4, Eupatorium odoratum.

COMMUNICATIONS RECEIVED.—H. J. J.—W. I.—W. T.—J. E.—D. S.—B. W.—J. S.

TRADE CATALOGUES RECEIVED.

LEEDS ORCHID COMPANY, Roundhay, Leeds.—Price List of Orchids.

CHARLES TURNER, Royal Nurseries, Slough.—Roses, Fruit trees, and Nursery Stock.

B. LADHAMS, Shirley Nurseries, near Southampton.—Choice Hardy Perennials.

W. H. GABB, 31, Dora Road, Small Heath, Birmingham.—Violas and Pansies.

W. & J. BIRKENHEAD, Sale, near Manchester.—Choice Ferns and Selaginellas.

JOSEPH MOCK, Trier, Germany. Catalogue of Roses.

EUGENE M. RUMPH, Mill Creek Nurseries, Marshallville, Ga., U.S.A.—Fruit trees, &c.

OSCAR TIEFENTHAL, Wandsbek, Hamburg, Germany.—Plants, Bulbs, Roots, &c.

LONDON SEED TRADE.

October 2nd, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady enquiry for Winter Tares at low prices now ruling. Sowing demand for Trifolium incarnatum has ceased. Mustard and Rape steady. Ryegrasses easier.

COVENT GARDEN MARKET.

October 3rd, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	3 0	7 0	Peaches & Nectarines, per doz.	2 0	10 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	22 0	24 0	Plums .....half Sieve	1 6	2 6
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0
Melons .....each	1 0	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 3	0 4	Lettuces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 8
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Asters...per doz. pots	6 0	9 0	Foliage Plants, doz.	12 0	60 0
Aspidistra, per doz	18 0	42 0	Heliotrope...per doz.	3 0	6 0
—specimen plants, each	5 0	15 0	Hydrangea...per doz.	9 0	18 0
Campanula, per doz.	6 0	9 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz	3 0	6 0
Chrysanthemums, per doz.	4 0	15 0	Palms in variety, each	2 6	10 0
Dracaena term., doz.	18 0	36 0	Palms, Specimen ...	15 0	63 0
Dracaena viridis, doz.	9 0	18 0	Pelargoniums, scarlet per doz...	3 0	6 0
Evergreens, invar. doz	6 0	24 0	Primulas, per doz. pots	6 0	9 0
Ferns, invar., per doz.	3 0	8 0	Solanums, per doz. pots	12 0	15 0
Ferns, small, per 100	3 0	6 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Maidenhair Fern, 12 bs.	4 0	6 0
Asters, English, doz. bchs.	3 0	6 0	Marguerites, 12 bun.	1 6	3 0
Bouvardias, per bun.	0 9	1 0	Mignonette... 12 bun.	1 0	3 0
Carnations...per doz.	1 0	2 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Carnation, doz. bchs.	9 0	12 0	Pelargoniums 12 sps.	0 4	0 6
Chrysanthemums, doz. blooms	3 0	6 0	Pink Roses...per doz.	2 0	4 0
,, doz. bunches	3 0	9 0	Pyrethrum doz. bun.	2 0	4 0
Eucharis ...per doz.	3 0	6 0	Primula, double, bun.	4 0	6 0
Forget-me-Not, doz. bchs.	2 0	4 0	Roses .....doz. bchs.	2 0	9 0
Gardenias 12 blooms	2 0	4 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9	— Red..... doz. blms.	0 6	1 0
Lilium Harrisii, doz. blooms	6 0	9 0	— Tea ..... per dozen	0 6	2 0
Lilium lancifolium, white.....doz. blms.	2 0	4 0	Scarlet Geraniums, doz. bchs.	6 0	9 0
			Tuberoses, per doz	0 4	0 6

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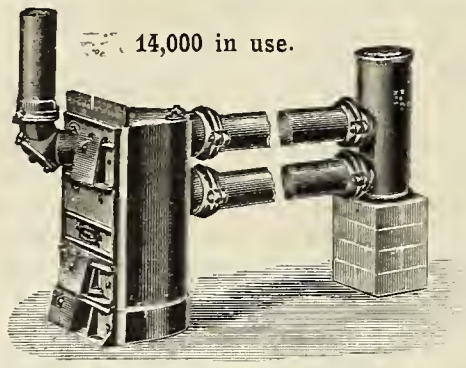

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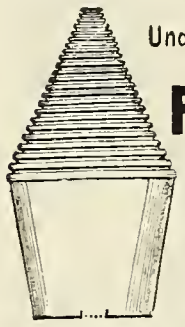

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FLOWER SHOW FIXTURES, 1894.

OCTOBER.

9, 23.—R.H.S., Drill Hall.
10, 11, 12.—N.C.S. at the Royal Aquarium.

NOVEMBER.

2, 3.—Chrysanthemum Show at the Crystal Palace.
2, 3.—Battersea Chrysanthemum Show.
5.—St. Nects' Chrysanthemum Show.
6, 7.—Leeds Paxton Society's Chrysanthemum Show.
6, 7, 8.—N.C.S. at the Royal Aquarium.
7, 8.—Bournemouth Chrysanthemum Show.
7, 8.—Hereford Fruit and Chrysanthemum Show.
7, 8.—Wolverhampton Chrysanthemum Show.
8.—Budleigh Salterton Chrysanthemum Show.
9.—Exeter Chrysanthemum Show.
10.—Crewe Chrysanthemum Show.
13, 27.—R.H.S., Drill Hall.
13, 14.—Kingston Chrysanthemum Show.
14, 15.—Aylesbury Chrysanthemum Show.
14, 15.—Birmingham Chrysanthemum Show.
14, 15.—Bristol Chrysanthemum Show.
14, 15.—Hull Chrysanthemum Show.
14, 15.—Tunbridge Wells Chrysanthemum Show.
15, 16, 17.—Edinburgh Chrysanthemum Show
16, 17.—Bolton Chrysanthemum Show.
16, 17.—Bradford Chrysanthemum Show.
16, 17.—Stockport Chrysanthemum Show.
16, 17.—Sheffield Chrysanthemum Show.
20, 21.—Chrysanthemum Show in the Town Hall, Manchester.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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CATTERALL, GARSTANG LANC.

For Index to Contents see page 110.

"Gardening is tbe purest of human pleasures, and tbe greatest refresbment to tbe spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 15th.—Bulb and Plant Sales at Protheroe & Morris' Rooms, and every day in the week.
TUESDAY, Oct. 16th.—Sale of Orchids and otber plants at Pickering Lodge, Timperley, by Protberoe & Morris.
Orchid Sale at Protheroe & Morris' Rooms.
WEDNESDAY, Oct. 17th.—Sale of Nursery Stock at Pinkhill, Murrayfield, Midlothian, by D. Mitcbell (2 days).
Sale of Lilium auratum bulbs at Protheroe & Morris' Rooms.
THURSDAY, Oct. 18th.—Sale of Greenbouse Plants at Protheroe & Morris' Rooms.
FRIDAY, Oct. 19th.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 13th, 1894.

TREES FOR TOWN PLANTING.—The season for planting is again close at hand, and we should like to see a better display of enterprise in the selection of trees for planting along the sides of the streets, in squares, and other open places, than has hitherto been the case. When the selection is entrusted to corporate bodies, it is generally of a most meagre description, in fact, confined to one kind for a street or road, such as the London Plane, some of the forms of the False Acacia or the Common Lime. Avenues of one kind of tree are all very well in their way, but there is no reason why there should not be avenues and lines of mixed trees, presenting an ever varying appearance as the traveller moves along, both by the variation of the foliage, the different kinds of flowers, their season of display, and by the varying habit of trees that are well known to thrive in urban and suburban districts. Evergreens are inadmissible in large towns seeing that the filth of a smoky atmosphere in winter soon proves fatal to them, whereas deciduous species shed their foliage just at a time when the atmosphere becomes laden with moisture, which prevents the carbon and other impurities from being dissipated farther afield. Smooth-leaved trees, readily get washed with rain, and that is one of the secrets of their being able to withstand the deleterious effects of a smoky atmosphere. The London Plane has very downy leaves when they first expand in spring, but they soon become divested of this covering and by the time they are fully developed, they look burnished and glossy immediately after every shower of rain.

The various horticultural gardening, and mutual improvement societies throughout the country should endeavour to disseminate information broadcast amongst their fellow men, by the several means at their disposal, concerning the most suitable trees for town planting. In this way, not merely the gardeners of private gentlemen, but the general public and those who act for it, would get educated to a sense of the beautiful, and be shown that the wealth of material at their command with which to gratify this taste, is really very great. The Common Lime is a great favourite with the town planter, and the beauty of it, as a rule, during the three months commencing with June cannot be denied, but by the beginning of September in very ordinary seasons it gets very rusty or even bare. This was the case all the summer last year, on account of the extreme drought. There is a species of Lime (Tilia cuchlora) with leaves of an intense dark green and which it retains a fortnight later than the common one. It is notorious that all the best trees of Ailantus about London are in small private gardens, and that its beauty and utility as a street tree are entirely ignored. The objection sometimes put forward that its flowers emit an offensive odour, is a pointless tale seeing how seldom it flowers in this country. A fruiting tree is an object worthy of all admiration, and the feathery leaves constitute a picture but seldom seen. The Catalpa, notwithstanding its handsome foliage is equally neglected, though the trees by the House of Commons show that it is admirably adapted for town planting.

Conifers generally succumb to the prejudicial effects of a smoky atmosphere in a short time, probably because they are evergreen, but the Maidenhair-tree, which is deciduous, is a remarkable exception. It is difficult to imagine why it should not be used as a street tree, unless prejudice or ignorance rules its hapless neglect. The Mopheaded and other varieties of the False Acacia are favourites, yet the methods of training and winter pruning, and the hideous props, termed stakes or supports, make them resemble scare-crows more than objects of ornament in many cases, especially when leafless. The Honey Locust is as graceful in foliage as the False Acacia and different in colour. The Pagoda-tree or Sophora has the fault of being very late in assuming its leafage, but it not only retains it till a late period, but even flowers beautifully long after other trees have ceased, or are assuming their autumn tints. The rich dark green hue of the leaves is quite phenomenal even amongst others belonging to the same family.

Many localities are overdone with the Black Poplar, which doubtless acquires its popularity on account of the rapidity of its growth, and the ease with which it may be cultivated. It is, moreover, frequently planted in positions that are too restricted in area, so that the head must inevitably get hacked about and disfigured to restrain it within bounds. Though seldom planted as a street tree, it practically may be considered as such when planted in gardens

where, in the course of a few years, it must overhang the pavement. If properly and intelligently tended and treated, the Lombardy variety, with its narrowly pyramidal head, should constitute a much more suitable town tree on account of the little space it occupies, the small shade it throws, and because its spiry habit harmonises with its surroundings in such situations. There are several varieties of Elm, including the Cornish and the Exeter Elms, with a narrow and upright habit which renders them suitable for planting along the sides of streets and in other restricted areas. The Exeter Elm is both curious in the arrangement of its leaves and handsome, and has been used to excellent purpose in some of the southern towns. Such ought to be planted in preference to spreading trees which necessitate disfigurement with the saw and tree-pruner. Another practice which should be avoided is the cutting away of all the lower branches while still in nurseries, so that the trees are unable to stand without great lumbrous props when planted along the sides of streets and similar places.

A high-priced Apple.—We heard the other day, and repeat the statement for what it is worth, that a single fruit of Warner's King Apple, weighing 1lb. 13½ ozs., was lately sold in Covent Garden for 10s.

The Herefordshire Fruit and Chrysanthemum Show will be held in the Shire Hall, Hereford, on November 14th and 15th, and not on the dates previously announced in our columns.

Awards at the Antwerp Exhibition.—Messrs. Sutton & Sons have been awarded a Diploma and Medal of Honour for their exhibit at the Antwerp Exhibition.

Mr. Alexander Ross, for the last eight years, gardener to Captain Baird Haye, Belton, Dunbar, has been engaged as gardener to Arthur Gilbertson, Esq., Glanrhyd, Pontardawe, near Swansea, South Wales.

Chrysanthemums in Victoria Park.—The display of Chrysanthemums in Victoria Park, was opened to the public on Wednesday, and is an extensive one, including all the well known exhibition varieties and a large number of the new kinds sent out for the first time this spring. Probably they will be at their best in about three weeks. From two to three thousand plants are grown and exhibited.

The Araucaria Dying.—Dr. Patterson, in a Scottish paper, calls attention to the fact that in the neighbourhood of Bridge of Allan the Araucaria on arriving at a certain size invariably begins to wither and die. The lower branches and leaves begin to fade, and in a year or two the tree itself is dead. "The other day," writes the Doctor, "I visited Dunimarle, where there is a long avenue with fine specimens of the Araucaria on each side. Every one of them is fast dying. Can any one of your readers explain the cause of this, and can any one suggest a preventive or remedy to save these most beautiful and ornamental trees?" The cause is frequently attributed to frost, but is more often the result of poverty in the soil and a bad subsoil.

Scottish Horticultural Society.—The monthly meeting of this Association was held at 5, St. Andrew Square, Edinburgh, on the 2nd inst. Councillor Mackenzie, the President, in the chair. Mr. William Rushton, Cochna, Dumbartonshire, read a paper on "The cultivation of the Japanese Chrysanthemum for show blooms," in which he described in detail the practice followed by himself. He claimed that they, as an association, had done much in bringing the Chrysanthemum to the position it now held in this country. A discussion followed, and at the close Mr. Rushton was awarded a hearty vote of thanks. The Secretary drew attention to the forthcoming Chrysanthemum show, and stated that Mr. Henry Irving and Miss Ellen Terry had consented to take a prominent part in the opening ceremony. Included among a variety of exhibits on the table were some very fine early flowering Chrysanthemums in pots from Messrs. Dicksons & Co., good samples of Red Currants and Louise Bonne of Jersey Pears, (the former having been ripe two months) from Mr. T. Fender, Cultoquhey Gardens, Crieff; and collections of seedling Chrysanthemums and flowering shrubs from Mr. J. C. Young, 18, Fettes Row, and Mr. Chapman, Easter Duddingston Lodge, respectively.

Shirley and Districts Gardeners' Improvement Association.—An extra special meeting of the above Society was held at the Philharmonic Hall, Southampton (kindly lent by Mr. W. B. Hill) on the 1st inst, the purpose being the extension of the Society's operations by holding fortnightly meetings for the winter months. The President, W. F. G. Spranger, Esq., presided over a large attendance of the members. Mr. B. Hill then said that if it was decided to hold meetings during the winter he would offer the room free of charge (applause). Mr. E. Molyneux, Swanmore Park Gardens, gave an excellent lecture on "Trees for Walls and Espaliers," detailing the method of pruning, training, &c., also the diseases to which trees were subject, and their remedies, and the best varieties to plant in different aspects. There was an excellent display of hardy fruit, Mr. Day, Polygon, showing twenty-four dishes (gardener, Mr. J. Jones); Mr. W. Dorkins, J.P., Portswood, forty-three dishes (gardener, Mr. J. Miles); Col. W. S. Linkins, Aldermoor, thirteen dishes of Pears (gardener, Mr. J. E. Wilcox); Mr. Austin Smith, Shirley, three dishes of Pears (gardener, Mr. H. Wright); Mr. A. Barlow, two dishes of Pears (gardener, Mr. J. Soffee); Mr. B. Ladhams, F.R.H.S., sent a good exhibit of hardy Perennials from the Shirley Nurseries Certificates of Merit were awarded to Mr. J. Jones, Mr. J. Miles, and Mr. J. Soffee, and highly commended to Mr. J. E. Wilcox. Votes of thanks were accorded to the lecturer and the exhibitors, and six new members were elected.

National Amateur Gardeners' Association.—The monthly meeting of this Association, held in the Memorial Hall, E.C., on the 2nd inst., was in every sense a very successful one. There was a capital attendance to listen to the paper read by Mr. H. Shoesmith on "Hyacinths, Tulips, and Spring Flowers." The reader of the paper being well known as a successful exhibitor of the flowers under discussion, his remarks were listened to with evident interest. The Chairman (Mr. T. W. Sanders) led off the discussion, and he was followed by many members; numerous questions were asked and a ready response by the lecturer to give every information to help those who had difficulties to remove was noticed. A hearty vote of thanks was carried to Mr. Shoesmith for his paper. The exhibition was one of the best held by the Association, the exhibits being of a high order of merit and in large numbers and varied in character. The prizes competed for were as follows:—For six bunches of hardy flowers, Mr. W. Dipper, Chingford, first; Mr. A. J. Rowberry, Woodford, second; Mr. G. W. Cook, New Southgate, third. There were two other exhibits, and the whole produced a fine display of colour. For collection of six vegetables, first, Mr. J. Smith, Harrow; second, Mr. H. Reeves, Lewisham; third, Mr. A. Taylor, East Finchley. The first prize lot were well finished and reflected much credit upon the skill of the grower. For three dishes Potatos, first, Mr. Leonard Brown, Brentwood; second, Mr. E. R. Fuller, Kelvedon; third, Mr. A. Taylor, East Finchley. All these exhibits were good. For six dishes fruit, Mr. Leonard Brown was first, showing Apples, Pears, Figs, Plums, Peaches, very fine. All *bona-fide* amateurs can be snpplied with information respecting this Association on application to Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, N.

MEALY BUG ON VINES.

In very few establishments, indeed, can it be truthfully said that this little pest does not cause trouble. Certain it is, that its presence in anything like quantity sufficient to damage the crop, is generally the result of inattention or bad gardening—call it which you will. Still, in very few cases, indeed, is the gardener able to claim complete immunity from its ravages. In scores of gardens where the owner is inclined to tighten his purse strings, appearances have to be kept up notwithstanding, and the gardener is expected to produce the same results from a lessened rate of expenditure, and with a far from efficient staff of workmen, as are looked for when ample supplies of men and money are readily forthcoming.

Naturally in such places as these everything has to be done upon the high-pressure system, with the result that much is left undone that ought to be done. To see Vines in an unclean condition in an establishment of this kind surprises nobody a great deal—it is the natural result of insufficient attention. I have known vineries where the most vigorous treatment has been adopted for the extermination of the pest. The canes have been as closely barked as safety would allow, washed twice or thrice with a solution of Gishurst compound, and afterwards painted with a mixture of the compound and clay, glass and woodwork washed, and the wires and iron supports dressed with paraffin. All to no purpose, however, for very soon after the Vines were started, the inevitable bug would make its appearance within the space of a few weeks, from no one knew whither.

On the other hand, I know of one or two places at least where no winter barking of the canes is practised, nothing more than a light painting being given them, and no apprehension is felt as to the cleanliness of the house during the summer and autumn. The natural inference that one would draw from this would be that with regard to localities mealy bug has its likes and dislikes. Or else that out of sheer cussedness (as an American would phrase it) it condescends to make a closer acquaintance with the gardeners of one neighbourhood than with those of another. But it may generally be considered as an absolute certainty that if a close watch be not kept for its appearance, and prompt measures taken for its removal when seen, it will cause an infinite amount of trouble.

About the best method of dealing with it during the growing season with which I am acquainted is to brush the affected parts of the canes with a mixture of warm water and a little paraffin. Special care must be taken, however, that this mixture be kept frequently stirred whilst using, for if not so treated, the paraffin will, to a certainty, not mix with the water, but will float upon the top of it. The consequence is, that a much stronger dose of paraffin will be applied to the canes than is either wise or safe, as it will adhere to the sides of the brush as it is dipped into the supposed mixture in an almost neat form.—*G.*

CANTERBURY.

This ancient city lies in a hollow near the North Downs, or practically amongst the outlying spurs of them. The River Stour pierces the same range of chalk hills and runs close by the city, which is surrounded by low hills or abruptly rising ground, so that whichever way the visitor arrives the spires of the grand and massive old Cathedral are generally the first to catch the beholder's eye and the last to disappear as one leaves the city behind, as in the case of the fine spire of Salisbury Cathedral. It is *facile princeps* the finest and most interesting building here in spite of the college and the remains of the old monastery of St. Augustine. One can easily imagine the joy of the pilgrims in ancient times upon reaching the brow of one of the many surrounding hills and looking down upon the city and Cathedral, the goal of their journey.

There are numerous roads and pleasant walks extending or radiating in all directions from the city, so that the naturalist may go in whichever direction he may choose, according to the object he may have in view, and the botanist may examine or sample the flora. On occasion presenting itself about three weeks ago, I took the Dover Road one beautiful morning, which in itself was comparatively rare in those days. There is much wood and some grand old trees on the immediate outskirts of the city in this direction, but unfortunately the builder has already got his eye upon them, and is thinning them out to make way for his piles of bricks and mortar. The road rises gradually, so that the visitor gets a fine view of the surrounding country with the city reposing amongst its ancestral trees in the hollow. It being the middle of the Hop harvest, many fields could be seen with the bines still standing and laden with their heavy clusters of the valuable catkins.

At frequent intervals the Sweet Violet might be noted on the hedge banks, so that the flowers must be very plentiful in their season. Several other species were also associated with it. The Wild Basil still beautifies the hedges, and many other

subjects, including grasses and the annual Dog's Mercury (very plentiful here) serve to attract and arrest the attention.

After following the undulations of the road for over two miles the brow of another hill is reached, from which the wayfarer looks down upon the romantic village of Bridge, which spans as it were the bottom of a valley through which a small stream, but clear as crystal, wanders. Before descending the hill, the banks, particularly on the left hand, are broad, high, and covered with a most interesting mixture of various British trees, berry-bearing shrubs and herbs, such as are frequent in the hedges everywhere in this neighbourhood. Just here, however, the number of beautiful and interesting subjects is remarkably great. Some of the large bushes of the common Buckthorn are literally laden with their black and shining berries, which the birds do not seem to molest. They were used in medicine in the olden times. Dodoens, writing in 1578, says:—"The berries of Bucke Thorne do purge downward mightily, driving foorth tough fleme and choleric humours, and that with great force and violence, and excesse, so that they do very much trouble the body that receiveth the same, and oftentimes do cause vomit. Wherefore they be not meete to be ministred, but to young, strong, and lustie people of the countrie, which do set more store of their money than their lives." As a medicine it must have been cheap and nasty, judging from the above. How different the case with the Bullace, almost every fruit of which had been annexed by the village children, as were those of the Hazel, and the Bramble to some extent.

The common Privet and the Dogwood were laden with shining black berries; the Hawthorn was red with its stoney haws; and the branches of the Dog-rose hung down with their load of scarlet heps. The black and juicy fruits of the Wayfaring Tree seem to be favourites with the birds, for great part of them were devoured. The Red Bryony was scrambling about over its neigbours in the wildest and most artistic way, and the same might be said of the Bittersweet, laden with its scarlet berries. The plants, at all events the stems, cannot be so poisonous as some would have us to imagine, for schoolboys of my acquaintance, and the writer himself in those days used to chew the stems just as tobacco is by some, and as are the rhizomes of the Sweet Flag by others in modern times as a substitute for tobacco. The wealth of berried plants just at this spot is remarkable. The common Spindle-tree may be added to the list, though I did not notice it in fruit.

The English Maple was fruiting heavily, the winged fruits being tinted with red. The Ash also competed for some of the available space. The Traveller's Joy was scrambling all over some of the trees of Buckthorn, covering it with festoons of its long-tailed and shaggy fruits. Of this wilding, Dodoens says that some learned men in his time take it for a kind of Clematis altera, but it had not the great biting upon the tongue like the true Clematis altera, which was also known as Flammula and flowered in the autumn. This reminds me again that botanists in the olden times were much guided in the identification of plants by tasting them, for is not this one of the distinctions between the Mild Polygonum and the Waterpepper. The identity of the former is merged in that of the Slender Polygonum, by some good botanists. The blue-flowered Chicory and the Round-leaved Toadflax also grow here, the latter spreading over the ground. The day was indeed glorious, yet Poor Man's Weather Glass refused to open its eye, possibly because black clouds obscured the sky in places, and thunder was booming in the distance.

Elsewhere the Elder was more or less heavily laden with its purplish black berries. Of the latter Dodoens says:—"The seeds, especially the little flatte seede, dried, is profitable for such as have the Dropsie and for such as are too fatte, and would fayne be leaner, if it be taken in the morning, the quantitie of a Dramme with wine, so that dyet be used for a certayne space." At the present day the berries are used for making one of the British wines, but I am not aware that the seeds are utilised for anything.

Beyond the antique village of Bridge, the two species of False-Brome grass may be found growing together. The stemless Thistle, the Marjoram and Lady's-finger grow on the high, chalky banks on either side, and the small wild Ivy rambles about over every thing. Farther on a large flowered form of the Eyebright is charming in its simplicity and lowliness. The ground continues undulating and is much wooded with open pastures between, so that as the traveller proceeds he is delighted with the rustic, sylvan and hilly character of this part of Kent; and when the day is fine as in this case, he must be dull indeed who cannot appreciate the natural beauty of his own fatherland, in spite of the greatly lauded foreign scenery.—*Rambler.*

LORDS AND LADIES.

The above is the popular name of Arum maculatum, which grows on hedge banks by the waysides, and under trees in half shady positions elsewhere. It flowers in spring and is practically at its best in the month of May, when Cowslips, Daisies, and various species of Orchis are also in full bloom, enlivening the meadows with their quaint old-fashioned and time-honoured beauty. The spikes of red berries might have been seen under the hedges until quite recently at least, and possibly some of them may still be found. The present is a suitable time to plant the tubers; cool and slightly moist places in half shady situations should be selected for them; and they will be ready to unfold their beauty in spring. The bright green leaves are usually spotted with purple, although many specimens may be found in a wild state without any spots whatever. The spathe varies in the same way, though the ground colour is always paler. The spadix is usually purple, but yellow ones may sometimes be found. The accompanying illustration shows the true habit of the plant and its quaint beauty.

Arum maculatum.

BORDER CARNATIONS.

Spring *v.* Autumn Planting.

"At what time shall I make my plantations of border Carnations?" This is a question that has often been asked, and crops up year after year with surprising regularity, and, I suppose, will continue to do so. It is characteristic of the gardening profession that its clients are for ever falling out among themselves as to which is the best way to perform a certain operation. This is as it should be. It is quite the best method of getting to the bottom of things, to sift out and intelligently discuss the pros and cons with regard to any given branch of cultivation. Horticulture in all its branches is one of the subjects concerning which mankind were not made to agree, so we may well apprehend differences of opinion with regard to the best time of the year for planting border Carnations.

While I am aware that planting in autumn finds favour with not a few growers, and is, therefore, pretty extensively practised in some districts, I do not consider it such a safe, and hence not so good a method of procedure as to plant in spring (March usually). True, it may be urged that the Carnation is a very hardy plant, and that it is a saving of time to plant in autumn. Again, we may be told that to take up the layers, pot them, and place them into cold frames during the winter, is only a waste of under glass space, that might be turned to greater advantage if utilised for some other purposes. With regard to the first point—that relating to the hardiness of the Carnation—I must answer yes and no.

It is, undoubtedly, hardy with regard to cold, and plants will pass through a dry, if frosty, winter almost with impunity. But, then, how often do we get a winter of this description? Once in fifteen or twenty years maybe—certainly not much oftener. Instead, we get alternate spells of hard dry frost and thaw, cold winds and fogs, rain and snow, with blissful regularity, or rather irregularity.

Now, although it is perfectly true that the border Carnation (I am alluding more particularly to the delicate-named varieties of later introduction), will stand cold—it is very impatient of wet. If after a week or so of frost and snow we get a rapid thaw, then, as is often the case, a raw biting wind, the plants will go off wholesale. The snow and continued damp rot the tissues of the bark at the collars, cracks occur, and the winds and subsequent frosts step in and complete the work of destruction. A far better plan we should imagine is to lift the young layers and pot them off singly into thumb pots or small sixties, according to their size and vigour, afterwards plunging them in ashes in a cold frame near the glass. No water at all will be needed, as a rule, after the initial watering-in, until things begin to move in the spring. Plenty of air must be given and the lights should be removed when the weather is open.

A slight covering must be thrown over the frame during the prevalence of severe frosts. But, generally, little trouble will be given, and the amount of space taken up is much too small to make a fuss about, for the plants may be placed nearly pot thick. With regard to the saving of time by planting in autumn, I must confess that I cannot exactly see where this comes in. Even in localities favourable to the conduction of autumn planting it is always necessary to go over the beds in spring and make good deficiencies which are sure to occur in a greater or less degree.

Moreover, it must be borne in mind that the element of risk with regard to the safety of the plants is, to say the least of it, far greater when they are exposed to the vicissitudes of climate during late autumn and winter than it is when protection is afforded them under glass. Again, in localities where the soil is heavy and tenacious, and, as a natural result, cold and wet, the chances of losses are greater than when the soil is of a lighter (and, consequently, warmer) character.—*G.*

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were exhibited at the Drill Hall, on the 9th inst., and received awards according to merit from the Royal Horticultural Society.

Gladiolus Leonora.—The flowers of this variety are of large size and bright salmon with a creamy blotch on one or two of the lower segments and a crimson band along the middle. Award of Merit. Exhibited by Messrs. J. Burrell & Co., Howe House, Cambridge.

Gladiolus Grandis.—About ten flowers were open on the spike of this sort with numerous buds. They were of a warm salmon with a purple blotch along the lower segment. Award of Merit. Exhibited by Messrs. Burrell & Co.

Gladiolus Casilda.—Here eleven flowers were open upon a fine spike. They were of a soft nankin yellow with a purple band along the middle of the two lower segments and some purple at the very base. Award of Merit. Exhibited by Messrs. H. Burrell & Co.

Physalis Alkekenji Franchetti.—In this we have a new variety of the Winter Cherry, with an orange calyx of enormous size, in fact, about the size of a Cox's Orange Pippin. The fruit inside is also large. It was grown at Langley, Slough, and is hardy. Award of Merit. Exhibited by Messrs. J. Veitch & Sons.

Chrysanthemum Madame Chas. Molin.—The flowers of this Japanese variety measure about 7 in. to 8 in. in diameter, and ivory-white. The florets are more or less interlaced with one another and cut at the tips. Award of Merit. Exhibited by Mr. W. J. Godfrey, Exmouth, Devon.

Chrysanthemum Mrs. E. G. Hill.—This American variety of the Japanese type was exhibited for the first time. The blooms are incurved, very neat in form, a good 6 in. in diameter, and of a clear pearly-pink colour. On the whole it is choice and handsome. Award of Merit. Exhibited by Mr. W. J. Godfrey.

Chrysanthemum Madame Edouard Rey.—The blooms of this incurved Japanese variety measure somewhat over 6 in. in diameter. The florets are very broad, concave on the upper face, and soft rosy purple with a silvery reverse. The bloom is solid and well built, with much material in it. Award of Merit. Exhibited by Mr. W. J. Godfrey.

Chrysanthemum Souvenir de Petite Amie.—The florets of this Japanese variety are narrow, spreading, a little curled or twisted at the tips, and pure white. The handsome blooms measure about 8 in. in diameter, or some of the outer florets may extend beyond that. Award of Merit. Exhibited by Mr. W. Wells, Earlswood, Redhill, Surrey.

Chrysanthemum Frank Wells.—This is also a Japanese variety much about the same type as the last named and similar in size. All the inner florets are more incurved at the tips and white, tinted with pale violet-rose; the outer florets spread widely. Award of Merit. Exhibited by Mr. W. Wells, Earlswood, Redhill.

BUSH APPLES ON THE DOUCIN STOCK.

We should not care to be responsible for a statement that the Doucin stock will insure a crop of Apples when other trees fail. But the result of observations shows that a good crop may be obtained even in adverse seasons from trees worked upon and dwarfed by the Doucin or the English Paradise stock. The French Paradise is too dwarfing and only fit for trees in pots. We recently passed through a collection of bush Apple trees worked upon the Doucin in the Rutland Park nursery of Messrs. J. Laing & Sons, Forest Hill. The fruits in many cases were of great size and had to be supported by pieces of netting. There were ninety-eight varieties of Apples in one plantation and all of them were fruiting, some very heavily, including Bismarck, Col. Vaughan, Blenheim Orange, Golden Spire, Hollandbury, Peasgood's Nonsuch, Beauty of Kent, and The Queen. On the other hand, Frogmore Prolific, Gloria Mundi, Cox's Pomona, Gascoigne's Scarlet, and others were scarcely less well cropped.

In some cases the trees of Lord Derby and others were being borne down by the weight of fruit. Besides those already mentioned the fruits of Warner's King, Sandringham, Whittington's Fillbasket, Stone's Apple, and Washington, were imposing on account of their size. Some were striking on account of their high colour, and though that, as a rule pleases the eye immensely, it cannot always be described as a guide to excellence in quality. Richly coloured sorts are Bismarck, Col. Vaughan, Glory of England, Cox's Pomona, Gascoigne's Scarlet, Hollandbury, and Red Bietigheimer. Whittington's Fillbasket is a huge green Apple, and while equal in fruiting properties to Lord Suffield, seems to have a stronger constitution. Castle Major and Stirling Castle are also heavy fruiting kinds. Blenheim Orange on the Doucin stock quite redeems its character from the imputation of being a shy bearer till it gets to be a large and comparatively old tree. Most of the trees in this plantation are only three years old, yet have been pictures of fertility. It may here be mentioned that the soil is of a heavy and clayey nature, but though that may have refereuce to the size of the fruits, we do not see why it could account for the number of fruits in an adverse season like the past. Some of the trees are bushes while others are grown as upright cordons. All of them are pinched in summer, so that little or no pruning whatever is required in winter. The trees have also been several times transplanted. The best of all British Apples, Cox's Pomona, has also fruited well, although it is reputed to like a light and sandy but rich alluvial soil. Elsewhere we noted a maiden tree of Bismarck that had been budded in August last year, and which was bearing a huge fruit almost resting upon the soil. This case is by no means unique, but it is significant. A peculiarity of Apples this year was that they were very liable to drop from the trees even when partly supported by pieces of muslin and netting. Close by were vigorous dwarf trained Peach trees and others in pots.

GOLDSWORTH "OLD" NURSERY.

The varied character of the soil of Woking is favourable for nursery stock of all kinds, a fact which has been recognised for several generations past; hence the richness and variety of plants which can be cultivated with success in that neighbourhood. We visited the Goldsworth "Old" Nursery, of Mr. Walter Charles Slocock, the other week, and found it situated in a beautifully wooded district about a mile from Woking Station. The acreage under Conifers, ornamental trees and shrubs generally, forest and fruit trees is very extensive. The time at our disposal was somewhat limited, so that we could only note the more important items on a long and hurried march over the wet ground, for it had been raining at intervals all day.

Conifers.

A large trade is done in Conifers, including the culture of small trees or bushes of the more ornamental kinds suitable for window boxes. Amongst these we noted quantities of Cupressus Lawsoniana erecta viridis, also larger and isolated specimens of beautiful form for tubs, lawns and borders. Closely allied to this is the columnar and deeply glaucous C. L. Allumii, which is very beautiful and forms a fine contrast to C. L. alba spica with silvery white points to the shoots and which ought to be more widely known. A specimen 8 ft. to 9 ft. high was a perfect picture. The golden Retinospora plumosa aurea is better known and choice at any height. Thujopsis borealis lutea is a handsome yellow variety which originated here about ten or twelve years ago and which has been freely propagated in the meantime. The specimens vary from 1½ ft. to 9 ft., the latter being now a fine tree and a great acquisition to its class. The variety has already received several certificates. Amongst the better known trees are Pinus insignis, Wellingtonia gigantea, from 18 in. upwards, Thuya gigantea 2 ft. to 3 ft. high and Libocedrus decurrens in fine specimens 2 ft. to 5 ft. high. The Weymouth Pine (Pinus Strobus) is grown in quantity from 12 in. to 18 in. high. A graceful shrub or tree is Cupressus Lawsoniana gracilis, and Blue Jacket, also a form of Lawson's Cypress is even more distinct, pretty and well deserving of being added to a choice collection. The branches are short, compact, imbricate, glaucous and spreading instead of being erect as in C. L. erecta viridis to which it is otherwise closely allied. C. L. Fraseri is more erect than Blue Jacket and of the same bluish hue. C. L. Youngi is a very vigorous variety with all the branches much stouter than in the type. C. L. pyramidalis alba is an erect habited sort with a great deal of a white variegation. All these forms of Lawson's Cypress are beautiful and interesting, in fact they would constitute a beautiful and varied collection in themselves.

A neat habited form of the Red Cedar is Juniperus Schotii, in specimens 2 ft. to 3 ft. high. The drooping spray of Retinospora filifera reminds one of whipcord. The Deodar Cedar (Cedrus Deodara) is plentifully represented by specimens 1½ ft. to 3 ft. high. The Golden Irish Yew (Taxus fastigiata aurea) varies from 3 ft. to 4 ft. in height, and is therefore of a nice size for planting on lawns or for tubs. The Golden Chinese Juniper (Juniperus chinensis aurea) affords another bright bit of colour. There is a large quantity of the Douglas Fir about a foot high, and now beginning to make rapid progress.

Deciduous Trees and Shrubs.

These are grown in great quantity and variety, the variegated and golden-leaved kinds competing strongly with the flowering and berried subjects. The Weeping Scotch Elm (Ulmus montana pendula) is alway distinct, and for certain phases of gardening one of the best of its kind. Robinia Pseudacacia inermis is a street tree with stems 6 ft. to 8 ft. high. The oval-leaved Privet is grown in quantity, and its green foliage is in strong contrast with Cornus sibirica variegata, whose leaves are edged with white and tinted with red. Catalpa Bungei is grown as a standard with 6 ft. of a stem. The Portugal Laurel is planted about in quantity in sizes from 9 in. to 5 ft. high, and 5 ft. to 6 ft. in circumference. Some of the larger are loaded with red berries. Purple and white Lilacs are well set with buds. The larger and the smaller Periwinkles, both green and variegated, are in fine condition. The purple-leaved Barberry is so handsome at present that one could wish it were more common. Sweet Briers are grown in quantity. The ornamental Spirea Bumalda and S. superba find a place here. We noted a large stock of Philadelphus grandiflorus, one of the boldest and finest of all the Mock Oranges. Late and early Dutch Honeysuckles are too often neglected in modern collections. Named varieties of Clematis are grown in quantity.

The Golden Elder presented the appearance of a field of yellow foliage. The flowering Currant (Ribes sanguineum) is preparing for a display next spring. Deutzia gracilis is plentiful and good, and near it is a quantity of Pyrus japonica and P. j. atropurpurea. There are two Golden Elms which are very distinct in habit, namely, Van Houttei, with spreading branches, and Dampieri aurea, the latter being the golden Cornish Elm with upright branches and leaves reflexed against them in a peculiar fashion. The silver variegated Elm is also beautiful and conspicuous. The Fiery Thorn (Crataegus Pyracantha) and its variety C. P. Lelandi receive due attention. Such Hypericums as H. oblongifolium, H. patulum, and H. Moserianum were still flowering freely, though H. calycinum is out of season. Amongst shrubby Spireas we noted S. callosa alba, S. c. rosea, S. Lindleyana, S. Van Houteii, and S. ariaefolia. Of the two Forsythias (F. suspensa and F. vividissima) the latter is the most popular for forcing purposes on account of its upright habit. Cornus sanguinea is fruiting, but C. sibirica variegata elegantissima is always showy till the leaves fall; the latter have a broad, silvery margin. The Sea Buckthorn should be more often planted for the sake of its fruit. Close by were a white-flowered Weigela still in bloom, Calycanthus floridus, Chimonanthus fragans praecox, and the Virginian Creeper, now red.

Here also are quantities of Ampelopsis Veitchii and A. V. atropurpurea; the latter has always a darker, bronzy red hue. There are thousands of them in small pots under glass, and very graceful they are. Out of doors A. sempervirens has the young twigs and tendrils of a beautiful red hue while the leaves are dark green. Fruiting Hops in pots constitute another speciality. Jasminum nudicaule, Fuchsia gracilis, Wistaria sinensis, Passiflora caerulea and P. c. Constance Elliott are other subjects more or less kept in pots. Tea Roses in quantity are also grown in the same way. Amongst Clematis in bloom we noted Duchess of Edinburgh, double white; Henryi, large double white; Jackmanni, Jackmanni superba and a beautiful blue one. The Golden Van Geert Poplar with 6 ft. stems is very handsome. The Snowberry now in fruit is very conspicuous. Rosa rugosa and R. r. alba are very distinct even in fruit, for those of the former are crimson-red and the latter golden-yellow. Hybrid Perpetual Roses, both dwarfs and standards, occupy a considerable area of ground. Many of them were still in bloom when we saw them, including the Bourbons, China and dwarf Polyantha Roses. The Persian Yellow Brier is also largely planted. Though not shrubs, Tritoma uvaria and Pampas Grass, now flowering, may here be mentioned.

Evergreen Shrubs.

When gardens and shrubberies of flowering plants are bare in winter the evergreens then come into due prominence, and without a goodly share of them, a private demesne would look bare indeed in winter. Besides its rich hue in winter, Olearia Haastii pleases the eye in summer with its profusion of white flowers. The great spiny leaves of Berberris Bealei are also adorned with yellow flowers in due season. The scarlet berries of Cotoneaster Simonsii and C. microphylla adorn the leathery leaves till birds devour them. The Spanish and Portugal Brooms

and Veronica Traversii all flower freely in their appointed seasons, as do Tamarix germanica and T. gallica; but the graceful character of the twiggy branches of the two latter are sufficient to recommend them. The small leaved form of the Cherry Laurel (Prunus Laurocerasus rotundifolia) is very distinct in its way with its shiny leaves. Euonymus ovatus aureus is very handsome at present, as are the green and variegated Ivies, in great variety. The twiggy branches of Azara microphylla with their small leaves are very graceful. Escallonia macrantha and E. Ingrami have showy flowers as well as evergreen foliage. The Mahonia (Berberris Aquifolium) and Berberis Darwini are grown in quantity.

On a tract of moist and peaty land, various members of the Heath family, and usually spoken of as American garden plants, are cultivated rather extensively. We noted a plantation of seedling Rhododendrons three years old and transplanted. R. ponticum may also be seen in quantity from 1 ft. to 3 ft. high; and named sorts in great variety are also well cared for. Azalea mollis is hardly an evergreen, but may be mentioned here on account of its affinity. Andromeda floribunda, Kalmia latifolia, and other American subjects also thrive in the peaty soil.

FRUIT TREES.

The training of fruit trees is carried on with zeal, and the specimens are now ripening their wood. There still seems to be a good demand for standard Apple trees, judging from the plantations of them to be seen here. Horizontally trained or espalier Apple and Pear trees for the sides of walks are plentiful, and in vigorous, healthy condition. Dwarf-trained Peaches, Nectarines and Plums we also noted in considerable quantity and rude health. Red and white Filberts and Cobs constitute another feature of interest to the private or market grower. American Blackberries of sorts are grown by the thousand, so that something better than the ordinary Blackberries of our hedges and commons must find their way into our markets at no distant date.

VIOLETS IN WINTER.

THE early culture of Violets is effected in pots. During September the plants are put in 6 in. or 8 in. pots, placed in a cold frame and kept close for the first eight days; then a little air is given. When the pots are well furnished with roots, one can, if the temperature is favourable, take the sashes completely away. In November, the Violets are transferred to a greenhouse into which the sun can easily penetrate; they are placed as close as possible to the grass. Forcing is commenced by giving them a temperature of 43° to 48° rising to 55°, taking care to ventilate when the heat becomes too strong. The cultivator must take particular care to choose a good substantial soil, to give much air while preserving a suitable degree of humidity. Flowers are easily obtained in that manner by the end of February.

For slow forcing, culture in frames is preferable; it is more simple and can be done at less cost. For that purpose the Violets are planted out in the soil in autumn in the frames. In winter, they ought to be well guarded against cold, but they should be relieved in spring, when frost is no more to be feared, of the material which served to cover them. The frames should be uncovered as early in the day as possible, so that sun and light can freely act. Watering, when it is necessary, should be done in the warmest and brightest mornings. Flowering commences in April. Multiplication is effected either by cuttings or by division of the mother plants. The best sorts for forcing are Verbesserte Hamburger Triebveilchen, Frau Hofgartendirektor Jühlke, Victoria Regina, The Czar, Augusta Veilchen, and Rossica superba.—*Aug. van Eepoel in Revue de l'Horticultural Belge.*

THE PLANT HOUSES.

The Stove.

THE atmosphere in the stove may now be kept rather drier than it has been during the last month. The plants should be looking at their very best at the present if their wants have been attended to properly during the past summer. Crotons, Dracaenas, etc., should have brightly coloured, clean, and healthy foliage, and the many kinds of Palms (such frequent and favourite inmates of our stoves) should have a rich dark green hue upon their leaves. An occasional dash with the syringe will serve to keep the foliage clean and free from insect pests, if a good cleaning has been given as recommended in a previous issue.

In establishments in the vicinity of large towns the sponge must be kept pretty vigorously at work, for in localities of this kind the air is always charged with a greater or less percentage of filth that will be sure to settle upon the foliage of the plants. Plants of Euphorbia pulcherrima (better known, perhaps, as Poinsettia pulcherrima), which have been accorded cooler treatment during the past few weeks for the purpose of ripening their growths, may now be brought back into the stove to develop their flower heads. A batch of them may, however, be kept back for a while to form a suitable succession. Well grown specimens of the plant in question are among the gayest and most useful of late autumn and winter subjects. Whether it be for indoor decoration or for imparting a touch of colour to our plant houses they never come amiss.

BOUVARDIAS.—These free flowering plants are practically indispensable in every establishment. A number of them may be brought into the stove without delay, other batches following in suitable successions. By this means a supply of flowers can be kept up with very little trouble.

Greenhouse and Conservatory.

A FAR more sombre hue will now prevail in this department. The gorgeous summer flowering plants, like the tuberous Begonias and the Fuchsias, will have completed their allotted task and have given place to the earlier flowering Chrysanthemums, Salvias, etc. Coleuses, too, will have commenced to drop their leaves, and, in many cases, started to damp off. These brightly-coloured foliage plants do splendidly in a greenhouse temperature until the decline of the year, when they perforce commence to decline also.

The larger specimens of the hard wooded plants will now be placed in their winter quarters after their sojourn outside during summer. The presence in the house of plants of this kind necessitates free ventilation. Air abundantly, therefore, on all possible occasions. A little fire heat may be necessary during dull and foggy weather to expel damp. This, however, should be but sparingly used, for in an ordinary mixed greenhouse collection there are very many things (as, for instance, the Ericas and Epacrises) that positively dislike fire heat, and strongly resent its continued application.

Pits and Frames.

IT is to this department, as a rule, that we look for the supplies of decorative material wherewith to furnish our conservatories, and at this time of the year they are generally pretty full. At no season, moreover, is such great care required, for at no other part of the year do they contain such a varied collection of plants necessitating, of course, different methods of treatment. Some like the Amaryllises will be resting, others like Cinerarias, herbaceous Calceolarias, and the like should be in full vigour of growth.

HEATHS.—Where autumn potting of these is practised, great care and attention will be necessary with regard to ventilation and watering. They must be kept rather close until the roots get a fair hold of the new soil.

HYACINTHS.—Batches of these that were potted at the beginning of September must now be taken out of the ashes with which they were covered. As a rule, from five to six weeks is a sufficient length of time to induce healthy and vigorous root action. The plants should be placed in a cold frame and gradually inured to light and air. Batches of them may then be introduced (when it is thought fit) into a gentle heat, to supply early flowers.

LILY OF THE VALLEY.—This lovely flower is certainly one of the most popular with all classes of society, and is in very great request during winter and spring. A batch of crowns may now be potted for forcing. Either pots or boxes, as convenience shall suggest, may be used. After potting they may be placed in a frame or pit in which there is a gentle heat, kept close and shaded until the crowns commence to grow.

CYCLAMEN PERSICUM.—Seeds of this may be sown to furnish a stock for next year. Well drained pans should be used, and a temperature of not less than 55° Fahr. will be essential to insure germination.

MIGNONETTE.—Plants of these that were sown in early summer and have been potted on should now receive their final shift into 8-in. pots. If staked out and grown on in a gentle heat large fine plants may be obtained, which will furnish quantities of bloom for cutting that will prove of the utmost service.

VERBENAS that are sufficiently rooted may be potted off singly into thumbs. Any light sandy soil will do, and they should be placed on a shelf near the glass. Introduced into heat in spring abundance of cuttings may be obtained from surprisingly few plants.

FUCHSIAS that have been turned out of doors to ripen their wood after their flowering season has passed should now be housed out of harm's way. They may be laid on their sides in an empty frame or beneath the greenhouse stage (if no better place offers) in such a way that water cannot reach the roots. They may remain in this condition until spring. No water should be given them until it is desired to start them into growth. In most cases we get a more or less abundant supply of rain during the autumn months, and plants that have been standing outside will have received quite sufficient water to last them for the season. Before laying down, in the case of named varieties, take care that the labels are fixed firmly in. After a season's use they will most likely be rotten where it comes in contact with the soil, and during the processes of shifting, etc., may readily drop out. This is a fruitful source of much of the wrong naming that obtains in so many establishments, an account that is often laid to the charge of the never-too-much-abused nurseryman.

THE ORCHID HOUSES.

RIPENING OFF.—Every encouragement should be given to plants that have not finished making up their growths by placing them in the best possible position at the warmest end of the division in which they are grown, so as to fit them for passing through the dull winter months successfully. The necessity for this will be patent to all keen observers, and I never yet met a good cultivator who was not quick to grasp the situation and vary the treatment of the plants under his care accordingly. So much depends on the position and construction of the houses, to say nothing of the locality, that it makes it difficult for any writer to lay down any hard and fast rules for the guidance of cultivators.

FIRE HEAT.—So wet and foggy has the weather been in this district that we have been obliged to have the fires going in the daytime as well as at night, not even excepting the cool house, but in this only just a little at night, so as to keep the atmosphere buoyant and thereby prevent the tips of the leaves from going off, which they are liable to do if kept very wet and the atmosphere charged with moisture to saturation point. A little warmth in the pipes will soon dispel this superfluous moisture, to the benefit of the plants.

SHADING.—There will be very little need for shading now, only for an hour or two in the middle of very bright days, and this more to prevent the temperature from running up too high than for anything else. For this season alone it may not be advisable to have them removed for a week or two, but the shading from the ends or north sides of houses may with safety be removed.

CATTLEYA HARRISONIANA, now in flower, is a very fine late summer and autumn Orchid. It flowers freely and possesses the fine quality of lasting a long time in full beauty. The plants require liberal treatment as regards heat and moisture when growing, and a rather exposed position when at rest. The thick leathery leaves to be found on imported plants at once suggests that they get a good season of rest after a quick growth in their native habitat. If in a few cases we are able to improve on plants grown under natural conditions, it does not do to go against the dictates of Nature in the long run.

DENDROBIUMS.—A few plants of D. Wardianum, D. nobile, etc., that have had a good rest may now be introduced into heat again so as to provide flowers for the festive season. These two species adapt themselves to this kind of treatment better than any others, and if I was tied down to one variety I should certainly stand by the grand old Dendrobium nobile.—*C.*

FLORICULTURE.

The Gold-Laced Polyanthus.

When a leading florist like Mr. James Douglas—who, it is only reasonable to suppose has every convenience for wintering plants in safety—tells us, as he has done, that he finds it extremely difficult to winter Gold-laced Polyanthuses with anything like success, it is not to be wondered at that others fail also. I have tried many a time to winter a few named varieties only to find that they apparently do well for a time and then suddenly die away, generally rotting away at the collar. Then one is disposed to say I will try no more, but what florist having anything like grit within him likes to be beaten by a simple plant? It is not in the nature of an ardent florist to be conquered in this way, but I wish I knew how to surmount the difficulty.

For years past I have purchased in the autumn—obtaining my supply from the Midlands—always receiving small plants having the appearance of being severely divided—these I have received in October, and placed round the sides of pots standing in a cold frame. For a time they appear to do well, and then in the depth of the winter they die, one after the other, as constitutionally unfit for the struggle for existence. I had thought the fault was my own until I saw that Mr. Douglas has the same experience, and then I began to think that after all my method of treatment was not so much at fault.

The sorts I have been hitherto able to obtain are George IV., always scarce and dear; Exile, Cheshire Favourite, Lancashire Hero, Prince Regent, President, and William IV., a very good selection of black and red ground flowers, every one of them delightful when they grow freely and bloom finely. I have sometimes thought that the fogs, which were sweeping over London from east to west, had something to do with the failure, but last winter was unusually free from fog, and yet the plants died in the same way. Always it seems to me as if the roots were the most vulnerable part. Despite failure in the past I mean to try once more for the sake of the Gold-laced Polyanthus, and to preserve the classes for these in the schedule of prizes of the National Auricula Society.

Advice from those who have failed is not worth much, but I may venture to say that the spring bloom depends very much upon the strength of the plant and upon its capacity to put forth young roots near the leaves. When a plant comes to me in autumn, I cut away all the roots that appear to be inactive, leaving only those that are so, and I then place the plants having a fair amount of roots in the middle of the smallest pots they can be put into, and I use a compost made up of good yellow loam, leaf soil, sand, and well-decomposed manure. The pots are well drained and the soil is used sufficiently moist to nourish the roots for a week at least, so that the necessity for giving water may not immediately arise. They are then placed in a cold frame where there is plenty of light, a little air being left on unless the weather turns frosty, All the smaller plants go round the sides of pots, three or four in a pot, and they are treated similarly. To all appearance this is the correct treatment, but to employ the words of Lady Macbeth, *We* fail. It is after a time of severe frost that the signs of distress are held out, and then disaster follows disaster in quick succession. Mr. Douglas has stated that the same experience comes to him with seedlings, and I have had to undergo a similar disappointment, and that being so, one can hardly think the cause of death in the case of the named sorts is altogether traceable to constitutional debility.

Last spring, when in Cambridgeshire, I saw in the flower garden of a country residence some plants of gold-laced Polyanthusses obtained from some seed from Messrs. Sutton & Sons, of Reading. In the bed were three or four very promising seedlings, and I obtained permission to bring one away with me, a black ground with a lovely clear golden centre. This plant I made into half-a-dozen, and I hope to get some seed from these in the early part of next summer, and so obtain a small family of promising seedling varieties.

I think we may reasonably hope for something good from a strain of seedlings Mr. James Thurstan has. When he becomes settled in his new home in the Midlands, and has sufficient leisure to devote to his favourite flowers, I hope he will turn his attention to this gold-laced Polyanthus and score successes. Mr. Thurstan has a lofty ideal to work by. I know of no one who sets such store upon the essential points of quality in a gold-laced Polyanthus, and I am sure he will keep the attainment of these steadily in view: may I not also hope that others will be induced to turn their attention to this fascinating flower. A well-developed Polyanthus is supremely beautiful—a deliverance of opinion I stand by. There are some who say in depreciation of the flower that black and red grounds are all alike, but this is the voice of prejudice, of which we have a great deal too much in the floriculture world. A distinguished (?) florist said the other day that he would not vote for an award to a particular seedling flower because he did not like the colour. I reminded him that what he did not like hundreds of others might, and that he should think of the likings of others as well as his own dislikes; all other points of quality being present in the flower. But he wrapped his narrow robe of prejudice about him, and his vote was counted among the noes.—*R.D.*

RESTING ADIANTUMS.

If these useful plants are to throw up well next season they should have perfect rest during the winter months. Keeping them in heat during this part of the year is simply ruinous to them, weakening the crowns so much as to make it impossible for them to make strong growth when wanted. From now, the temperature of the house in which they are kept should be gradually lowered, and only sufficient water given to keep the remaining fronds in good condition for cutting. When these are removed the cooler the plants are kept the better. In fact, I heard a man say that his Adiantums stood ever so many degrees of frost last year. They were wintered in a cool house, without fire-heat of any kind, and they seem to have taken no harm whatever.

To provide good fronds for winter cutting we have a wall 25 ft. long and 6 ft. high, planted with Adiantum cuneatum and A. c. mundulum, the latter being grown chiefly for the making of button-holes. The late Mr. Booty's fern tiles are fixed upon this wall a foot apart from each other, and in these the Ferns are planted. The plants were started into growth last Christmas, and by July all the fronds were cut off. After being given a top-dressing they were started again, and at the present the tiles are scarcely visible, so vigorous is the growth made.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

THE WILD GARDEN.*

It is over twenty years since the first edition of this book first saw the light, and the author says that much experience tells him that the "Wild Garden" deserved to live, and that the ideas contained in it "may be fertile in making our open air gardens more artistic and delightful." We heartily concur in this sentiment, and think the wild garden, if carried out on natural lines, a phase of gardening which may add much to the embellishment and natural beauty of a place, and afford endless pleasure and instruction to the gardener who carries it out, as well as wholesome recreation and pleasure to the owner and his family. It would be highly inappropriate, however, to carry out the idea in a confined or closely walled-in garden. A wild garden should have hedges, streams, banks, rocks, woods, or copses as its natural boundaries, and within such confines there is hardly any limit to the variety of picturesque scenes which may be introduced, provided always the physical aspect of the place is not outraged by the introduction of grossly foreign elements.

The author devotes a long chapter to the subject of British wild flowers and trees. He cannot be more surprised than we are at the comparative neglect which British plants, whether trees, shrubs, border, Alpine, or aquatic subjects, suffer at the hand of collectors and planters. We cannot agree with Emerson that botany consists merely of Latin names. The flora of any country or district is to be regarded merely as a dictionary, a key or a reference book, to which the collector can at any time refer for the information which he may require about his treasures. Nor do we consider the pleasure in collecting plants for herbari or the garden different in kind. The practice of collecting would be wholesome recreation in both cases, and the ultimate destiny of the plants collected, merely a matter of convenience or taste, or of both. We hope, however, that the practice of collecting Orchids will not become common in this country, otherwise our native species will soon get exterminated. We have seen heaps of Orchids roughly dug up while in full bloom, huddled together in the collecting box, bruised, broken, and planted out when apparently half dead. Not a tithe of them having a chance of living from the outset. British Ferns, particularly rare or choice kinds, have been exterminated in the same way in many parts of the country. Seeds of wild plants should be employed, when obtainable, with which to stock the wild garden.

Hints for the stocking of a wild garden are given without number, and the intelligent planter has only to exercise his ingenuity in producing live pictures that are at once artistic, natural, and in accordance with the surroundings of the place. We cannot quite agree with the author that Golden Rods and Michaelmas Daises did not exist outside of botanic gardens when he first wrote the "Wild Garden." Our experience is that some of the best of them had taken refuge in cottage and farm gardens, whose glory they were at their appointed seasons. Accidental pictures, too, we have seen like that of the colony of Myrrh and Harebells; but in the case to which we refer the Myrrh found a strong competitor in the common Comfrey, which flourished amazingly in spite of the fact that at present a species of foreign growth is recommended to be grown as a fodder plant in this country. These plants were growing beneath tall trees, while early in the year Cowslips, and later on Meconopsis cambrica naturalised themselves along the course of a stream close by.

The picture of the Cape Pond Weed is another good instance of what might be done with Aquatics in ponds and ditches, where, however, it is necessary to take care that the coarser natives do not choke down the weaker exotics. We remember rescuing a small piece of the double Marsh Marigold from a stream which was heavily overhung with the stronger growing British Ferns, and after separating the roots into four crowns, planted them on the edges of an island in the middle of a piece of ornamental water. During the spring of the second year they flowered so grandly that the proprietor wished to know where they had all come from, as those he put in the hardy fernery failed to thrive. In such cases, nature merely shows a beauty in appropriateness for each plant; and in proportion as the cultivator recognises and understands these facts, so will he succeed. All this, of course, applies to the wild garden, for a huge climbing Rose sprawling over a half-dead tree may be appropriate enough and beautiful withal in a state of wild nature, but the system could not be adopted to any great extent in well-dressed grounds, and roseries, as they are at present understood and planted. In the main arguments we can but agree, however, with the author, whose book is got up in good form, and constitutes very pleasant reading. It seems that there are two Chrysanthemums both natives of Hungary, namely C. uliginosum and C. serotinum. The latter only is mentioned in this book, although the two most comprehensive and modern gardening dictionaries do not mention the latter as having been introduced. We have little doubt the author means the plant universally known as Chrysanthemum or Pyrethrum uliginosum.

* The Wild Garden, or the Naturalization and Natural Grouping of Hardy Exotic Plants, with a chapter on the Garden of British Wild Flowers by W. Robinson, Author of "The English Flower Garden." Fourth Edition; Illustrated by Alfred Parsons. London: John Murray.

THE ORIENTAL POPPY.

The most unobservant must have noticed how popular the Poppies have become within the last decade. Many of the species and varieties are undoubtably highly suitable for garden decoration, and when cut just as the blooms are opening, they last for a greater length of time in perfection when placed in clean water. The Oriental Poppy (Papaver orientale) and its varieties produce the largest flowers of any, and the large, black blotches at the base of the brilliant scarlet petals, produce a bit of colour which would be difficult to beat. As a matter of course a huge plant laden with flowers is best seen at a little distance, especially when the sun is shining upon them. The accompanying illustration shows this Poppy in front with a back ground of Wistaria chinensis and other contemporaneous

subjects. Now that the flower stems have completely died away, and the weather is cool and moist, this plant may he divided into pieces of convenient size and re-planted where desired.

GLEICHENIAS.

Amongst the whole Fern family, large as it is, and boasting as it does, so many elegant and beautiful members—very few equal, and certainly there are none that surpass these heautifnl plants. As elegant in appearance as Ferns can well he, not a single vestige of stiffness or of undue formality remains to mar their beauty. The genus was named in compliment to W. F. Gleichen, a German botanist of the eighteenth century, and comprises some thirty species or thereahouts. Gleichenias have acquired the unenviable notoriety of being difficult to grow; but, like many another plant, this difficulty has in many cases heen more or less exaggerated.

Although they are natives of tropical and suhtropical regions, they will, under cultivation, succeed remarkably well in the cool fernery. A compost of good peat and sand, a little turfy loam, and a few pieces of charcoal, and sandstone, will meet all their requirements, as far as the question of soil goes. The most particular part of their culture is to see that abundance of water he given them. Indeed, if the pots are well drained, and a compost like the one I have recommended is used, it will be very hard indeed to give too much water. If the plants are in a healthy and a flourishing condition, an occasional dose of liquid manure will prove of great service. Great care and discrimination must, however, be exercised in its application, or evil results may ensue.

G. flabella.—This is perhaps the most distinct, and certainly one of the most difficult memhers to deal with of the whole genus. It is rare indeed that one comes across a really well-grown specimen of it. Still it is a plant of noble appearance, and well deserves any extra trouble it may give. It is a native of Australia.

G. dicarpa, also an Australian species, is easy enough to grow, and is altogether a charming plant. G. d. longipinnata has fronds considerahly longer than are those of the type, which gives it an exceedingly graceful appearance.

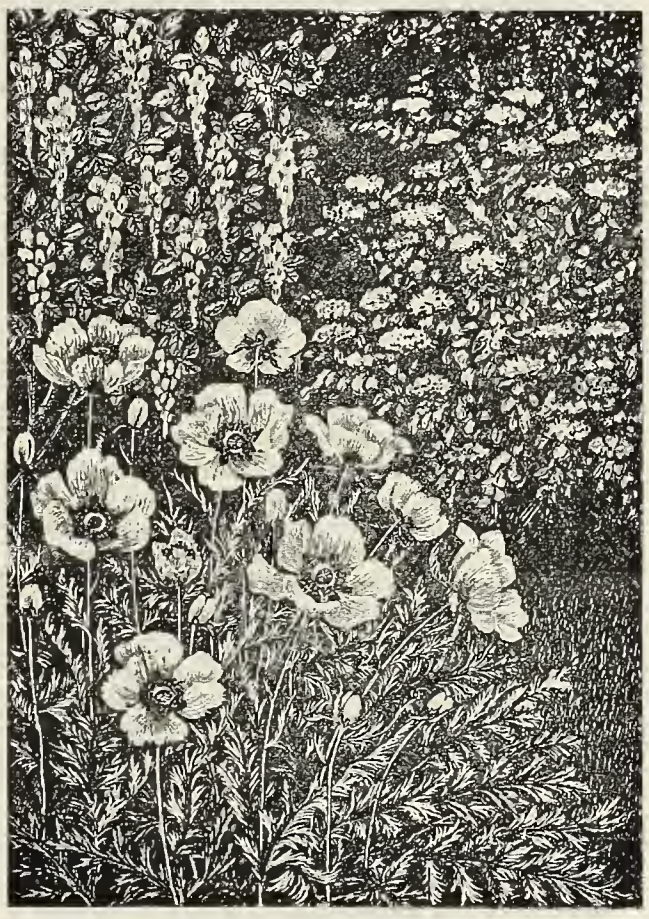
G. circinata and its variety G. c. Mendelii are plants that should find a welcome any and everywhere. They are both of very rapid growth, and no difficulty need be experienced in getting good specimens of them.

All the foregoing species and varieties will succeed in the cool Fernery. A minimum winter temperature of 45° Fahr. hy night, rising to 53° hy day will be amply sufficient. Staking is one of the most important operations in connection with their cultivation, for if this be neglected or hadly performed the appearance of the plants will be in a great measure spoiled. The stakes used should be as neat and light as possible, no great strength heing required.—*Filices.*

PEAR REMINISCENCES.

All who are concerned about the housing of our fruit, and specially of the large crops of Pears, must have their minds much occupied with them, their peculiarities, and their history; and if any of your Pear growing readers who have passed the ninth Septennial of their lives, as the present writer has, I am quite sure they have many curious experiences which they could relate, if they were so minded, which would interest all those who care for their gardens with that love for them which the born gardener has to the very core of his being. For instance, in the gathering of my Pears I am annually reminded of the craze or fad which in the fifties ran through almost the whole of the fruit-growing world. The fad was the dwarfing, restricting, root-pruning, summer-pinching, pyramidal, or bush-growing of Apples, Pears, Plums, etc.

The late Mr. Thomas Rivers, of Sawbridgeworth, was the great English apostle of the movement, and his articles, with other writers in the horticultural papers, his hooks, and his specimens of pyramids and bushes, by pictorial illustration, and plants from his nurseries, set the whole country aflame with a passion for fruit growing. Country gentlemen who had not hitherto shown much interest in Pear growing hecause all their knowiedge was in nine cases out of ten practically limited to a lot of old, gnarled, almost barren trees in the orchard of the Old Bergamot family, perhaps, the fruit of which was only fit for the pigs, for they were "ripe at twelve o'clock and rotten at one," and whose whole information about Pears was theoretically contained in the ancient couplet, "He who plants Pears, plants for his heirs," were made to understand that all this was a thing of the past, and that all they need do was to plant their places with these pyramids or bushes, to restrict them root and hranch according to the instructions given, and they would have fruit off their bushes of the newest foreign varieties of the largest size and most exquisite flavour in a year or two after planting.



Papaver orientale.

Nay, so forcibly was this remedy for unfruitfulness, root-pruning, preached, that these gentlemen were told that all their older trees could be hrought into bearing hy the adoption of this restrictive agency. I rememher one good lady, the wife of a country gentleman, who had read herself full of it, ordering her gardener, an old gardener of the solid and conservative spade and wheelbarrow sort, to his disgust, to set on and root prune every Pear tree on a long wall. The old man, a sturdy, higoted, but thoroughly practical gardener, was a Yorkshireman, and on our going on with the operation, which the lady herself superintended, fumed and growled the whole time, often exclaiming "Well, it's first time i' my life 'at I ever knowed that to mak' a tree grow and fruit was to cut its roots off!" As the lady did not know the exact distance the operation should be done from the bole of the tree and the old man did not care, we root-pruned some of them that they never recovered; much to the old man's joy and sorrow; joy that the experiment had failed, and sorrow at the loss of the trees he had tended for so many years, hut also astonishment at the effect in produce which distinguished those operated upon that survived that most trying ordeal.

This root-pruning fad had its effect in another way. The Continental nurserymen soon took it up and worked it to their solid advantage, but to the sore crowding of many English fruit gardens with varieties hearing high-sounding names, and (on paper) the most extraordinary virtues of size, flavour, productiveness, etc. At that time these foreign nurserymen would come over into England and bring large consignments of Pear bushes chiefly with them and put up these collections by auction in various towns, showing to the huyers magnificent samples of Pears which these same bushes would produce. Many enthusiastic gentlemen were taken in by these sales, for, on proving their purchases, they turned out, the bulk of them, to be the veriest ruhbish that ever was. There would he one or two varieties, perhaps, that would be of use, hut generally they had to he re-grafted with well proved sorts. A gentleman farmer in the midland counties, whom I knew was a large buyer and planter, and on his showing the grand specimens which the trees would produce to his gardener, the gardener very shrewdly said, "It would be all right, sir, if you had bought the climate as well as the trees." Every Pear grower knows that there was a good deal of sense in that ohservation.

I may give here another Pear reminiscence, not without its lesson to some of my brethren. The rector of the parish in which I lived, in the Midlands, was a gentleman of the old school. He was one of those clergymen whom the *Saturday Review* once styled "Squarsons," meaning thereby the combination of the parson and the squire in one individual, a by no means unhappy combination, as many could testify. He was one of the most enthusiastic of Pear growers, and his gardener had caught his spirit. Their garden was to me one of the best schools I learnt in, and both rector and gardener were the wisest and kindest of teachers. They were both always glad to see garden lovers, and especially Pear lovers, and as the passion was then growing on me I was a constant visitor. One crop of Pears interested me much; the crop was invariahly good both in size, quantity and quality, and as they were growing in what, to me, seemed a curious fashion, I did not rest until I heard the story. The tree was Flemish Beauty, and was planted against a wall looking south-west hy west. It grew healthy and strong, but did not fruit to their satisfaction, partly because the land was a deep and rich alluvial soil which filled the tree with sap, and partly because the corner of a plantation just came up to opposite this tree, shutting off the light. Proper and timely training was given to it until it got to the top of the wall, then it seemed as if it was going to indulge itself and sow its wild oats, for it produced a lot of whip-like shoots at the top of the stem of unusual length and stoutness, to the great distress of the rector and his gardener. Being men of resource they decided to try and tame the tree by hringing these whip branches over the top of the wall and spreading them out in the form of an inverted fan. This was apparently the check it needed, for year hy year these shoots extended, were duly nailed in, spurs hegan to form, and fruit appear, and when I saw it, it was a very unusual thing indeed for it to miss growing each year a crop of Pears of the best size and quality.

As the branches grew and flourished on the south-east side of the wall, so the hranches on the south-west deteriorated, and were by degrees cut away up to the bole of the tree, so that the tree was growing on one side of the garden wall and its crop of fruit on the other. The lesson in this lies in the check to the tree by bending over the hranches, thus diverting the sap from its purely upward movement into a slower more roundabout way, therefore giving time for fruit spurs to form, and, being on the sunnier side of the wall, those spurs were better ripened, hence the fruitfulness. Every gardener knows that once fruit hearing is set up in a tree, it goes on so, the production of fruit ahsorhing all its powers. I must not extend this old time chat ahout Pears, or the Editor will waste-paper hasket it as garrulous idle talk, not fit for this matter of fact *fin de siecle* period.—*X.*

PRESENT DAY GARDENING.

The opening meeting of the Session of the Devon and Exeter Gardeners' Improvement Association was held on Wednesday evening of last week, when there was a good attendance of members, Mr. Andrew Hope, Honorary Secretary, presiding. Mr. W. Swan, gardener to J. P. Bryce, Esq., of Bystock, near Exmouth, was the essayist for the evening, and the subject "Present Day Gardening."

Perhaps it might be considered wise to divide my subject and speak first of the workers, and then to allude to their work; but to treat this subject in that manner is, I think, scarcely advisable, for it is difficult to treat of the one without reference to the other, and yet without drawing too severe a line and sharply separating them. I shall first call your attention to the men, gradually merge into their labours and anxieties, and draw a few conclusions by way of summing up. Just a word in passing in regard to societies such as this. I do not speak without some knowledge, both of their inner work and of their outer advantage. The secretaryship which I held of one of the most flourishing societies in the North, gave me plenty of opportunities of seeing and knowing much of their utility, so that I am led to say I consider these societies of a most helpful and encouraging character, so much so that a regular and sympathetic attendance is certain to give pleasure and profit to the members, since information is imparted, facts are elicited, and methods of procedure recommended that have been proved to be right in regard to the culture of various plants and fruits, whether those grown indoors or outside. Courses of treatment, which have been found to be erroneous, are here set forth, so that young and inexperienced fellows may be directed which course to adopt, and which with equal wisdom they should learn to avoid. Not that I wish it to be inferred that every course that appears correct should in all its detail be followed by those who may be placed in similar circumstances, nor that in its fulness every phase on the other side should be scrupulously avoided, for there is always in the lot and position of each such need of modification, and individualising according to locality, aspect and surroundings, that it is only by a careful and thoughtful application of details and methods of culture, that we can hope to succeed in our labours; whilst we ourselves receive some share of pleasure we may at the same time impart gladness and satisfaction to those by whom we are employed.

I consider it a matter somewhat remarkable that societies such as this should have sprung up so numerously, and that in almost every important centre there should be one established with a membership more or less numerous according to the number of those employed in gardens in the respective localities; that in many instances a room is provided where gardening papers may be read; and that a good library of standard works and books dealing with all branches of practical gardening should occupy a large space on the shelves, and should be continually examined and studied by those attending. I say it is a notable and healthy sign of progress and advancement; for if in any way the enquiring spirit can be encouraged, and those who are searching for knowledge can be assisted, a double duty is laid upon those who have the information, that they impart it in a cheerful spirit, and never fail to make use of opportunities as they present themselves.

I am not able to speak with absolute certainty of the doings of the workers in other branches of the extensive fields of labour; they may have means of imparting knowledge of which I am not cognisant, and be able to convey the latest developments of their special industry in a manner that is unknown to me: yet speaking broadly I think I may say, no other class of workers have formed such associations, nor have produced such a body of thoughtful and practical men, who are competent and willing, by writing, lectures, or giving practical demonstration, to impart true and correct information on all that pertains to the wide domain of Horticulture.

It may, perhaps, be contended by some that Gardening is but a very simple subject, the main features of which are easily acquired; that the range of enquiry and practice is of so circumscribed a character, that but little preparation is needed on the part of those who engage in it, whether for pleasure or as a means of livelihood. Of those who have such opinions, and hold views of so restricted a nature, I would at once endeavour to disabuse the minds, contending that whilst horticulture or gardening is one of the most ancient of all the labours in which mankind has been engaged, and has come down to us through all the ages, sometimes I admit it has been less valued than at others; yet at the present day it is one of the most important branches of labour and means of livelihood of the many occupations in this and other leading civilized countries; and so as it is better understood and the considerations it demands more liberally bestowed, it may still become more valuable, inasmuch as when the best methods of culture are accepted, and practised by an ever-increasing number of workers, far greater results in regard to the production of flowers, fruits, and vegetables will be apparent, than unfortunately some of us are compelled to acknowledge is the case at present.

I do not know all the details of the management of this Society; the Syllabus doubtless gives a fair idea of the ordinary plan of procedure—viz., a set paper by a specialist and discussion invited thereupon, and a summing-up by the chairman; that is very good so far as it goes, but is no divergence from this permitted? Is there no other way of eliciting facts and information? I venture to think that there is, and if you will permit me I will offer one suggestion. Let one night in the session, or two if it is found to answer (which I would have in the latter portion) be set apart for the young men, who should be encouraged during the winter to hand to the Secretary, and which I would have unsigned, any matter pertaining to the ordinary routine of the profession that appears to the Questioner as needful of explanation, and on which he can formulate an intelligible query. When, say six, eight or a dozen such inquiries are sent in, the Secretary shall then request that one or more of the older members shall reply to them, and if it can be so arranged that practical demonstration should accompany the information so imparted: I do not mean that the member should have the questions given him on the night he would be requested to answer, but if he had them a week before-hand he would have the ideas in his mind, and matter and material would continually gather, and so with experience coupled with plain, scientific truth, much handy information would, I am sure, be imparted. This would be more easily accepted, remembered, and put in practice than when only one subject is treated upon during the evening, and many leaving, and saying afterwards there was one matter I should like to have had explained, but I did not like to put the question, as I thought it too simple.

I do not know whether any members of this Society are on the Devon County Council, nor if in any way the Society is represented on the committee which is formed for this district, but as the County Councils have committed to them the carrying out of all methods which pertain to the advancement of technical education in all branches of labour, it certainly seems to me but reasonable that gardening, one of the staple industries of the county, should have fuller recognition, and material assistance at the hand of those who have the means, and that the council might appoint one or more competent men who have the confidence of their brother practitioners. Such a one would be worth securing for the answering of questions such as I have endeavoured to describe. The council too, in my opinion, should set apart in three or four parts of the county plots of land that in truth should be schools of gardening, where under thorough practical gardeners the phases of the profession that are least understood and practised should be carried out, and all open to the public who seek admission and information, at certain times and days. Such schools should give practical demonstrations of all branches of hardy fruit culture, the kinds most suitable to the locality, and give information on many matters pertaining to vegetable culture that at present are not universally understood. It seems to me that as soon as our district and parish councils are formed and in working order the question of allotments and all that it means must soon engage their attention.

Of the gardening pursuits of the ancients it is not necessary for me to speak, nor would I detain you in giving an account of the practices of those of our own country of some eighty or a hundred years ago; we should probably be amused at some of their methods and smile at many of the wonderful virtues that were said to exist in most of the subjects on which they expended their skill. Yet no doubt they had advanced and were advancing, but the practical application and scientific knowledge as we understand it did not exist in any measure or degree. That wondrous advances, however, have taken place during the past sixty years must be admitted, and that the rate of progression has been the most rapid during the last thirty years cannot be gainsaid, and though gardening to-day stands at a higher level than ever it has before, I venture to assert that still higher attainments are possible, for the law of progression assuredly holds in this as in all other branches of science and practice. The gardeners of past days (I speak here of those of some fifty years ago) had much to contend with in regard to the class of buildings in which they grew their plants and fruits. The houses generally were of a lean-to character, much woodwork being used in their construction, and the glass for the roofs was seldom more than 6 in. by 3 in. or 4 in.; the rafters, therefore, were very near each other, and the large number of laps in the glass which always become darkened through moisture and vegetable matter adhering in them had an appreciable effect in reducing the amount of light entering the houses. Light I consider a most important factor in all plant and fruit culture.

But in this matter I pray you do not misunderstand me; it was impossible to secure glass of large size in those days; the duty on glass made this luxury almost prohibitive, so perforce they must use that which they could obtain. I fear sometimes, however, we in these days come very near the point of danger, for the roofs of modern buildings are often glazed with sheets of glass 16 in. by 12., 18 in. by 14 in., and in some cases even larger than this. The clear uninterrupted sunlight that enters the houses through this means is often very injurious, more especially in the early part of the season, say April, May, and June. I know this necessitates greater watchfulness on the part of the gardener and his men, but with all the care that may be taken sometimes cold and injury are incurred to the lasting detriment of the subjects under the glass.

Again, the method of heating horticultural buildings by means of hot water was then unknown, or or in such an infantile stage that but few places had ventured to apply it for heating purposes; and so the old-fashioned flue and cavity walls still pertained, whilst leaves, bark, and fresh manure were brought into requisition, that a regular supply of warmth might be secured in the houses.

That, in spite of such difficulties, many noble specimen plants were grown, and much choice fruit ripened and placed on the tables of wealthy patrons I am prepared to believe, and would most heartily and willingly add my word of praise to those who were so successful. But in those days the number of clever practitioners were few and the measure of success they attained was of a very variable quantity. I venture to say that some sixty years ago the whole of the famous gardeners in the county of Devon were not so large in number as the audience I have now before me; for when we speak of fame in this matter you must remember they were considered notable in large measure because of their rarity, while at the same time the pinnacle of success they attained would now be considered but of a very meagre quality. Mind you, I do not seek to depreciate, nor in any way lessen the credit that attaches to their names; but what I do contend for is the fact that present-day gardeners have in their midst a large number that reach a far higher water-mark, inasmuch as they have to supply in quantity fruits, flowers and vegetables that in those days were considered impossible. I remember speaking to one such veteran some few months ago, and he stated rather sadly, as it seemed to me, that now he was expected to have various subjects ready for use in May and June that in his early days gave unbounded satisfaction if they were ripe in August and September; and so constant change and progress have continued until many things must now be supplied for a period of six or eight months that formerly were presented and over in about half that length of time.

Then, too, few plants were used for house decoration, and but a very small quantity of cut flowers were taken into the mansions; in fact, the labour of the house decorator was of a most minute description, and so, as but few of this class of plants were required, it followed that a very limited number

were grown. A walk through the houses at that time would have revealed a number more or less of large sized specimen plants that had been grown and tended for years, and were so highly prized that they were considered almost as much a part of the estate as the Oaks and Cedars in the park. That such plants were samples of good culture I admit, but try and realise the amount of time, patience and skill expended on say an Azalea Duc de Nassau, Erica Cavendishii, or the many new Holland plants, stove plants, and climbers that then mostly adorned the stages of the greenhouses, etc. An affection for the old acquaintances sprang up, until the older they became the more tenderly they were watched, and as their end drew near, and partings occasionally took place, the memory of their excellences remained and their beauties extolled for a long time afterwards.

Perhaps, under the conditions that pertain at the present, this feeling of reverence and affection has passed, or has but few opportunities of expressing itself. The demands of the mansion are such that decorative plants must be grown by hundreds, and the variety required will cause the gardener and his men to have thousands passing through their hands in the season, that at the time to which I refer, would have been represented by just a dozen or two.

This large number of quick-growing plants necessitates a daily care and oversight, both in the matter of sowing and rooting, as well also as growth and development when each is established in small pots, The Ferns, Crotons, Palms, Dracaenas, Cyclamens. Primulas, Cinerarias, Begonias, Gloxinias, Grasses, Moss, etc., will require constant attention, that they may be fit for the decorator, yet withal, that the pots may not be too large for the spaces set apart for them; and then beside these there is a large number that must be grown for cut flower purposes. See the large numbers of Carnations that are now cultivated. Time was, when these were grown by a few, and it must be said they were well grown for exhibition purposes or border display; but now, tens of thousands are cultivated for cut blooms only, and it must be admitted that there is still a large demand for choice blooms of this glorious florist's flower.

I had written thus far, when picking up the G. C. for September 22nd. I find this extract from the *American Florist*. You may have read it, but I am disposed again to quote it. After alluding to various matters connected with the trade, such as uniformity in the size and shapes of flower pots, special post rates on seeds and plants, reduced charges on plant shipments, reform in plant nomenclature, etc., it goes on to say "not merely this, but the wonderful advance in purely floricultural matters should be noted; the increase in florists' varieties the improvement of old sorts, the introduction of many new ones. How vastly have the numbers of Roses and Carnations increased during the last decade, and as regards the latter, progress has not been confined to the production of better flowers. *The improvement in methods of cultivation has been fully equal to the improvement in the qualities of the varieties.*"

Whilst I am treating of this class of plants, that is decorative plants, I must give a word or two to the wondrous development that has taken place in the matter of goods grown for market. Though I have not felt it necessary to classify the men who come under the term of present day gardeners, I cannot help calling your attention to the large emporiums now in the hands of the market growers. Doubtless they received a mighty impetus some thirty years ago in finding the public taste was such that even those who did not possess a garden were desirous of embellishing their rooms with plants and flowers, and were eager to obtain them wherever exposed for sale. So these establishments have gone on increasing until the plants, fruit, and flowers sent to the markets have now reached a figure and weight that would appear almost incredible. No doubt this supply has re-acted on those possessing gardens, and increasing quantities are required by those having glass erections; whilst, at times, when the demand is excessively severe, the private grower is glad to replenish his store through the agency of the universal provider.

Once again I would refer to the cultivation of the Chrysanthemum.

I can remember some thirty-five years ago visiting one of the leading shows in North London (I refer to that of the Stoke Newington Chrysanthemum Society). Beautiful, no doubt, the display was considered, and the winner of the first prize for twelve incurved or six Anemone blooms was esteemed a hero. Competition, I grant, was not keen as we understand the matter; yet the grower who two seasons running took first prize in these classes was considered famous, but what were the blooms shown in those days compared with the flowers of the present time? That such societies deserve honour for being to the fore in regard to autumn exhibitions is true, but a display such as was held in this city last year, and which we hope to see repeated in a few weeks from now, is as far in advance in every respect as it is possible to imagine. I do not mention the Japanese section for comparison, as at that time there were none grown, so could not be exhibited. When the first blooms of this section appeared they were semi-double, ragged looking flowers that would not be tolerated to-day on an exhibition board. Still, these were the originals whence through the hands of the skilful hybridist and grower have come to us the magnificent blooms as we now know them. This branch of labour has made such heavy demands upon the time, skill, and thought, of the operator of to-day, that in regard to those of the past their share might be represented as by a single unit.

I would not confine my remarks entirely to the labour of the gardener under glass erections. There is another phase of the subject which I think may detain us for a moment or two; inasmuch as it appears to me we do not universally attain the point of excellence many of those reached who have gone on before. I now refer to the culture, training, and management of wall fruit trees. I know glass houses in this matter have altered some of the conditions, and to ensure a more regular crop, many sorts are thus grown that formerly were managed on the walls. The change in some respects has no doubt been satisfactory, still we cannot but regret that many Peaches and Nectarines, Plums and Pears, are not quite so well managed as was the case when the whole of the supply was gathered from the open. By all means have glass erections adapted to the culture of fruit, and grow as much as possible in them, for it is a matter of certainty that better fruit is obtained early in the season grown thus than could be obtained outside. At the same time do not overlook the possibilities of a given amount of space on the walls, and there grow Pears and Plums, as their flavour when thus grown can seldom be equalled under glass. The careful pruning and training of trees such as these is an art that requires considerable time to thoroughly acquire, but when once obtained, and exercised on healthy and free-bearing trees, gives evidence of judgment and skill such as few other branches of the profession can give.

Again, the numerous exhibitions now held throughout the country give gardeners opportunities of placing on the show tables such evidences of their skill that the public can behold and appreciate; whilst gratification is given to liberal employers, and benefit accrues to the gardener when successful in winning prizes. Here I make a remark that for some time has seemed to me at least worthy of a little consideration. Many gardeners are encouraged to exhibit their productions, and their names are constantly before the public as the most successful growers of the particular classes of plants they place upon the stage. I am willing they should have honour and praise, and heartily join with them in the gladness of their successes, but are there not many quiet, diligent, painstaking practitioners whose success is just as great, and bring about results in their measure just as important, though perhaps in a less imposing manner? These in many instances are unable to exhibit, it being considered inconvenient or undesirable that they should stage their specimens, and so, though good men in every respect, their success is unknown, and their labours outside their own sphere unappreciated. I consider it only fair and reasonable that at certain irregular seasons such places should come under the survey of some duly qualified reporter, who should testify to true worth and skill, and bring into notice such results as otherwise would remain hidden. Now permit me to say that though in some feeble manner, I have attempted to describe the work, and the difference that now prevails to those of a former period, till the adage holds true, and as assured to-day as ever, "By their fruits ye shall know them," and so that which concerns each of us the most is how to secure the best results in those matters in which we are the more immediately interested.

That a gardener needs a sound body you will all allow; he should also possess a quick eye, observant mind, calm judgment, diligent application, a sanguine temperament, and a disposition not easily ruffled by misfortune or apparent failure. He also should have an open willingness to accept, and cheerful anxiety to apply any fresh method of proved value, for though in many matters he may be considered most conservative, he should be just as ready to acknowledge he is one of the most advanced of all skilled workers. I am aware that many years must elapse ere a youth can pass through all the training and sometimes drudgery of an apprentice, journeyman, and foreman, ere he fortunately secures an appointment as head gardener. Very often when that goal is attained and he is placed in a position of trust and responsibility, it is then he is reminded how much there is still for him to learn. To all young men then I would say;—"Be diligent, learn all you possibly can, that in any way may bear upon the profession. Do not be satisfied with light or simply theoretical attainments, but determine also to acquire a full practical knowledge of all the phases of each section of the profession." Even when a good general idea is mastered there will doubtless be some section in which you take keenest delight, and linger longer over the details of this than of some others. To such I say, learn that branch thoroughly, and endeavour to become an expert in it; but at the same time do not do so at the expense of the other branches.

Of landscape gardening I say nothing. This work lays so often quite outside the ordinary labours of an average gardener that little opportunities are available for securing a thorough mastery of all the details incidental to it; and even if it were not so, landscape gardeners are not thus made. Like the poets they are born to it. They develop the faculty, or, as Maccabe use to say, they grow the bump and it bubbles out of them, However, on the evening of 12th December this matter will be laid before you by one well known to you all.

Of the conditions of service and relations of employers and employed I have only to say each engagement is an individual undertaking, and a third party is seldom consulted as to the details; therefore it behoves all, either on the one side or the other to act in an upright, honourable manner, seeking the good of each and the advancement of the profession. For similar reasons I consider guilds, societies, and unions undesirable—in fact, unnecessary. The requirements of each vary so considerably that uniformity of service, hours, and remuneration are quite outside the present range of practical application.

And now, in conclusion, I would ask. What is Gardening?

Bacon says:—"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."

Shakespeare says:—"This is an art which does mend Nature; change it rather; but the art itself is Nature."

Now I find no fault with these quotations; but if that were all we understand by the term, well, then, there were little need of study, patience, perseverance, diligence, and enthusiasm. It seems to me an answer to this query would rather be:—"Gardening is the intelligent application of correct methods of culture, founded on practice, observation, and science to all vegetable life, modified of course by the means at our command and the environment of the subject, that the inherent qualities of each may be developed in due course to their utmost capacity."

That our methods may vary, and in some instances appear almost in antagonism to those of previous years is very possible; that the surroundings and local influences in one place may call for different treatment to that given in another is just as true, and an intelligent observer will speedily notice the needs and apply his methods accordingly, ever bearing in mind that his aim is to assist Nature, to develop faculties already existing, in fact to bring to maturity in the fullest possible manner the best of which each is capable.

Of soils, manures, temperatures, shading, watering, etc., for subjects indoors, or methods to be pursued in regard to those outside, I say little. Each deserves a separate paper and an evening's consideration; but, in closing my remarks, permit me to say that, trying as a gardener's occupation is, in many respects, there is also much that is of a most

enjoyable and interesting character, and when employers duly appreciate a painstaking and successful man, and servants seek in every respect the pleasure and goodwill of those whom they have engaged to serve, there is a community of interest formed, coupled with a close observance of all phases of vegetable life, a commingling of thought and ideas, and an open-heartedness in the expression of the same, so that enjoyment of a most elevating character is shared by each. This eventually acting and reacting must improve the whole being and the life of both.

A RAMBLE ROUND THE GREAT ORME'S HEAD.

(*Concluded from p. 91.*)

CONTINUING my observations on the wonders and wildness of the north-west corner of this great promontory, I ought, perhaps, to remark that, for the benefit of those who are unwilling or unable to undergo the fatigue necessary to accomplish the climb, a well-made road has been constructed at a cost of £14,000, from which, at a point near the lighthouse, an easy ascent can be made. Therefore there is no excuse for missing the glorious prospect which is to be obtained from here. If one descends cautiously near here he will find the common Thrift growing in great abundance, while up above, clinging to the loftiest rocks, the wild Cabbage (Brassica oleracea) appears to be quite at home. Although the British habitat of this remarkable progenitor of all our succulent garden varieties is, I believe, somewhat restricted, I have seen it in similar positions on the cliffs of Dover, and about the precipitous heights of Beachy Head.

The generic name of the plant, I think, implies an ancient usage, for it is of celtic derivation, and corresponds to our word "Cabbage." On the other hand, the specific term oleracea rather suggests that the plant was used as a subject from which to extract oil, than for the purpose for which we moderns use it. But look! there are the bright, dark-green lance-shaped fronds of the Sea Spleenwort (Asplenium marinum), another plant which is much localised in its natural homes, and therefore sufficiently rare to constitute a find. What a beautiful bright, glossy-green colour are its sturdy-looking fronds! Where not inaccessible, it cannot be removed, for its slender rootlets persist in separating themselves from their dark-brown stems—so much the better for the Fern. The common Maidenhair Spleenwort (Asplenium trichomanes) was also there, looking like lace-work against the rugged rocks. Amid the barrenness, to the eye of the critic:—

"These serve him with a hint that Nature lives."

But as times flies, we had better remount, for there is much to observe on the breezy heights ere we return. Here we are, once more, on the top of the giddy precipice, wiping the perspiration from our brows. I think it is Wordsworth who says that:—

"Nature never did betray
The heart that loved her."

I don't quite comprehend this, for a step here in the wrong direction would certainly lead to the most disastrous of results—oblivion. Still, although the prospect from here is sombre and gloomy, the elevation in itself is sure to produce a feeling of delight, and to inspire us with the utmost enthusiasm. Let us, then, admire and proceed.

In addition to the Heather and the Gorse, we have here, in a partially sheltered spot, behind a cottage, a fine piece of the Rest-harrow (Ononis arvensis) with its pretty rosy-coloured, pea-shaped flowers. A glass of milk, and an inquiry at the cottage, produced the imformation that visitors always admired the flower, but no one about here knew the name of it. Alas! there are very few of us who are well acquainted with the names of those vegetable products of nature, by which we are surrounded. Later on, I tested the knowledge of a learned-looking man, who said that he used to study botany (but he couldn't tell me the name of this plant). The term *onos* an ass, was no doubt given to the genus, from its stubborn propensities; this particular species, anyhow, is somewhat difficult of eradication: and has no reference whatever to the stupidity of the human individual.

Let us now take a dip into a comparative hollow, where the cliffs have been distorted, as it were, and face inland. On our way we pass a stone quarry, where two young geologists are busy with their hammers. What are they looking for? Fossils of course; remnants of bye-gone times; and there are some very good "specimens" here. I could not, however, repress a thought that some live to work, while others—and by far the larger number—work to live, a distinction with a difference. The Great Orme's Head is said to be peculiarly rich in metals, and until lately there were several copper mines in working order. But to the flora. In the depression alluded to above, the character of the vegetation is slightly altered, for here we find the larger forms of plants and flowers, like the Snapdragon, the Toadflax, the yellow Ragwort, the Great Mullein, the red Valerian, and the noble Foxglove. As to the latter flower, I believe the common name has no alliance with the animal we are apt to associate it with, but should rather be written Folk's glove—*i.e.*, the glove of the fairies, or good folks, which one can still find on this rugged mountain, although severely divested of all pretence to supernaturalism. We can, however, forgive these illusions as to its ancient use, for it is a pretty flower. The poet Browne describes the God Pan as oftentimes running through the pastures, "to pluck the speckled Foxgloves from their stem to place upon the fingers of his love." Ah! the speckled flowers, like the spotted leaves of the Lungwort, were supposed by the old herbalists to be a remedy against pulmonary complaints, for it was not thought possible that any flower or plant could be created without special reference to man

This is a false and spurious view, and Science therefore has done some good, if only to destroy that egregious self-conceit which held that nothing had a right to live that was not of service to mankind. There is one other large-growing plant which obtrudes itself upon our notice—viz., the stinking Henbane. I fancy I can scent it now, for the pale yellow, funnel-shaped flowers, reticulated with dark purple veins, are most disagreeably fetid. The whole plant is rough and clammy, and looks forbidding, so let us get away from it, and mount a little higher. As I understood, the plant of the Great Orme was the common Cotoneaster. I searched long and carefully for its downy leaves, and red fruit, but without avail, so that it is quite possible that its whilom British habitat knows it no more. The Privet and the Juniper still linger here, although I could not make out whether the last was the common or the alpine species, for it was exceedingly dwarf, not to say prostrate, with the whippings of the wind, and the outpourings of the sun, which it evidently has to endure.

Thus closes my ramble round the Great Orme's Head, a distance of about six miles. So, if you please, we will return to civilization, and dinner, both of which are essential to a full enjoyment of the beauties and wonders by which we are surrounded. —*C. B. G., Acton, W.*

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

ON Tuesday evening the eighth anniversary dinner of this Society took place at the Cannon Street Hotel, under the presidency of Mr. Arnold Moss, the respected head of the old establised firm of Messrs. Jacob Wrench & Sons, seed merchants, of London Bridge, who was supported by Alderman Sir Stuart Knill, Mr. H. J. Veitch, Mr. W. Marshall, Mr. Clarence Smith, M.P., Mr. W. Y. Baker, and some 120 members and friends of the Society.

The usual loyal toasts having been duly honoured, the Chairman proposed the toast of the evening, "The United Horticultural Benefit and Provident Society," and in order to enable the members and visitors present to grasp the importance of the toast, gave a number of statistics bearing upon the growth and present position of the Society. The institution was not one of the oldest in existence. and, consequently, had not had any very great claims made upon its resources, so that it stood that day in an exceedingly healthy and thriving condition. Since January last, the sick pay which had been distributed amounted only to a trifle over £60, three names only had been removed from the roll of members by death, and fifty-nine new members had been elected. In the same period the Society had invested some £800, which brought the total capital sum invested in safe securities up to £9,500, and he hoped at an early date to hear that the amount had been raised to £10,000, which was a nice round sum, the interest on which could be easily calculated. Of the capital sum invested some £600 was held in trust on behalf of lapsed members, to whose nominees the respective amounts standing to the credit of the lapsed members were paid at death or to the members themselves on their attainment of the prescribed age, so that the amount of stock standing to the credit of a member at the time when he ceased to pay into the Society was not lost, as was the case in so many other so-called benefit societies, The members paid 9d. or 6d. per week each, according to which scale of benefits they preferred, and in the first case they received sick pay to the amount of 16/- per week, when required, and in the other, 10/6 per week. Now these were benefits of the greatest value to any one in time of need; but he understood that the Committee of management, so prosperous was the Society, had some desire to go one further, having under their consideration a proposition to increase the sick pay to 18s. on the higher scale of payments and to 12s. 6d. on the lower. The question was one which deserved the best consideration of the members, because any increased benefits which could be given without endangering the financial stability of the Society must tend to increase the membership roll, and that could not be otherwise than beneficial to the Society as a whole. It was greatly to be regretted that many more gardeners, and especially young gardeners, did not join the Society, because there could be no doubt whatever it was the best Society of the kind which they, as a class, could belong to, and he could not help thinking that as the times were, the outlook for gardeners was none too rosy, and it must surely be of the greatest possible benefit to any man to feel that should a pinch come he had such a substantial resource to fall back upon, instead of being dependent upon the charity of friends. He warmly sympathised with gardeners in the difficulties, many and perplexing as they were, which they had to contend with; and as a class they were by no means well paid considering their onerous duties, and the value of the plants and other things which were placed under their care. He could wish them all a sensible increase in the remuneration they received, because he believed that that would tend to an increase of their numbers; but in any case he could not see how they were going to improve their present position except by the means of self help, and in this respect their Society offered advantages which, as a special class of workers, should be appreciated by them all. How nice it was to feel that in case of misfortune coming upon them they had something to fall back upon, and misfortune did come sometimes when least expected. He wished for the Society all possible success in the future, and sincerely hoped that the results of their dinner that evening would in some measure tend to the increased prosperity of the Society, which all present so much desired.

With the toast, was coupled the name of the Treasurer, Mr. James Hudson, who suitably responded and on behalf of the executive thanked the Chairman for his kindness in presiding and so ably advocating the claims of the Society, to wider support from the gardening community. The other toasts were "The Honorary and Life Members" proposed by Mr. Nathan Cole, and responded to by Mr. W. Marshall, the senior life member, and one of the founders of the Society; "The Visitors" proposed by Mr. Clarence Smith, M.P., and acknowledged by Alderman Stuart Knill; who in graceful and appreciative terms gave the health of The Chairman; and "The Press" which was proposed by Mr. G. W. Cummins, and acknowledged by Mr. B. Wynne. In replying to the toast of his health the Chairman gave the names of several gentlemen present, who had signified their pleasure to become Life and Honorary members, and warmly thanked the donors of the fruit and flowers with which the tables were beautifully decorated, specially mentioning Messrs. B. S. Williams & Son, Messrs. John Laing & Sons, Messrs. W. Cutbush & Sons, Messrs. Cannell & Sons, Messrs. W. Thomson & Sons, and T. Rivers & Son, who had contributed plants, cut flowers and fruits; and concluded by proposing the health of Mr. J. H. Laing, which was cordially received and acknowledged.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s.; post free, 5s. 3d. Publisher, GARDENING WORLD, 1, Clements Inn, Strand, W.C.

SOME LESSONS FROM FLOWER SHOWS.

That there are many lessons to be learned at flower shows, I do not think any reasonable person will for one moment doubt. That they are pre-eminently educational is also one of the chief reasons why they should exist; the only reason for regret is, I think, why competitors should be allowed to stage their exhibits without the articles being properly named. I have occasion to visit many shows in the course of the season, and almost the only articles properly named are those on exhibition from Nurserymen, whose exhibits are generally one of the most educative features of a show. It is here the "Plethoric Note book" is mostly seen. Not only in the hands of young Gardeners, but also in the hands of veterans who, ever on the outlook for something good, see it and take a note of it, not to fill their note books as suggested by your correspondents, but to refresh their already over-taxed memory (their is no gardener that is not handicapped in this respect) and when the proper time comes round the note book will finally be consulted (it will many times have been so already), and the names therein noted, will now serve the purpose for which they were written, whereas if left to the memory they would have been one of those things that were.

Would it be out of place I ask for a young gardener with a thirst for knowledge to take the names of twenty-four Roses, as he saw them in a first prize stand, or twenty-four Carnations or any other cut flowers, collection of fruits or vegetables, (*where it is possible to get them under name*). We can take it for granted that the varieties here seen will all be good, such being the case, there is nothing more natural than our young friend noting down those names, seeing it is impossible he can carry them all away in his memory. That is surely one use for the note book, "Plethoric" or otherwise, the only pity is that there are not more note books used. When I see a young man using his note book, and that freely, I have great hopes of him, he means business. A man who takes notes on paper does it more for the fun of the thing, and not as "Y" implys that he has thrown his time and labour away, and that it would be wiser to use his memory and power of observation more, as long as he does not throw the note book away his power of observa- is in safe keeping. Verily, he is casting his bread on the waters, and will find it after many days. Go on, young men, taking notes, in the show, in the nursery, and by the way-side, wherever you see anything to attract your attention jot it down—fill twenty note books if you feel inclined—as I have never yet known an instance where good results did not follow.

"Y" complains of young men cramming their minds with a string of names, just so, to relieve this strain we have the note book, the contents of which are not learnt by rotation, and strung out like a recitation, as suggested by the remarks of your correspondents. I only trust they are not judging others by their own standard, as I can hardly believe their exists men of the stamp to which they refer. We may next hear of them advising the editor not to fill his paper with plethoric notes, but confine himself to a few pages, as there is danger of his readers gormandising.—*O*

BEGONIAS.

In establishments where numbers of Begonias of the shrubby and ornamental leaved sections are grown, as decorative material for winter and spring use, a most critical time of the year is approaching. This is particularly the case with those in the vicinity of large towns, where the fogs, which are so very attentive to us during autumn and winter, are charged with all sorts of noxious and injurious gases. Where this is the case it becomes a matter of extreme difficulty to keep the plants in anything like condition. That they will receive harm, to some degree or other, may be regarded as being well-nigh a certainty. It only remains for us, therefore, to minimise the danger as much as possible.

We are promised great things in the future from a series of "fog-strainers" (if I may be allowed to use the term). These contrivances are formed of a number of crates filled with charcoal, and affixed to the bottom ventilators. All air entering the house by these ventilators passes through the charcoal, becoming purified of a great part of the injurious matter in its passage.

This is all very fine!! But how about the laps of the glass, and the opening and shutting of the doors? The present construction of our glass houses renders it a matter of impossibility to exclude the fog wholly. There is, we venture to say, a fortune awaiting the lucky individual who is able to give to the horticultural world some method of successfully combating this dread enemy. As it is, however, we have to look on and see our favourite plants crippled, and, in many cases, well-nigh ruined, whilst we are comparatively powerless to help—not exactly a dignified position for any gardener to be called upon to assume. The leaves of the healthiest Begonia, after the passage of one of the abominable fogs, so common to the metropolis and its environs, look very much as if they had been scorched by fire, and dropped off in the course of a week or two with deplorable results. With regard to the best conditions under which to place plants at such periods, some cultivators advise keeping the atmosphere of the house dry, others (with more reason we think) advocate a slight restriction in the use of the watering-can, but not too dry an atmosphere. We should advise this latter method of treatment as being the best known to us at the present.—*A*.

GARDENING MISCELLANY.

ADIANTUM BIRKENHEADII.

This beautiful Maidenhair is of garden origin and judging from a photograph of it in the *Revue de L'Horticulture Belge*, it is allied to Adiantum curvatum. The fronds are beautifully arched, close upon 2½ ft. in length and about a foot at the widest part. The pinnules are oblong-trapeziform, almost dimidiate and cut into lobes along the upper edge. The distinguishing features of the Maidenhair under notice are the broad lobes of the upper edge of the largest pinnules. The fronds are tripinnate at the base, bipinnate upwards and simple at the apex; and all the pinnules are alternate and spaced so that they stand quite free from one another and give the Fern a graceful appearance. In common with other Maidenhair Ferns, the fronds of that under notice remain dry after being immersed in water. The significance of this fact is that cut fronds may be kept in water for certain periods and then used amongst cut flowers without being unduly wet, as a shake removes all the water immediately.

FATSIA (ARALIA) JAPONICA.

This fine ornamental shrub, well known in nurseries for a number of years, has not been used by planters to the extent which its merits deserve, for it stands in the first rank among our hardy fine foliaged plants, and has the additional merit of being a beautiful flowering plant, and that, too, at a time of the year when very little in the way of flower is to be found among trees and shrubs. Having a good specimen of it in flower at the present time is my excuse for calling attention to it. I believe it to be most accommodating in respect to soil and situation, and never remember seeing it injured by the extra severe weather we have had occasionally. It is most readily propagated by root cuttings, which are made about 2 in. in length, inserted in loamy soil made rather sandy. The ends of the cuttings should be just under the surface of the soil, and the pots of cuttings should be placed in a cold frame where frost can be excluded. The young plants when they appear above the surface should be gradually inured to the air, and when two or three leaves are developed pot them off, keep them in pots and frames till over the second winter, when they may be planted out in the open.—*W. B. G.*

Mutual Improvement Societies.

Woolton, Liverpool, *October 3rd and 4th.*—This Society commenced the work of its sixth session with a horticultural exhibition in the Parochial Hall, Woolton, in aid of the funds of the Woolton Convalescent Institution. The show, although moderate in its scope, fully compensated in quality what it lacked in quantity, for, although the prizes were only of moderate value and, in all cases, being in kind, it led to entries that did honour even to this well-known district, the chief of the Liverpool exhibitors doing their best for the Society and the useful Institution for which they were working. Exhibits were invited on a broad basis with the request that friendly instruction should be the aim rather than personal rivalry. Mr. J. Craven, gardener to J. Grant Morris, Esq., Allerton Priory, staged a superb table of fruit, nine distinct kinds of Grapes, three of Tomatos, three of Plums, one of Peaches, Red Currants, Apples and Pears in variety, which was awarded two cases of cutlery. Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, had two Kentias twelve feet in diameter, Croton mortefontainensis five feet high and splendidly coloured, an eight-feet square group with a ground work of Adiantum cuneatum, Cocus as a raised centre, Crotons at the corners, with several well-flowered Cattleya aurea, which was awarded a Cultural Certificate. It was a charming arrangement, and the same exhibition also had a Dendrobium formosum, which received a Cultural Certificate, and two bunches of Muscat Grapes. A special award was given for these exhibits. Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, contributed a bank of plants, including well-flowered Bouvardias, plants suitable for house decoration, and two boxes of Roses staged side by side, the glowing colours of the Roses being enhanced by the paler tones of the "mums." The reward for this excellent lot was an eight-day marble striking clock. Mr. Tunnington, gardener to Mrs McIver, Calderstone's, Allerton, sent a background of well-flowered Celosias, two bunches of fine Grapes, double and single Dahlias, and a fine collection of Apples and Pears, securing a barometer and thermometer in an oak case. Mr. B. Cromwell, gardener to T. Sutton Timmis, Esq., Cleveley, Allerton, arranged a pretty table of stove and greenhouse flowering and foliage plants with a margin of Maidenhair Ferns, the prize for which was a hanging striking clock. Mr. G. Eaton, gardener to W. H. Shirley, Esq., Allerton House, had some two dozen bunches of choice hardy herbaceous cut flowers arranged in three tiers; this fine exhibit was awarded a set of silver-mounted carvers in case. Mr. W. Wilson, gardener to H. Cunningham, Esq., Gateacre, staged a pair of bunches of fine Grapes and hardy fruits, and took a Gladstone bag. Mr. J. Stephenson, Woolton Hall, sent a tempting basket of fruit tastefully arranged, which was awarded a barometer. Mr. T. Hitchman, gardener to A. Earle, Esq., Childwall, had a similar award for a dozen Celosias of a good type. Mr. T. Hayes, gardener to Mrs. Janion, Woolton Grove, carried off a copper kettle with six bunches of Grapes. Mr. J. Griffiths, gardener to Mrs. Duncan, Woolton, was a pair of boots the richer for his exhibit of stove and greenhouse cut flowers. And Mr. W. Ellis, gardener to G. H. Warren, Esq., for his cut Carnations received a silver-mounted malacca stick.

Among under-gardeners, Mr. H. Corlett, Woolton Wood, contributed a well formed garden design, which was awarded a handsome dressing case. Mr. J. Elsworth, Dove Park, took a silver-mounted umbrella for two beautiful baskets of flowers; and Mr. J. Rothwell, Camp Hill, brief bag for a floral cross, etc., Mr. A. Almond, Dove Park, a silver-mounted malacca stick for some fine Tomatos. Some half dozen cottagers also received awards.

Certificates of Merit were granted to Messrs. R. P. Ker & Sons, for new and rare plants; to Messrs. J. Cowan & Co., Garston, for table of miscellaneons plants; to Mr. R. Owen, Maidenhead, for early flowering Chrysanthemums; to Mr. C. Young, West Derby, for a bank of tree flowering Carnations. The contributions to the prize list amounted to nearly £30, and each evening most enjoyable concerts were given, which were thoroughly enjoyed by a fair muster of visitors. The committee, with Mr. R. G. Waterman, Treasurer, and Mr. W. Disley, Secretary, must be congratulated upon their successful and instructive venture.

SOCIETIES.

Royal Horticultural, *9th Oct.*—The exhibits at the Drill Hall on Tuesday last were both numerous and extensive. Asters and other hardy herbaceous plants, Dahlias, Gladioli, stove and greenhouse plants, Chrysanthemums, and Orchids were the principal features of the meeting. Orchids were

indeed well represented. Hardy fruit was also very abundant. An interesting group of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans. Cattleya labiata was splendid, and amongst other things of note were Dendrobium palpebrae with fragrant flowers, Pescatorea Dayana, Comparettia macroplectron, Vanda Kimballiana, Catasetum Christyanum, Cattleya hybrida Brownii, and others. Some Cypripediums and the glorious Cattleya Countess of Derby were exhibited by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. Cattleya labiata Countess Fitzwilliam, C. l. Foleyana, and Laelia praestans alba were exhibited by G. D. Owen, Esq. (gardener, Mr. Mark Watts), Selwood, Rotherham. Some new hybrids, including the handsome Cattleya Wendlandii, Laelio-Cattleya Nysa, and Sophro-Cattleya laeta were shown by Messrs. J. Veitch & Sons, Chelsea. An interesting group of Cypripedium Charlesworthii showing much variety of colouring in the flowers, Dendrobium ciliatum with nine spikes on a plant, and Cypripedium Charles Rickman were staged by Messrs. Charlesworth & Co., Heaton, Bradford (Silver Banksian Medal). A large group of Orchids, consisting of various Cattleyas, Laelias, Oncidiums, Cypripediums Charlesworthii and the beautiful Cattleya labiata Gortoni, was staged with Palms and Ferns, by Mr. P. McArthur, 4, Maida Vale, W. (Silver Banksian Medal). A showy and interesting group of Orchids set up much in the same way was exhibited by Messrs. W. L. Lewis & Co., Southgate. The forms of Cattleya labiata and the various Oncidiums were effective and showy (Silver Banksian Medal). Cattleya labiata autumnalis with four to six large flowers on a spike, C. maxima, and forms of Cypripedium Charlesworthii, were shown by Messrs. Hugh Low & Co., Clapton. A fine lot of Pleione lagenaria was staged by Messrs. Wm. Cutbush & Son, Highgate. Cattleya aurea and others were shown by Fred Wheatley, Esq., Ringmore, Devon. J. Foster Alcock, Esq., Northchurch, Berkhamstead, showed Catasetum fimbriatum. Stauropsis philippinense, and Dendrobium Phalaenopsis Schroderianum album, were shown by Admiral Ralph P. Cator (gardener, Mr. G. E. Day) Hazlewood, King's Langley. A spotted form of Odontoglossum crispum was shown by De B. Crawshay, Esq. (gardener, Mr. Sidney Cooke), Rosefield, Sevenoaks. Miltonia Moreliana atropurpurea was shown by Walter Cobb, Esq., Tunbridge Wells. M. spectabilis Moreliana illustris was staged by C. J. Lucas, Esq., Warnham Court, Horsham, who also had Cattleya Hardyana marmorata and others. Cypripedium lucidum and Cattleya Schofieldiana superba were shown by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. Laelia amoena was shown by Chas. Ingram, Esq. (gardener, Mr. T. Bond), Elstead House, Godalming.

A large and interesting group of Perennial Asters, single and Cactus Dahlias, exhibited by Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, received a Silver Flora Medal. Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, staged a magnificent collection of named varieties of Gladiolus—an extraordinary collection for the month of October; sorts like Horace Vernet, Grandis, Matador, and Delila, were particularly fine (Silver-gilt Flora Medal). A Silver Flora Medal was awarded to Messrs. Veitch & Sons, Chelsea, for a group of new plants, many of which were of hybrid origin. A fine specimen of Gymnogramme Veitchi was also exhibited by the same firm. This plant is a hybrid resulting from the crossing of G. decomposita and G. Pearcei robusta, plants of which were shown for comparison.

Messrs. B. S. Williams & Son, Holloway, staged a very fine group of foliage plants, which consisted chiefly of Crotons. Two fine specimens of Miconia magnifica, towering above the rest, gave an imposing appearance to the collection. The pretty little Begonia Gloire de Lorraine must not be passed without due mention, whilst a group of Cannas at one end of the exhibit were very bright and pleasing (Silver-gilt Banksian Medal).

A Silver Flora Medal was awarded to Mr. W. J. Godfrey, Exmouth, for a grand display of cut blooms of Chrysanthemums of the Japanese section. Blooms of Mrs. E. C. Hill, Exmouth Yellow, Mdme. Ed. Rey, and Mdme. C. Molin were exceedingly good. His new white carnation was also in fine form. Mr. S. Mortimer showed seven dozen show and fancy Dahlias, together with four dozen blooms, comprising sixteen varieties of the Cactus section. Sorts like Seedling, Duke of Fife, Lord Salisbury, and Eldorado among the show and fancy, and Beauty of Arundel, Matchless, and Lady Penzance among the Cactus varieties were well to the fore (Silver Flora Medal). Messrs. J. Veitch & Sons received a Silver Banksian Medal for a fine collection of hardy cut flowers. Kniphophias, Achilleas, Helianthuses, Pentstemons, etc., were of the best. Messrs. Paul & Sons, of Waltham Cross, were awarded a Silver Banksian Medal for cut Roses and for pot plants of Duke of York (perpetual). A group of Chrysanthemums in pots exhibited by Mr. Wells, Earlswood Nurseries, Redhill, received a Silver Banksian Medal. Mr. Thos. Anstiss, Brill, Bucks, exhibited a grand specimen of Vallota purpurea carrying forty-eight spikes, each with three or four flowers. This magnificent plant thoroughly merited the Silver Banksian Medal, which was awarded it.

Hardy fruit was well represented and many of the exhibits were of an extensive character. Mr. H. Berwick, Sidmouth Nurseries, Devon, received a Silver Knightian Medal for a collection of Apples and Pears, which contained upwards of one hundred and forty dishes, and very beautifully coloured were many of the Apples. A Silver Bankian Medal was awarded to Messrs. John Peed & Sons, Roupell Park Nursery, Norwood Road, for a collection of Apples and Pears. A like award was made to the Dowager Lady Freake (gardener Mr. A. H. Rickwood), Fulwell Park, Twickenham, for a similar collection. A. H. Smee, Esq., The Grange, Wellington, Surrey (gardener Mr. G. W. Cummins) obtained a Silver Banksian Medal for a collection of one hundred and twenty distinct varieties of Pears. An extensive and most meritorious exhibit of Apples and Pears, by Mr. G. Wythes, gardener to the Duke of Northumberland, received a Silver Gilt Banksian Medal.

Vegetables were represented in quantity, although the number of exhibits were few. A very large and bulky collection, exhibited by Messrs. Cannell & Sons, was awarded a Silver Knightian Medal, Thirty-four distinct varieties of Onions were represented, as well as several varieties of Beet, Carrots, Parsnips, etc. Mrs. Wingfield, Ampthill, Beds (gardener, Mr. J. Empson), showed good samples of Sutton's New Red Intermediate, Long Surrey and Carter's Summer Favourite Carrots, for which a Silver Banksian Medal was given. Messrs. J. Veitch & Sons, also received a Silver Banksian Medal for a capital collection of Savoys.

QUESTIONS AND ANSWERS.

HORTICULTURAL DIRECTORY.—*Constant Reader*: Published by Mr. E. H. May, at the *Journal of Horticulture* office, 171, Fleet Street, E.C.

R.H.S. EXAMINATIONS.—*Inquirer*; Write to the Secretary of the Royal Horticultural Society, 117, Victoria Street, London, S.W.

BOUQUET GRASS.—*B.*: The grass used with such good effect by some of the West End Bouquetists is Eulalia Japonica, or, as it should be more properly called, Mischanthus japonicus.

AUBERGINE.—*J. W. M.*: The Aubergine is a vegetable not much grown in this country, but largely cultivated in France and Italy for use in soups and stews. It is the variety ovigerum of the Egg plant Solanum melongena. There are purple, black and white fruited sorts, but the last find most favour. Treat them as you would a tender animal, and you will not find much difficulty in growing them.

MINA LOBATA NOT FRUITING.—*R. F. H.*: The absence of the proper insects and the wet season must be held accountable for the infertile condition of the flowers. As far as we have noticed, the plant does not seed very freely at any time. The flowers are highly specialised, and doubtless require insects to render them properly fertile. We would advise you to fertilise some of the flowers with a camel hair brush earlier in the season when the seeds would have a chance of reaching maturity before the cold weather of autumn sets in.

VIOLA TO NAME..—*W. K.*: As far as we are aware no name has been given to the Viola you sent, if indeed it may be considered a Viola at all. It is quaint and singularly curious though not unique, for we have seen numerous instances both amongst Pansies and Violas of similar shades, both named and nameless, but none exactly like yours. It seems to us to belong to the Belgian or fancy strain with large flowers and prominent blotches, but it is too lurid to take the fancy of any but the specialist, who has a large collection and is desirous of as much variety as possible.

NAMES OF PLANTS.—*W. B.*: Epidendrum ehurneum. *A. C.*: 1, Pinus insignis; 2, Pinus austriaca; 3, Libocedrus decurrens; 4, Cupressus nutkaensis, often though erroneously called Thujopsis borealis; 5, Retinospora leptoclada. *R. F. H.*: 1, Davallia elegans probably, but ferns should always be sent with spores upon them; 2, Gleditschia triacanthos; 3, Tropaeolum tuberosum; 4, Calamintha Acinos. The Thistle is Carduus pratensis. *A. H. T.*: 1, Phygelius capensis; 2, Aster versicolor; 3, Aster Novi-Belgii, variety lavegatus; 4, Geranium Eudresii. *P. M.*: 1, Dendrobium chrysanthum; 2, Croton interruptum; 3, Chrysanthemum we do not recognise; 4, Gazania splendens; 5, Adiantum Capillus-Veneris; 6, Asplenium Trichomanes; 7, Woodsia ilvensis. *Omega*: Helianthus rigidus or a slight variety of it.

NAMES OF FRUITS.—*J. Simons*: 4 and 5, Souvenir de Congrés: 7, Williams' Bon Chrêtien; 8, Brown Beurré: 9, Van Mons Leon Le Clerc; 10, Marie Louise: 11, Doyenne Boussoch; 12, Knight's Monarch; 13, not known; 15, Passe Colmar.—*J. Stevens*: 1. Marie Louise d'Uccle; 2, Beurré Hardy; 3, Glou Morceau; 4, Duchesse d'Angouleme; 6, Napoleon; 7, Louise Bonne of Jersey; 11 and 14, Passe Colmar; 13, Beurré Diel; 15, Baronne de Mello; 16, Marechal de la Cour; 18, Josephine de Malines. Others not determinable.—*B. W.*: 1, Duchesse d'Angouleme; 2, Winter Crassane; 4, Beurré Diel; 5, Beurré Hardy; 6, Beurré Superfin; 7, Beurré Diel; 8, Louise Bonne of Jersey.—*J. B. Plum*: Jefferson.—*Pears*: 1, Verulam; 2, Souvenir de Congrés; 4, Flemish Beauty.

COMMUNICATIONS RECEIVED.—W. J. G.—J. G.—E. P. L.—T. S. W.—W. N.—J. H.—W. C.—J. Reid (next week).—E. J. A.—E. J. A.

LONDON SEED TRADE.

October 9th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate demand for Winter Tares at unchanged rates. Little enquiry for Clovers. Alsike easier; Red Clover steady. White Clover higher and in short supply.

COVENT GARDEN MARKET.

October 10th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples.....per bushel	3 0	7 0
Cherries, per hlf. sieve	0 0	0 0
Cob Nuts and Filberts, per 100 lbs.	21 0	22 6
Grapes, per lb.	0 6	1 6
Melons .....each	1 0	2 0
Peaches & Nectarines, per doz.	2 0	10 0
Pine apples.—St. Michael's, each	2 6	6 0
Plums .....half Sieve	0 0	0 0
Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	0 3	0 4
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Carrots,		
Cauliflowers, Eng. dz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 4	0 6
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	0 0
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket	0 0	0 0
Small salading, punnet	0 4	
Spinach per bushel	3 0	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Asters...per doz. pots	6 0	9 0
Aspidistra, per doz	18 0	42 0
—specimen plants, each	5 0	15 0
Campanula, per doz.	6 0	9 0
Cyperus .....per doz.	4 0	12 0
Chrysanthemums, per doz.	4 0	15 0
Dracaena term., doz.	18 0	36 0
Dracaena viridis, doz.	9 0	18 0
Evergreens, in var. doz	6 0	24 0
Ferns, invar., per doz.	3 0	8 0
Ferns, small, per 100	3 0	6 0
Foliage Plants, doz.	12 0	60 0
Heliotrope...per doz.	3 0	6 0
Hydrangea...per doz.	9 0	18 0
Marguerites, per doz.	6 0	12 0
Mignonette, per doz	3 0	6 0
Palms in variety, each	2 6	10 0
Palms, Specimen ...	15 0	63 0
Pelargoniums, scarlet per doz...	3 0	6 0
Primulas, per doz. pots	6 0	9 0
Solanums, per doz. pots	12 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0
Asters, English, doz. bchs.	3 0	6 0
Bouvardias, per bun.	0 9	1 0
Carnations...per doz.	1 0	2 0
Carnation, doz. bchs.	9 0	12 0
Chrysanthemums, doz. blooms	3 0	6 0
,, doz. bunches	3 0	9 0
Eucharis ...per doz.	3 0	6 0
Forget-me-Not, doz. bchs.	2 0	4 0
Gardenias 12 blooms	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9
Lilium Harrisii, doz. blooms	6 0	9 0
Lilium lancifolium, white.....doz. blms.	2 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0
Marguerites, 12 bun.	1 6	3 0
Mignonette... 12 bun.	1 0	3 0
Orchid Bloom in var. per bloom, from	0 3	1 0
Pelargoniums 12 sps.	0 4	0 6
Pink Roses...per doz.	2 0	4 0
Pyrethrum doz. bun.	2 0	4 0
Primula, double, bun.	4 0	6 0
Roses .....doz. bchs.	2 0	9 0
Roses, yellow, dozen	2 0	4 0
— Red..... doz. blms.	0 6	1 0
— Tea ..... per dozen	0 6	2 0
Scarlet Geraniums, doz. bchs.	6 0	9 0
Tuberoses, per doz	0 4	0 6

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12 Hyacinths, choice named varieties.
9 Jonquils, sweet-scented.
1 Lilium Lancifolium.
6 Narcissus Bulbocodium.
9 Polyanthus Narcissus.
25 Scilla Siberica.
100 Snowdrops.
6 Tulips, Duc Van Thol, scarlet.
18 Tulips, early single, six varieties.
6 Tulips, Rex Rubrorum, double.
6 Tulips, Tournesol, dble.

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PANSIES & VIOLAS.

FANCY PANSIES.

I offer 1 pair cuttings of Miss Stirling and B. Doulton, the best var. in cultivation, these have been awarded five special prizes for the best new Pansies, and were the leading flowers in seven medal stands this season, including Edinburgh Glasgow and London, and 11 pairs of the best 1894 var. for 7s. 6d.

My 3s. collection of 13 pairs includes one variety of Mr. C Kay's new Pansies and 3 pairs for 1894.

SHOW PANSIES.

One pair cuttings of a new variety and 12 pairs of the best 1894 for 6/-

Four pairs of 1894 var. and 9 grand competition sorts for 3/-

VIOLAS

(Awarded 4 Medals this season).

I have 100,000 cuttings now ready for delivery. The following are the very best 20 new and old varieties for bedding and massing, and include the cream of the unrivalled rayless Violas. Seven are new 1894 var. and three are 1893 var. Mrs. C. F. Gordon, Cecilia, Beautiful Snow, Admiration, Goldfinch, Charmer, Commodore, M. Todd, Accushla, Lord Elcho, Wm. Niel, Duchess of Fife. Rayless type: Grandee, Border Witch, Christiana. Lutea, Queen of the May, Sylvia, Blue Gown, Blush Queen. I will substitute other varieties in place of any of the above not wanted. One pair cuttings of each var. for 4/-; 5 each for 7/6; 10 each for 13/6; 20 each for 25/-

Catalogues Free to any Address.

S. PYE,
CATTERALL, GARSTANG, LANC.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 22nd.—Bulb Sale at Protheroe & Morris' Rooms, and every day.
TUESDAY, Oct. 23rd.—R.H.S. Committee Meetings at 12 o'clock.
Clearance Sale at Sunningdale, Berks. (3 days).
Sale of Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, Oct. 24th.—Sale of Nursery Stock at Windlestrawlee Nursery, Granton Road, Edinburgh.
Sale of Lily Bulbs at Protheroe & Morris' Rooms.
THURSDAY, Oct. 25th.—Hereford Chrysanthemum Show (2 days).
Sale of Nursery Stock at Groombridge, near Tunbridge Wells.
FRIDAY, Oct. 26th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 20th, 1894.

HIGHER EDUCATION IN HORTICULTURE.—Hitherto horticulture has been anything but well provided with the means of teaching the higher branches of the profession. It is true that a few schools of horticulture exist, but they are two widely separated to be of much benefit to the nation at large on account of the prohibitive expenses necessary to enable the sons of poor parents to avail themselves of the advantages offered. On the contrary, agriculture is better supplied, although the colleges are far from being able to meet the wants of different and widely isolated localities. The difficulty consists in making the colleges self-supporting with the scanty numbers of students who are able to pay the necessary fees. This could be overcome to a considerable extent by the endowment of first-class colleges with a sufficient sum to enable them to offer bursaries or scholarships, at least to the deserving sons of people who are unable to pay the ordinary fees. The status of such students could easily be determined by the income of their parents. At present it is only the sons of the wealthy who can avail themselves of the advantages of a two years' course of training at an efficient and first-class college. Now, the poorer students are not only equally capable of being educated, but they often exhibit an earnestness in their work which those in more easy circumstances, very often do not evince. It is sheer fallacy to preach that the sons of poor people should follow the same avocation as their parents, for that is frequently impossible even if they had a natural inclination for the same kind of work. Even in the same family it often occurs that some are entirely of a studious turn of mind, while others desire to do manual labour, and cannot be induced to study. The former should be encouraged to follow out the natural bent of their inclination, and the advantages of higher education should always be within their reach. By the betterment of individuals in this way, the nation at large cannot but be bettered by the prosperity of its subjects.

That agriculture is better supplied with educational institutions than is the sister industry we are reminded by the receipt of the third Annual Report of the Victoria University of the Yorkshire College, Leeds, and also by the receipt of the Prospectus of the Courses in Agriculture. An examination of the latter shows that the teaching is purely agricultural, although, of course, the several sciences taught apply with equal force to horticulture as to the other. There are three different schemes of teaching, so as to meet the conveniences and requirements of students as nearly as circumstances will permit. There are a two years', a one year's, and a winter course of instruction, the latter having a duration of ten weeks. In the first-mentioned scheme the first year's course includes 80 lectures on agriculture, 120 on chemistry, 30 on physics, 90 on mathematics, 60 on botany, and 20 lessons in drawing, surveying, etc., besides which there is practical work in the chemical and botanical laboratories, and in out-door agriculture. The second year's course is varied a little from the above, and includes economic entomology, engineering, veterinary science, geology, and book-keeping. Diligent students ought to acquire a great amount of useful information during a two years' course like the above, more especially if they pursue their studies during the long vacation. The session lasts for thirty-two to thirty-eight weeks, according to the department in which the pupils are studying. The courses above-mentioned are recognised as qualifying for purposes of graduation in Science in Agriculture in the University of Edinburgh.

Taking a broad view of the matter, there does not seem to be the slightest reason why courses in horticulture should not be added to the advantages offered both at the above and other educational institutions where agriculture is taught. Surely the resources of the two sciences combined would be of material advantage to both, and to the community at large. There is nothing fundamentally different between the two sciences, for the physical basis of the cultivation of plants is the same whether in field or garden, the difference being merely one of detail in the matters of actual practice and extent of the culture. The lectures on agriculture, chemistry, physics, and botany, as well as the laboratory practice, could not fail to be of advantage to the horticultural student as well as to the other. All that would then be required would be to add lectures on the scientific culture of fruits, flowers, and vegetables, as well as practical gardening, to the existing courses of instruction given

in the agricultural colleges, or in the agricultural departments of colleges devoted to the higher branches of education generally. A fair extent of ground would be necessary for the purpose of practical demonstrations in horticulture, for making trials of various subjects under the influence of different manures, and for the purpose of experimenting on the methods of combating the fungoid diseases and insect enemies of plants, Good systems of rotation of cropping should also form a strong feature of the teaching, for, seeing that they are of such momentous importance to agriculture, they must be equally or more serviceable to horticulture, seeing that the number of subjects, or of different kinds of plants taken in hand by the gardener, is vastly greater than that the agriculturist is ever called upon to undertake. It follows, then, that instruction in horticulture should be proportionately comprehensive.

The National Chrysanthemum Society.—The annual dinner of this Society will take place at Anderton's Hotel, Fleet Street, on Thursday, November 29th. Sir Edwin Saunders, President of the Society, will preside, and the musical arrangements are in the hands of Mr. J. Mortimer Dudman.

Manchester Chrysanthemum Show.—We are requested to state that this annual exhibition will take place in the Manchester Town Hall on Friday and Saturday, November 23rd and 24th, instead of on the 20th and 21st, as previously announced.

Death of Mr. W. H. Lewin.—We regret to learn of the death, on the 9th inst., aged 62, at Drumpelier Gardens, Coatbridge, N.B., of Mr. W. H. Lewin, "the valued friend and gardener, for nearly 40 years, of Sir David Carrick Buchanan."

Florida Pineapples.—It is estimated that Florida's crop of Pineapples this year will aggregate 50,000 crates of fully 2,300,000 Pineapples.

Mr. Thomas Maxwell, for the past two years general foreman at Ayton Castle, Berwickshire, N.B., has been engaged and has entered on his duties as gardener to Mrs. Fox Tarratt, Ellary, Ardrishaig, Argyleshire.

Messrs. W. L. Lewis & Co., Chaseside, Southgate, N., have admitted Mr. F. W. Ashton as a partner in the firm. Mr. Ashton has been their representative for some time, and no change will be made in the style of the firm.

Messrs. Dobbie & Co., Seed Merchants and Florists, Rothesay, have arranged for a lease of the Chelsfield Estate Farm, Orpington, Kent. This farm is finely situated thirteen miles south of London, and is intersected by the main line of the South Eastern Railway. It is about sixty acres in extent and will be used by Messrs. Dobbie entirely for seed growing purposes.

National Rose Society.—The annual meeting of this Society will take place on Thursday, December 6th, the dates and places of the Society's exhibitions in 1895 have been fixed as follows: Southern show at Gloucester, June 26th; metropolitan show at Crystal Palace, July 6; and northern show at Derby, July 17.

Flowers Growing in the Scilly Isles.—During the last six weeks the weather at the Islands of Scilly has been remarkably grand, with an almost unclouded sky day by day, with but little wind and a small supply of rain. The effect of this on the Narcissus crop is most marked. They already make rows in the beds. It is an indication of the limited supply of flowers in the country, when, as is the fact, salesmen are already asking for Scilly flowers. A larger number of agents from London have visited the growers this autumn than for many years past, and although acres upon acres of the Narcissus are being grown this year more than last, the market, it is evident, will not be over-stocked.

New Plants Certificated in Ghent.—At the last meeting of the Belgian Chamber of Horticulture held in Ghent, Certificates of Merit were awarded to M. Jules Hye for Cattleya Proserpine (Laelia Dayana x Cattleya velutina), Cattleya Schilleriana, Cypripedium Albertianum, and Cattleya labiata autumnalis. To M. Louis Demeyer for Lavateria arborea fol. var. To M. J. De Kneef for double Begonia Madame Armand de Meulenaere; and to Mr. François Dubois for twelve new varieties of single striped Dahlias.

Agave Americana as a food plant.—The *Agave* is used as an edible in Mexico, and Mr. Carnegy, of Oudh, recommended it for use in India in time of famine. Experiments were made at the request of the Government of the North-West Provinces and Oudh, but the report of these, says *The Society of Arts Journal*, was not satisfactory:—"The result of the experiments made here was to show that no important addition to the foodstuffs of the people in times of famine would be furnished by this plant. The difficulty in dealing with it is to get rid of the very disagreeable flavour that both the Cabbage and the flower stalk have in this country."

Grape culture in Cornwall.—A Cornish correspondent writes:—"This has been a splendid year for Grapes in Cornwall, and tons have been sent to the London Markets, but unfortunately prices have been far from remunerative. I know of an instance in the case of one grower in the neighbourhood of Land's End, who sent a large consignment to Covent Garden Market, with the result that for the trouble of growing, cutting, packing, and forwarding he was remunerated to the handsome tune of three penny postage stamps."

Nature's Help to Gardeners was the title of a lecture given on the 10th inst. at Colston Hall, Bristol, by Mr. Joseph Hinton, of Batheaston. With the aid of coloured sketches, leaflets and a blackboard, the lecturer ably showed the ofttimes unappreciated aid constantly given the gardener (amateur and professional) in the destruction of the various kinds of aphides by, amongst others, the common "lady bird," the graceful "lacewing" fly, and the wasp-like striped "balance" fly, all of which, even in their embryo stage, wage unceasing war on insects prejudicial to plant life, which assistance, he stated, was not to be despised, since one green fly could produce no less than 5,000,000 of its own species. At the end of the lecture discussion was invited, and questions of a very varied nature were freely put, all of which were freely answered. A cordial vote of thanks was accorded the lecturer.

Birmingham Gardeners' Mutual Improvement Association.—The first autumn meeting of this association was held on the 8th inst., Mr. W. B. Latham presiding. A paper was read by Mr. John Pope on the Dahlia, with special reference to its new development. Mr. Pope gave a brief description of the origin of the name, and then a very interesting account of the rise and progress of this grand autumn plant. Incidentally he mentioned an interesting fact—that one of the first pompon dahlias, a variety called "Little Wonder," was raised at Handsworth about thirty-five years ago by a Birmingham button-maker named Smith, who was a great enthusiast in growing all florists' flowers. An instructive discussion followed. Some beautiful dahlias and other flowers were exhibited by Messrs. Pope (King's Norton), Hewitt (Solihull), Turner (Slough), Marlet (Worcester), Keynes (Salisbury), Perkins (Coventry). A hearty vote of thanks to the essayist closed the proceedings.

International Exhibition of 1895.—The National Horticultural Society of France will hold an international exhibition of the products of horticulture and of objects of art and industry employed in gardening or serving for the decoration of Parks and Gardens, from the 22nd to the 28th May, 1895. The Exhibition will be held in the Garden of the Tuileries, Paris. Prizes are offered in 334 classes for the most diversified subjects possible in connection with the art of gardening. It would be impossible here to mention a tithe of them, but they will be understood to be pretty comprehensive seeing that collections of Cactiform, Euphorbias, Cacti, Echeverias, Agaves, Aloes, Yuccas, Phormium, Araucarias, and all the more ordinary classes of exhibition plants are included. The awards offered will consist of prizes of honour, (such as objects of art and medals of honour), gold, large silver gilt, silver gilt, large silver, silver, and bronze medals and honorable mention. Besides the exhibition there will be an international congress of horticulture at which papers will be read and discussed on various matters relating to horticulture and plant life. This is the eleventh congress organised by the National Horticultural Society of France, and it will run its course during the same week as the exhibition. The meetings will be held in the Hotel of the Society, 84 Rue de Grenelle, commencing at 2 p.m. each day. The general secretary is M. Abel Chatenay.

Tomato culture in the open air.—Mr. Newell who so ably presides over the gardening establishment of Sir Edwin Saunders, at Fairlawn, Wimbledon Common, has recently shown us a very fine sample of Tomatos, grown mainly in the open air, but finished off under glass. In very few seasons, at all events in the neighbourhood of London, can Tomatos, planted in the open borders be depended upon to finish off their crops, and recognizing this fact, Mr. Newell has adopted the simple plan of putting his plants in pots and plunging them out, instead of directly planting them out, and with the very best results, because immediately on the approach of unfavourable weather he was enabled easily to house them under glass and thus ripen off the fruits in the most natural way. A better sample could not be desired, and we strongly recommend the simple plan as a means of securing a good autumn crop. Mr. Newell used 10 in. pots, and potted his plants in good fibrous loam only, adding no manure, and grew them on the single rod system. Twice during the summer each pot had a small handful of bone meal applied to it, and once a teaspoonful of Clay's Manure was given for a change. The plants were removed to a frame early in August, the pots being plunged, and the plants layed out regularly on a trellis about a foot from the ground. The sorts grown are Sutton's A. J., Abundance and Perfection, and of the latter Mr. Newell has had fruits weighing 1lb 3 oz., and of Abundance, bunches weighing 3lb. 9 oz.

Shirley Gardeners' Improvement Association.—The monthly meeting was held at Shirley, Southampton, on the 15th inst., when there was a good attendance of members, and W. H. Rogers, Esq., J.P., presided. The subject of the lecture was "British Fungi," by the Rev. W. L. W. Eyre, Rector of Swarraton, Hants. The Rev. Lecturer said that the subject was a very difficult one to deal with, the study of "Fungi" having been much neglected during the past few years, and there was also a dearth of well-written, attractive information, the books on the subject being too technical. The lecturer then described a number of the species which he had before him, pointing out their characteristics and the class or family to which they belonged, and also their character as food or otherwise. An interesting discussion occurred at the termination of the lecture on the method of distribution of spores, the lecturer contending the minuteness of their form enabled them to be distributed by the air, and one of the audience advanced the theory that animals would take these spores in large quantities with their food, thus distributing them in unexpected places with their excretion. A vote of thanks to the lecturer was most heartily given and acknowledged. There was a large display of fungi, collected in the New Forest by Mr. Hobby and Mr. Ladhams, Junr. A large number of specimens were also contributed by the Chairman, Mr. Rogers, Mr. E. Wilcox, Mr. Bartlett, Mr. Risbridger, and Mr. B. Ladhams, F.R.H.S., representing over 100 varieties altogether. Mr. Wilcox exhibited Marguerite Carnations from open border; Mr. Hallett, Victoria Plums, second crop; Mr. Arlett and Mr. G. W. Oshen, Pears; and Mr. B. Ladhams, hardy perennials.

Begonia municata.—This is one of the best known of the older sorts of the winter-flowering section of Begonias. Like many more of its class, the leaves are of a distinctly ornamental character, and the flowers which are freely produced upon branching cymes are of a delicate pink colour. B. manicata is one of the comparatively few plants that always present an attractive appearance, but when in flower handsome is the the only term that any one with any love for the beautiful could fittingly apply to it. It is very easy to grow, and should be accorded a place of honour in every establishment. It should be grown on during the summer in a stove; better still, it may be plunged in a hot-bed or a forcing pit, for in these places it will get the heat and moisture combined, in which it, like other member of its class, delights to revel. B. manicata is a Mexican plant, and was introduced to this country in or about the year 1842.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

THE PROPOSED NATIONAL VEGETABLE EXHIBITION.

As the Provisional Committee appointed at the meeting held at the Crystal Palace on September 29th, for the purpose of discussing the above subject, meets on Tuesday next, I ask permission to thank, through THE GARDENING WORLD, all those numerous readers of that paper who have so kindly replied to the circular issued by Mr. H. Balderson and myself. The responses have been very great and singularly unanimous. Probably no similar proposition was ever submitted to horticulturists that met with so cordial a response. Everyone realises the great need there is of such an exhibition as is proposed. Many promise pecuniary help, and so far only two suggest a diverse course of action than what it is proposed to take.

Naturally when a great national exhibition of the kind proposed is held, those who generously proffered support and gave their names as members of the general committee will receive the first consideration. Where a proposal is made, as in this case, purely in the interests of vegetable culture nationally, and from no other motive, it is worthy of support from every quarter. It is well to say that whilst the Provisional Committee will prepare some rough sketch or outline of the proposed exhibition, it will be for the General Committee, when summoned to meet, which will be the case at an early date, to determine what shall be done and then appoint an Executive Committee to carry it out. Of course there are many things to be settled. Place is practically agreed upon, but date has to be determined; then there is the form of exhibition, schedule, publication, obtaining high patronage, special prizes, and lots of things to be done that, to create a great success, will have to be done well.—*Alex. Dean, Kingston-on-Thames.*

NATIONAL CHRYSANTHEMUM SOCIETY.

AT a full meeting of the General Committee held at Anderton's Hotel, on the 8th inst., Mr. B. Wynne presiding, it was announced that all the Society's prizes awarded at the September Show at the Royal Aquarium, had been paid with the exception of one against which a protest had been entered, but which was unanimously overruled by the Committee. The finances were also stated to be in a more satisfactory state than usual at this period of the year. The Committee again considered certain alterations in the rules, which will be submitted for adoption at the annual meeting. Amongst other amendments it was decided to recommend that in future the General as well as the Floral Committee shall be elected by ballot, and that all nominations for the General Committee shall be made in writing at least twenty-one days before the election takes place. The question of fittingly celebrating the Jubilee of the Society in 1896, was also considered, and a small Sub-Committee was appointed to draw up a programme. Twenty-three new members were elected, and the following Societies admitted into affiliation:—The Launceston (Tasmania) Horticultural Society, the Pershore Horticultural Society, the Newbury Horticultural Society, and the Melton Mowbray Horticultural and Chrysanthemum Society.

FLOWERS FOR WINTER.

FOR the next two or three months Chrysanthemums will furnish all that is needed in the way of cut bloom. After this time, however, there generally follows a great scarcity of flowers suitable for cutting. Preparations should be made at once to supply this want. There is a wealth of lovely plants suitable for the purpose that will hold their own against the brightest display of summer time. Many of them can be grown to perfection, either with or without fire-heat. The only difference in such cases being one of time—where no fire-heat is available we have to wait longer for results. The main object in the successful cultivation of bulbs is to make sure that they are well established before they are introduced into the slightest heat. No time should, therefore, be lost in potting the bulbs.

Hyacinths grown three in a 5 in. pot form beautiful objects when in bloom, and they are within the reach of every cottager, providing he starts early enough. Tulips of the following sorts, five or seven in a pot according to the size of the bulbs, are also very suitable for growing in pots:—La Candeur (double white), Duc Van Thol (single scarlet), La Reine (single white), and Rex Rubrorum.

FREESIA REFRACTA ALBA.—These lovely plants are held in high esteem by those growers who have to supply cut blooms for market. To prevent disappointment in their culture, care should be taken that only flowering bulbs are obtained, small bulbs being practically worthless; for even if kept for another year they never attain sufficient strength in this country to enable them to bloom satisfactorily. One can never be wrong in choosing bulbs, although in many other cases size is not a good test of quality. It is advisable to send in the order for bulbs as early as possible, for the first comers are generally the best served. Narcissi, of kinds, Snowdrops, Cyclamens, Deutzia gracilis, D. crenata, Spirea japonica, S. palmata, Primulas, and both the French and common Lilacs, all accommodate themselves readily to cultivation during the winter months.

All our bulbs are plunged outside in a dry place, and afterwards covered with six or seven inches of sifted ashes. In a month or six weeks from the date of plunging, a few are taken in for early work, the others following as they are ready. In any case, as soon as the bulbs have made an inch or so of growth, they should be taken out of the ashes and removed to a cold frame, or the young tender leaves will get injured.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

PLANTS RECENTLY CERTIFICATED.

CHRYSANTHEMUM COMMANDANT BLUSSET.—The blooms of this Japanese variety measure about 7 in. across, and have broad, dark crimson-red florets with a silvery-white reverse, but very little of the under surface is exposed. F.C.C., National Chrysanthemum Society, Oct. 10th. Exhibited by Mr. E. Beckett, The Gardens, Aldenham House, Elstree.

CHRYSANTHEMUM TH. DENNIS.—The florets of this variety are broad, recurved except in the case of the central ones, and deep crimson with a nankin-yellow reverse, well shown in the centre of the bloom. It is a Japanese variety and measures about 6 in. or 7 in. in diameter. F.C.C., National Chrysanthemum Society, Oct. 10th. Exhibited by Mr. W. J. Godfrey, Exmouth.

CHRYSANTHEMUM MRS. W. H. LEES.—In this again we have a Japanese variety of enormous dimensions, measuring about 8 in. across without being spread out, and quite 6 in. in depth, owing to the great length of the drooping outer florets. The florets are relatively broad and of a beautiful pearly-white tinted with pink, the latter colour being best developed on the terminal buds. F.C.C., National Chrysanthemum Society, Oct. 10th. Exhibited by Mr. W. H. Lees, gardener to F. A. Bevan, Esq., High Barnet.

CHRYSANTHEMUM DUCHESS OF YORK.—The florets of this beautiful Japanese variety are of a light clear yellow and rather narrow, but most intricately interlaced with one another. The bloom measures a good 8 in. across, without being spread out in any way. A grand exhibition variety. F.C.C., National Chrysanthemum Society, Oct. 10th. Exhibited by Mr. James Carruthers, Midlothian, N.B.

The varieties Souvenir de Petite Amie, Mrs. E. G. Hill, and Madame Chas. Molin, certificated by the R.H.S. on the 9th inst., also received First-class Certificates from the National Chrysanthemum Society on the 10th.

NOTES ON CANNAS.

GILT-EDGED CANNAS are what we call those of the Madame Crozy type that have a deep gold band around their petals. A year ago Paul Sigrist was the *par excellence* of this type, but to-day it is completely superseded by three others, namely Queen Charlotte, Souvenir d'Antoine Crozy, and James Farquhar, all having a close resemblance to each other. Most fanciers regard Souvenir d'Antoine Crozy as the best because of its intense, glowing colour, while others look upon Queen Charlotte as the better one. We must grow them a year longer before we can decide.

Cannas Florence Vaughan, Antoine Barton, and Comte de Bouchard look very much alike. Florence Vaughan, however, having the right of priority is the proper name.

Madame Montefiore Canna has large pale yellow flowers with faint markings like those of Capt. P. de Suzzoni, and is regarded as the yellowest among our showy, large-blossomed sorts.

Eldorado Canna, a yellow-flowered variety still in the hands of F. R. Pierson & Co., however, is regarded as the greatest acquisition we have yet found in the way of a yellow Canna.

Unique Rose Canna.—The colour of the blossoms strongly reminds us of those of C. Ehemannii, but they are not pleasant to look upon.

"Madame Crozy Canna," says one of our keenest fanciers, "is among Cannas what Verschaffeltii is among Coleuses, indispensable: come or go what what may, it will stay."

Columbia, the crimson-flowered Canna from Iowa, that was so highly honoured at the World's Fair last year, is said to retain every feature of its promised excellence.

Orange Perfection has disappointed a good many people; it doesn't seem to be a free-growing sort. But let us give it a further trial.

Paul Marquant is a splendid variety, but there is a rumour that a coming new one named Sunshine is going to supersede it. If it does, it must be extra fine.

Six good Cannas no one should be without are Mme. Crozy, Charles Henderson, Alphonse Bouvier, Paul Marquant, Florence Vaughan, and Queen Charlotte. Others may be better, but we will wait till we prove them before dropping any one of these.

Water and Manure.—If you want good Cannas, plant them in rich deeply unfastened soil; a mulching of manure, too, will help them, and after they start to grow keep them thoroughly watered—no stinted draught, but flooded soakings. But let the water be given at the roots and not over the heads. Hosing overhead is ruinous to the flowers.—*Gardening (American.)*

THE DAHLIA IN EXCELSIS.

WHEN before were Dahlias shown so late in the season as October 10th, and in such good condition? They were delightful at the Royal Aquarium, Westminster, on the date named, that excellent grower, Mr. S. Mortimer of the Swiss Nursery, Farnham, had a large number of well-finished blooms, quite up to exhibition form, and it must be remembered that no shading is done, or special culture followed after the Crystal Palace Dahlia Show is over, and so the quality of Mr. Mortimer's blooms was surprising. Then Mr. T. S. Ware, of Tottenham, had Cactus Pompon and Single Dahlias in good numbers, and let us say in excellent character. The same can be said of the fine collection of the same types Messrs. J. Cheal & Sons sent up from their Lowfield Nurseries at Crawley: they had beautiful bunches, some of the true Cactus Dahlias being delightful; and they were generous enough to send up fresh flowers on the morning of the second day to take the place of the single varieties, which so soon drop their petals. They will do so, and it is this fact which has so much discounted the value of the single Dahlias for decorative purposes. Then Mr. Henry Cannell, from his almost inexhaustible store of floricultural surprises at Swanley, brought up very fine bunches indeed of Cactus and other Dahlias, and so the production of four counties were represented—Middlesex, Surrey, Kent, and Sussex.

For once we saw the Show Dahlia in its best form, mingling with the Japanese Chrysanthemum in its best form. Time was—it was when the first of the Japs came to this country, about a quarter of a century ago—when the Japs were scarcely expected to bloom until December; and at that time, when fine old John Salter used to have his Chrysanthemum Shows at Hammersmith, and which I always made a point of seeing, he never expected the earlier-introduced Japs to bloom until the last week in November and early in December. Now they are had with the Dahlia, and really making the latter look small by comparison. Who knows but that at the meeting of the Royal Horticultural Society on October 23rd, Dahlias may again put in appearance. If such be so, then indeed a record will be established.

When at Fairlawn, Sir Edwin Saunders' charming

place on Wimbledon Common, a few days ago, I saw some Dahlias, Cactus, and single, planted in the grass, much as we plant Standard Roses. Mr. Newell, Sir E. Saunders' gardener, said they were planted four years ago, and that he had allowed them to remain in the soil all the winter, and they came up year after year. I do not know how far this practice prevails, but it is the first time in my experience that I have known the Dahlia so treated.

As I write, "the heavens are all coldly clear," the ruddy sun-glow in the west, and the clearness in the horizon in the north, and the crispness in the air, foretell of frost. The end of the Dahlia season may thus be near. The foliage of the Dahlia is soon affected by frost, the main stem not so quickly. But as soon as the branches put on mourning touch of the frosty influence, it is time to think of digging the roots up from the open ground. It should be done on a fine day when the air is balmy; the tuberous roots with the fibres attaching to them will be found encrusted with soil. By means of a pointed stick some of the heaviest of the soil should be removed, and the roots allowed to dry as much as possible in the wind and sun, taking care to house them by night even if they have to be put out in the open by day. I have known writers to recommend that the roots be washed, but that is a mistake. Let the soil on them dry gradually, removing the soil until only a kind of earthy powder appears on the tubers, and then they can be housed for the winter.

When I was at the Royal Nursery, Slough, about forty years ago, we had an old wooden fruit room, and on the shelves of this room the Dahlia roots were staged for the winter. A small portable stove kept out frost, but fire heat was employed only when absolutely necessary. Frost and rot from damp were the two dangers to guard against; and during the autumn and winter the roots were frequently looked over, and any decaying parts cut away. Sometimes a root would decay entirely, hence the necessity of growing from two or six or more of a variety, according, of course, to the demand for it. I should add that when a root was dug up, the name of the variety, lightly written on a wooden label, was tied to the roots by means of flexible wire, and kept secured all the winter.—*R.D.*

VEGETABLE NOTES.

Owing to the immunity from frost which gardeners in the south of England have enjoyed as well as the fine weather, that taking it as a whole, has been our lot to enjoy of late, things are presenting a brighter appearance all round than the past cold and wet season would have warranted us in hoping for, a few weeks ago. Apples and Pears have made very great progress in the much-to-be-desired ripening of the wood, for which all fruit growers are praying. Dahlias in many parts are still blooming freely, and the blooms thus produced, although a good deal smaller in size than those which were produced earlier (which is only natural after all) are of very good colour and have proved exceedingly useful. Along the valley of the Thames in many places exceptionally good crops of cauliflower are being cut that for colour, size, and weight are everything that could be desired. Veitch's Autumn Giant is doing particularly well, and is a general favourite all round.

Scarlet Runner Beans are still yielding crops of very fair quality from late rows, and in some cases vegetable marrows are even now flourishing, and this at a season when as a rule we have experienced one or two sharp frosts. Carrots are generally heavy crops, but rather too much given to forking and splitting to please the grower, whose aim is rather to produce clean and shapely roots of medium size, than large, coarse-growing ones of indifferent shape. Parsnips are also good crops, but the roots are not so free from scab and rust as one could desire them to be. Brussels Sprouts, Kale, Cabbage, Broccoli, &c., are as might be expected nearly giant in size. Brussels Sprouts particularly are very fine. Tomatos outside are but indifferent crops. In one or two places good results have been obtained, the great difficulty being to obtain well ripened fruit. The disease has played a conspicuous part in the reduction of the quantity of good saleable fruit produced this year. Onions, almost without exception, have proved great successes, and the bulbs are rather larger in size than usual, and of firm and well-ripened character. This is a fact upon which we may well congratulate ourselves, for in many instances the Onion crop is only secondary in importance to that of the Potato. Like members of the Cabbage tribe Celery is also of large size, and if we get a very severe winter will need protection if it is to be kept in condition for very long.—*G.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids received awards according to merit from the Royal Horticultural Society, on the 9th inst.

Cattleya Wendlandii, *Nov. hyb.*—The seed parent of this hybrid was C. Bowringiana, crossed with the pollen of C. Warscewiczii. It looks like a giant form of C. Bowringiana, but is quite intermediate. The broad sepals and ovate petals are deep purple. The tube of the lip is more intensified, and the orbicular lamina is crisped at the edge, rich purple tinted, crimson at the base, with a yellow blotch in the throat. Award of Merit. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cattleya labiata Countess Fitzwilliam, *Nov. var.*—The sepals, petals, and tube of the lip of this chaste and beautiful variety are pure white. The lamina of the lip is lightly tinted with blush. First-class Certificate. Exhibited by G. D. Owen, Esq. (gardener, Mr. Mark Watts), Selwood, Rotherham.

Cattleya labiata Foleyana, *Nov. var.*—The sepals and petals in this case are faintly tinted with blush. There is a pale purple blotch on the lip, and an orange one in the throat, but it is otherwise nearly white. It is certainly handsome. First-class Certificate. Exhibited by G. D. Owen, Esq.

Dendrobium Phalaenopsis Schroderianum album, *Nov. var.*—There is a pale purple, rayed blotch on the middle of the lip, and some purple at the very base of the tube, otherwise this fine variety is pure white. Award of Merit. Exhibited by Admiral Ralph P. Cator (gardener, Mr. G. E. Day), Hazelwood, King's Langley.

Stauropsis philippinensis.—The sepals and petals of this Orchid are brownish purple and edged with white. The purplish lip is narrow, with two small, lateral lobes, one beneath, and bearded above like a white hat brush. Botanical Certificate. Exhibited by Admiral Ralph P. Cator.

Miltonia spectabilis Moreliana atropurpurea, *Nov. var.*—The sepals and petals of this bold and handsome variety are blackish-purple with a clear spot at the very base. The huge lip is rich purple tinted with a darker hue at the base. Award of Merit. Exhibited by Walter Cobb, Esq., Dulcote Park, Tunbridge Wells.

Sarcanthus pugioniformis.—The small flowers of this species are borne in dense, drooping racemes. The sepals and petals are brown with a yellow stripe along the centre, and the pink lip and spur finally change to yellow. Botanical Certificate. Exhibited by C. J. Lucas, Esq., Warnham Court, Horsham.

Cattleya hybrida Brownii, *Nov. hyb.*—The seed parent of this hybrid was Cattleya Harrisoniae crossed with the pollen of C. Bowringiana. The oblong sepals and ovate petals are of a cheerful bright rose. The lip is slightly curved, and widened upwards with the sides of the tube rolled over one another and bright purple; the roundish lamina is crisped, soft, pale yellow and slightly tinted with purple round the edges. Award of Merit. Exhibited by Messrs. F. Sander & Co., St. Albans.

Cypripedium Memoria Moensi, *Nov. hyb.*—The seed parent of this hybrid was evidently C. Spicerianum, and the pollen parent possibly C. oenanthe superbum. The upper sepal is heavily shaded with purple, claret purple along the middle, and white at the edges. The petals are wavy on the upper edge, of a rich shining brown except at the very base, which is yellowish and densely dotted. The lip is very large, squarish, and of a rich shining brownish purple. Award of Merit. Exhibited by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Dendrobium palpebrae.—The stems of this species are quadrangular, clavate, and may be leafless or bear one or two leaves at the top. The flowers are borne in ascending or spreading racemes from near the top of the stems, and are fragrant, rather small, but white, with a yellow blotch in the throat lined with orange. Award of Merit. Exhibited by Messrs. W. L. Lewis & Co., Southgate.

Cypripedium Bookerii, *Nov. hyb.*—This new hybrid was derived from C. ciliolare crossed with C. Spicerianum. The upper sepal is of hnge size and rich purple marked with white towards the edge. The petals are 2 in. long, dull purple upwards, and green on the lower half, dotted with black. The lip is of a rich blackish purple. Award of Merit. Exhibited by Messrs. W. L. Lewis & Co.

The King of Dendrobes.—"A visitor" writes:—"When again visiting Mr. Moore's collection at Bourton-on-the-Water, on Saturday, I saw a wonderful plant of Dendrobium Phalaenopsis Schroderiana, bearing seven flowers spikes on the new bulb; also a pretty plant of Oncidium ornithorynchum in a 6-in. pot carrying 600 blooms." These are noteworthy plants, the Dendrobium especially, which beats anything we have heard of before.

Maxillaria mirabilis, *Nov. sp.*—A large proportion of the species of Maxillaria are not particularly showy, but that under notice seems a good exception to the general rule. The flowers are of good average size, rather fleshy, and somewhat triangular in form. The sepals are dark purple on the lower portion with numerous brownish-purple lines, yellow towards the apex, and spotted all over with brown; the lateral ones are broadest and triangular. The fleshy petals are erect with recurved tips, orange-yellow fading towards the base, and striped and spotted similarly to the sepals. The very fleshy lip is bright orange-yellow spotted with purple, and more or less downy, particularly on the crest. It was introduced by Messrs. Linden, Parc Leopold, Brussels, and is figured in the *Lindenia*, *pl.* 417.

Dendrobium Wardianum Lindeniae, *Nov. var.*—This differs from the type in being an albino without any colouring except the large orange-yellow blotch on the lip, the sepals and petals being without the purple tips exhibited by the type. It first made its appearance at a meeting of the Orchidéenne in February last, when it was accorded a First-class Diploma of Honour. There is a figure of it in the *Lindenia*, *pl.*, 419.

THE FLOWER GARDEN.

There will be plenty to do in this department at the present to keep up a tidy appearance. Most trees are shedding, some have well nigh shed, their leaves, and the rake and the broom will be constantly in requisition. It is a hard matter even then to preserve a semblance of order, and every gardener will heave a sigh of relief when the next few weeks have passed, and the leaves are all down. Remove all old and useless plants to the rubbish heap, and neatly tie up in bundles and preserve stakes which are of no further use, but avoid treading upon the ground any more than is really necessary, especially if it is of a heavy character.

The Herbaceous Border will now be fast assuming the cemetery-like character so common to many of them during the winter. In wet weather seeds of choice plants that have been previously gathered, and placed in a warm room to dry and finish ripening, may be cleaned, put into separate bags and correctly and legibly named, before they are packed away.

Carnations,—Layers of these ought by this time to have made sufficient roots. They should be lifted and potted off singly into small pots, and plunged in ashes in a cool frame for the winter, if it is intended to plant them in their flowering position in spring. In this case the ground which it is purposed to plant with them may now receive a dressing of lime and soot which, if well incorporated with the soil, will greatly assist in preventing the attentions of wireworms—those much-to-be-dreaded enemies of the Carnation grower. If, however, autumn planting finds favour, no time should be lost in setting about the performance of this operation.

Bulbs.—Complete the planting of Hyacinths, Tulips, and Anemones during favourable weather. Any alterations in the size or shape of beds may still be made, although it is getting a little late for the laying of fresh turf. Still in the event of mild open weather there need be little fear felt as to its safety. It will not be safe to leave plants of Aloes, Agaves, etc., out of doors any longer, for although up to the present we have been remarkably free from frosts,

still it does not follow that they will much longer defer their visit; besides long continued wet will do this class of plants more harm than a few degrees of frost.

Dahlia tubers, too, must be taken up before many days have passed. This is an operation that requires a considerable amount of care, for the tubers are easily broken. After lifting, they should be placed in a shed or outhouse, and plenty of air allowed to get to them to dry and ripen the tubers, after which they may be packed away upon the store house shelves until spring. The planting or shifting of evergreen shrubs may still be actively carried on; deciduous subjects must, however, wait until they have shed their leaves before they are disturbed.

Roses.—Vacancies in the Rose beds may now be made good; and where the ground has been prepared planting may be vigorously prosecuted. Briars budded during the past season may be removed to their permanent flowering quarters as soon as desired. With the China and Tea Roses it is, however, advisable to wait until spring before planting is thought about, as they are frequently injured by frost when autumn planting is practised. In many places in the north of England, where the winters are as a rule severe, the tender varieties have to be protected during winter, or great damage is done. Straw or bracken is used—the latter preferably, as straw always presents a more or less untidy appearance, and when blown about, as it often is during dry, windy weather, gives the best-kept garden the appearance of a farm-yard.

THE HARDY FRUIT GARDEN.

With very few exceptions the ruit crop will by this time have been safely housed, and in many instances the earlier trees will be pretty well destitute of leaves. A careful survey should be made of the fruit trees in general, and decisions should be made as to what trees (if any) are to be shifted; also to what extent planting of new ones is to be performed. Material in the way of loam, manure, etc., may be prepared for the replenishing of old borders or the making of new ones. Although in the case of trees that have dropped their leaves it will be quite safe to shift, there is plenty of time yet, and it is not a good practice to commence too soon.

Raspberries.—Existing plantations of these should be pruned as soon as possible. The two year old canes should be cut entirely out and a selection made of three or four of the strongest and best young ones to bear fruit next season, also cutting the rest out. Tie these canes neatly and securely to a stake driven into the ground, and give the whole plantation a liberal dressing of stable manure, forking it well in. This is the only time of the year at which it is perfectly safe to fork amongst the plants, as their roots are never very far from the surface of the soil. Cuttings of Currants and Gooseberries may be inserted at any time for the production of young plants. Strong well-ripened young shoots should be used, and a position outside, sheltered by a wall or hedge, will suit them admirably.

FRUIT UNDER GLASS.

Vines.—Where it is intended to make new borders no time should be lost in making a start. The soil should have been previously prepared, good turfy loam being the principal constituent, enriched with a liberal addition of stable manure and a quantity of half-inch bones. A little lime, rubble, chalk, etc., is of the utmost service, adding, as it does, porosity to the soil. Much discussion has been raised as to the depth a vine border should be, and various and conflicting are the ideas promulgated. But as a general rule three feet of soil upon a layer of drainage from nine inches to a foot in depth is to be recommended.

Where very early Grapes are in request preparations should be made without delay for forcing. The earliest crops are, as a rule, furnished by pot vines. If the plants are outside they should be brought in, pruned, and a top-dressing of rich turfy loam given them. After the house in which they are to be grown has received a thorough cleansing the pots should be plunged in a gentle bottom heat, the mean atmospheric temperature necessary to start them being about 52° Fahr., gradually rising as growth advances. Vines started in this manner about the beginning of November may be expected to produce ripe fruit in April of the coming year.

Figs in Pots from which the fruit has been gathered should be kept drier at the root and the temperature of the house lowered considerably. Peaches and Nectarines should be freely exposed to the air and weather if the structure of the house permit. During very wet weather, however, the lights should be pulled up to keep off heavy rains, which would not improve the condition of the borders.

THE VEGETABLE GARDEN.

Autumn Vegetables.

It seems strange to some people that at places only a short distance from each other there should be such a difference in the supplies and in the way the various kinds of vegetables grow. At one the Peas are still in full bearing, while at the other they have long since been passed, though they were sown at the same date, thus showing that not only do some gardens produce things earlier than others, but they are also capable of maintaining them fresh till a much later date. Peas for a late autumn supply do best where the soil is of a free working nature and the situation is not subject to dense fogs. In some low-lying districts where the ground is heavy, there is a great tendency to such, and where this is the case some of the more hardy varieties should be sown for the latest supplies. I saw a fine row the other day in full bloom, from which not a pod had been picked, while the same variety sown on a similar date last year were all over by the end of September. No two seasons are the same, neither are situations exactly alike, therefore the cultivator must find out for himself. Not for the last sixteen years have we been favoured with such a mild autumn, having only registered two degrees of frost up to the present time, October 15th, though in some places I am told as many as seven have been registered.

Both Peas and Beans are still fresh, thus prolonging the supply of summer vegetables till quite late in the autumn. Vegetable Marrows are still green, though owing to the damp weather they make but slow progress in the way of swelling their fruit; still occasional ones are to be cut, which gives a change in the kitchen. Cauliflowers are good and plentiful, likewise Brussels Sprouts and all kinds of root crops, so that considering all things there is still a plentiful supply. The first sharp frost, however, will put an end to most of them, so that provision will have to be made for forcing.

Owing to such a mild time Seakale is still growing, therefore it will be some time before the crowns are sufficiently ripened for them to be lifted. Asparagus having matured its growth, may now be lifted and transferred to either a slight hot bed or to a pit heated with hot water. The former, however, is preferable at this time of the year, as it is a more natural heat, and the growth made is far more tender. Care must be taken or the heat may injure the roots, particularly if too many fresh leaves be put together. The material used should be turned over a couple of times before being made up into the bed so as to cause some of the steam to pass off. Put about six inches of soil on when the bed is made, then give a watering and allow it to stand a day or two before putting in the roots, by which time it will be seen whether the bed is likely to get too hot. If there are any signs of this, allow another day or two to elapse before putting in the roots.

All kinds of salading are still good, therefore recourse need not be had to forcing or blanching under glass, or in the Mushroom house at present; preparations, however, should be made in order that there may be no delay should an emergency arise. It will be necessary to sow Mustard and Cress under glass, and if much is required a slight hot bed may be used, but if only a small quantity, then a pan on the greenhouse shelf will suffice. Attend to protecting Parsley by transplanting a portion either in a cold frame or where it may be covered with mats in case of sharp frost. Cauliflower plants that were raised from seed sown in the open should now be pricked out into a cold frame, the lights must not be put on at present, as this would cause them to be too tender to withstand the winter.—*Kitchen Gardener.*

Gleanings from the World of Science.

Plants as Colonists.—It seldom happens that the naturalist gets an object lesson placed before him like that of the island of Krakatoa, which was overwhelmed with a volcanic eruption some few years ago, when every living thing as far as could be seen was destroyed by a deep layer of debris from the volcano. Three years after the eruption the island was visited by Dr. Treub, who found Ferns already growing everywhere over the island, but the few flowering plants that had got a footing were still hugging the shore and arguing that in most or all cases they had been carried by the sea, and deposited on or near the shore. The lower tribes of plants had been the first to establish themselves, and form a layer of green matter which would in time, by the decay of successive generations, form a bed on which the higher orders of plants could establish themselves and prosper. The spores of Ferns and the germs of the lower organisms had in all probability been carried by the wind and by migrating birds from neighbouring islands or continents.

Woodlands and Vegetation.—Those who have noted the cutting down of a dense old wood have often been surprised by the wealth and variety of the vegetation that has sprung up in the course of a few years. In many places it may have been that the dense canopy of leafage overhead before the cutting of the wood had prevented the growth of any vegetation whatever; yet such places get clothed almost as quickly as the rest with a new vegetation. It is true that in certain places the failure of a tree or two allowed of the growth of colonies of plants contemporaneously with the wood, but the predominating plants of those patches very frequently are not identical with those a short distance off. It would seem as if the seeds of certain trees, such as the Birch, Mountain Ash, Willows, and other subjects, but particularly the first two, had the power of laying dormant in the soil till some convenient period, that is, till the removal of the tall and shade producing trees, for light is the all-important factor in the healthy development of vegetation. In the case of copsewood that has been cut down there is less occasion for surprise if a rich and varied vegetation springs up, because many plants, particularly the tuberous and bulbous kinds, have the power of laying in the ground in a semi-dormant condition, just making a few feeble leaves every year, and perhaps not flowering at all. The cutting down of the copsewood enables them to spring into vigorous vegetation during the first or second succeeding summer. Rare or interesting plants frequently turn up in this way in places where they had not previously been known to exist.

Waste Ground and Neglected Gardens.—Gardens may frequently be noted about London and other populous places, where the walls have been pulled down and the ground let for building purposes. Such gardens get covered with a rank vegetation during the first summer they are left untilled, even although for many years previously they had been kept in good tilth and respectable order. What is more surprising, a piece of ground from which a house has been pulled down, may sometimes be noted in a populous district from which all vegetation has been excluded for many years, yet such ground gets covered with a vegetation which would be a credit to a wild garden. Such a place might have been seen last year in Whitehall, Westminster. The Rose-Bay (Epilobium angustifolium) was the most dominant plant, doubtless because its long, underground stems enabled it to get the mastery over the other subjects that had primarily established themselves. This reminds us of the London Rocket (Sisymbrium Irio) which sprang up in great abundance all over London, after the great fire of 1666. At the present day the plant in question is not considered to be truly a native south of Berwick-on-Tweed. The species of Goosefoot (Chenopodium) and their allies, seem to accompany man, and live on the rubbish heaps on the borders of towns, so that wherever a garden or piece of ground is allowed to run to waste, a plentiful crop of these subjects springs up during the first year. The refuse from towns also shows a large number of plants that are aliens so far as British plants are concerned.

FLORICULTURE.

The Gold-Laced Polyanthus.

I AM sorry to learn from our friend "R. D's" article which appears in the issue of to-day's GARDENING WORLD, that he still seeks information in regard to the successful wintering of the Gold-laced Polyanthus. I have on several previous occasions explained through the medium of this paper, that my method of wintering is to plunge the pots up to the top of the rims in fine ashes or cinders, the wintering quarters being a cold frame. I place first of all about 12 in. deep in the frame of riddled cinders, and afterwards place the pots closely together, I then get a piece of sheet-iron bent in the shape of a tun dish with a tube large enough to fit between the spaces of tops of the pots. I then pass the cinders into the top of the tun dish by the aid of a small scoop, and shaking the cinders so placed with a small trowel or piece of iron until the pots appear to be well packed. I give them plenty of air, especially in mild weather, and during frosty weather the frame lights are closed at night and covered over with mats. On no occasion should the pots ever be placed in a green-house during the winter months, which, if my memory serves me, has been the practice of "R. D." during the past.

I have no seedling Polyanthuses now, but I hope to procure the varieties "R. D." suggests, and save some seeds, and as I have now a very convenient and suitable spot for growing the plants, I shall lose no opportunity in endeavouring to produce some new varieties.—*James Thurston, The Green, Cannock. October 13th*, 1894.

ON PLANTING ROSES.

THE planting time for Roses is close at hand, for although they can be planted from now till March, and even later, the latter part of the present month and the earlier portion of November is pre-eminently the time to plant the great majority, but the Teas and Noisettes being more tender than the other sections are planted with greater certainty of success in the spring. As to soil, a question of some importance, it may be said that other things being congenial they will do fairly well in almost any soil which is neither too wet and heavy or too sandy and dry; at the same time if the best attainable results are aimed at a good stiff loam is the best, and if the soil is not of this character the existing soils should be improved by the addition to them of some good turfy loam of this description.

Possibly the best method of applying turfy loam is, after trenching and well manuring the soil, to dig holes from 15 to 20 in. wide, and about the same depth, filling them up with the fresh loam, having a third of well decayed manure incorporated with it. If pig manure is procurable use it in preference to either cow or horse manure. Some years ago, without any previous knowledge of the particular liking the Rose has for this form of stimulant, I applied it to some on a light sandy soil, and was both surprised and pleased with the result, particularly as I was confidently assured by some who thought they knew that it would poison them right out.

Where the land is too wet it must be drained, and if too light a good coating of well pulverised clay or marl will do much to remedy its excessive porosity. It must, however, be borne in mind that these measures will in many instances involve a considerable outlay, and in most instances will necessitate the curtailment of Rose growing to somewhat moderate proportions. It may not invariably happen that when the soil is quite suitable the culture of the Rose can be carried on with success. I allude to towns and situations in close proximity to factories where the smoke and injurious gases in the air, always more or less injurious to vegetable life seems to affect the Roses more than most other plants. In a smoky atmosphere they die right out. I remember one instance of this in the heart of a thickly populated district not far removed from factories; the outdoor cultivation was given up in despair, and houses were erected especially for them, when it was found quite possible to succeed fairly well with them by close attention to ventilation, and whenever a fog of more than usual density came over to close all apertures till it had passed over. Every one, providing there is a healthy atmosphere, can manage with a few Roses in a somewhat cramped space, but foul air they cannot survive long in.

To those who intend making fresh plantations I would say, make a point of having the soil in readiness before the plants required are lifted out of the ground, and if purchased from a distance insist upon their being packed with damp moss around the roots. Never, if possible, allow these to become dry, and if not convenient to plant them on arrival, lay them in by the heels. Choose a fine day for planting when the soil is in a good workable condition; not only is this operation carried on under more pleasant conditions to the worker, but it is far better for the plants to be placed in their permanent quarters, with the soil in a friable condition and neither sticks to the roots or spade. Where holes have been made for the reception of the loamy compost fill them with it a few inches above the surface of the ground, and having made a hole in it for the reception of the plants, spread the roots out evenly, taking care not to bury them too deep, and tread the soil firm.

Where the soil is naturally suitable and has been well trenched and manured the planting will be got over with far less labour, but the selection of a fine day and a time when the soil is in a suitable condition, as respect dryness, ought not to be lost sight of.

It often makes a far greater difference to the well-being of the plants than many are aware of. In the case of standards a stake should be placed against every one over 20 in. high, and the Rose fastened securely to it. In the selection of varieties regard should be had to the capabilities of the situation and soil. If not well suited to Rose growing, choose only vigorous kinds, and if space is limited, restrict the selection to free-flowering garden Roses. Nurserymen may generally be relied upon as to the selection of varieties to suit their customers' requirements. I am of opinion that most Roses will generally do best and be longer lived on their own roots, but in these go-ahead days the production of them is too slow a process.

With dwarf Roses on either the Manetti or other stocks we frrequently find that the suckers from them escape attention till they outgrow and kill the variety worked upon them, and I have met with instances where fully one-half of a Rose bed was simply Manetti, and the owner wondering why, after being properly manured and so pruned many of the plants never flowered. An experienced and attentive cultivator will always be on the look-out for these robbers, and so reduce the evil to a minimum; at the same time, all the time Roses are worked on stocks which produce suckers, much of the energies of the plants will be consumed in the productions of these, which, in the case of standard Roses especially, often extend for a considerable distance under ground and are weeks before they come above the surface. These, if traced to their origin and removed, still represent the loss the foster plants have sustained in their development, whilst with plants on their own roots, when they throw out underground growths, it generally ends in the establishment of a stronger and more vigorous plant being formed than the parent plant from which it came.—*W. B. G.*

COLOURED VINE LEAVES.

MOST Vine leaves assume certain tints before they fall, but certain varieties seem to colour better than others, We suspect, however, that the brilliancy of the autumn tints in some cases is due to the treatment which the vines receive. A boxful of leaves of Alnwick Seedling has been sent us by Mr. D. P. Bell, The Gardens, Clive House, Alnwick, and their beauty would be difficult to describe. The leathery texture of the leaves would seem to indicate high-class culture with ample exposure to sunlight and good ventilation during the growing season. In any case they are now very gorgeous and largely used at Alnwick for table decoration, and we cannot be surprised that they are much admired and appreciated. The leaves at first seem to assume a dark, bronzy-metallic hue, giving place to crimson after a time, with soft yellow edges and ribs as a rule. Some of the leaves are almost wholly crimson with narrow yellow edges and ribs. As they get still older the crimson hue becomes paler and more or less broken up, forming a beautiful netting upon a yellow ground. The tints fade from the margins of the leaves inwards so that the centre of the latter is the last to part with the bronzy and crimson shades. It would be interesting to know the special conditions, if any, under which the leaves in question have developed such beautiful and marvellous tints of colour.

TEACHING THE YOUNG IDEA.*

IN a previous issue (p. 4), we reviewed a book entitled "Talks about our Useful Plants," which indeed constitutes one of three originally prepared on exactly the same lines for the use of the students of the Chautauqua Town and Country Club at Houghton Farm, Mountainville, New York, but now republished with the hope of being beneficial to others. The information given is general rather than special, the aim being to induce the students to see for themselves, to make observations and experiments and record them with the view of turning them to account on future occasions, and to enable them to generalise from the information gleaned from various sources, or turn them to practical account in after life. Information gleaned in this way is more likely to be remembered than if the most learned professor were simply to tell his students all about the matter in the class-room.

In "Talks about the Soil" the rocky crust of the earth's surface is spoken of as the bones of the world, but later on it is explained that except in hardness or solidity there is no other comparison between the earth's crust and the framework of an animal. The author sends his students into various parts of the country for the purpose of prospecting, to ascertain by surface indications what is the nature of the soil beneath. The clothing of the earth's surface, that is, the woods or forests, wild or cultivated plants are all indications of the fertility of the soil in each respective locality. The clear or muddy character of rivers, lakes and streams and their colour also afford tangible indications of the nature of the soil there or through which they pass, and the student has much to learn observations of all those things. To speak of our earth as a star may sound very well in popular phrase, but the author might be a little more exact, so that his students in after life may have nothing to unlearn when attacking the higher branches of the study. A very graphic description is given of the breaking down of the cliffs and "everlasting hills" and the crumbling into dust of the same by the natural process termed weathering. The influence of plants and animals as soil makers is also given. It is a comparatively recent idea that a crust of lichen or moss upon a rock is gradually destroying the surface of the latter; and if the action is slow it is none the less true. The sun, the air, and rain with the carbon dioxide in the latter are more powerful and rapid in their disintegrating action.

In directing students to observe, it is customary for teachers to direct them to some railway cutting, chalk pit, quarry or well, but the author of this book advises his readers to get a spade or other tool and dig into the ground for the purpose of noting the differences between soil and subsoil, &c. To do much of this kind of work, however, requires a greater amount of physical exertion and enthusiasm than the average student possesses. From generalisation the student is then led on to examine the constituents of the soil and the elements of which it consists. Some illustrations show what the author considers might have been the primaeval form of the plough used by pre-historic man at the time when he still dwelt in caves, but was commencing to till the soil for a livelihood. The figure of an American plough shows an implement which is more primitive in its construction and less graceful in outliue than the bulk of the ploughs to be seen in this country.

The little volume about the weather deals with its subject much on the same lines as the other two, and while imparting knowledge is calculated to encourage the student or reader to verify all things for himself or, at least, to observe them and reflect upon the same. The sun is described as a great star, the source of all our wealth, in causing plants to grow, that its motions and that of the earth give rise to the seasons. Light, heat, winds, rainfall and climate generally, are all due to the influence of the sun. Some of the means by which the action of the latter is controlled to a limited extent by the plant cultivator are elucidated, and artificial climates by the construction of hot-houses and the heating of them are duly detailed and discussed. The effect of climate and season upon crops is passed under review, and if much of the information is of a simple character, it is such as the young student can grasp to euable him to penetrate more deeply into the subject.

*TALKS ABOUT THE SOIL.—By Charles Barnard, New York: Funk & Wagnalls Company, London and Toronto, 1894. TALKS ABOUT THE WEATHER by the same author and publishers.

RAMONDIA PYRENAICA.

The plant under notice is hardier than is generally supposed if established in a proper situation. The accompanying illustration shows three plants with their natural tufted arrangement of the leaves and short flower stalks springing from amongst them, growing in the crevices of the rocks or artificial rockwork. In a state of nature the plants may be in a position facing the sun in various aspects, where they will thrive beautifully provided there is sufficient moisture for the roots amongst the stones. This would often be the case in a state of nature, and planters are sometimes induced to copy nature, forgetting that though their artificial and imitation rockwork may apparently be perfect in external appearance, that the moisture is generally lacking, and cannot well be applied by artificial means. For this reason the cultivator should select a half shady position, where the stones will naturally be more moist than where fully exposed to the mid-day or afternoon sun. The artificial rocks should preferably be of soft and porous sandstone, and the roots should have free access to the soil below. The typical purple flowered as well as the the white one may be grown under these conditions with surprising success.

A PRETTY FERN WALL.

Cut fronds of Adiantum are of use everywhere for cutting purposes, and it is often a serious consideration in many gardens to find sufficient plants to furnish the requisite quantity of material. Plants in pots are stripped of their very last frond and still the call is for more Fern, whilst the gardener is often at his wits' end to obtain sufficient material to meet the demand without spoiling the shape of such plants as are intended for service as vase and table plants. A difficulty of this kind may often be overcome by the planting of vacant spaces of the inside walls of the houses with numbers of the never-too plentiful Adiantum. Many people have the idea that a great deal of heat is required to grow A. cuneatum to anything like perfection, and refrain on that account from attempting its culture in the cooler houses. True, a little heat to start the crowns into growth is of the utmost service, nay, it is well nigh a necessity, but once started, a comparatively low temperature will amply suffice. Large vigorous fronds of a splendid dark green colour and even more suitable for the making up of buttonholes, bouquets, etc, than those obtained from the warmer houses may be produced from houses having very little fire heat indeed. A very good example of a Fern wall may be seen in the Hon. F. W. D. Smith's garden at Greenlands, Henley-on-Thames. The wall in question is about 100 ft. in length and about 3 ft. in height. The necessary compost for the sustenance of the Ferns is enclosed and kept in place by mesh wire. Ferns like Adiantum cuneatum, A. concinnum, Davallia strigosa, Pteris serrulata and its crested variety, thrive exceedingly well, and the wall is a mass of verdure from top to bottom. Very little trouble is taken with it other than a liberal supply of water, and yet this wall is certainly one of the most noticeable and pleasing features of an up-to-date establishment, and one that is certainly deserving of extensive imitation.

Ramondia pyrenaica.

THE ABNORMAL CROP OF PEARS, 1894.*

The cause of the unusual crop of Pears this season is not far to seek. Pears did not carry much fruit in 1893, and the exceptionally dry and warm season ripened the wood thoroughly, while the autumnal rains plumped up the fruit buds and completed the laying up of organic forces, and the trees were prepared to do their best. They were somewhat early in bloom, and thus escaped the severe frosts that obtained while the Apples were in blossom, and as for the most part the blossoms are pendent, the stigmas were less exposed than Apples. Thinning had to be seen to very early, and many of our trees required nine out of ten of the fruit which had set to be removed at the first thinning, and twice since that they have been gone over.

The very cold nights and wet days of May and June caused many to drop, as they were unable under these conditions to progress, and it is noticeable that the fruit near the ground was much affected by spot (Cladosporum detrichium pyrium). This fungus hardens the skins, and when the fruit swells it cracks and becomes useless. It is evidently risky to try and grow such Pears as Easter Beurré, Bergamot d'Esperen, Glou Morceau, Passe Colmar, Winter Nelis, Beurré Bachelier, and Beurré Diel while Beurré d'Amanlis, otherwise than on a wall even in our favoured part of England, has not been good this year, and on the other hand we attribute the clean handsome fruit of the late sorts, viz., Duchesse de Bordeaux, Doyenné d'Alencon, Marie Benoist, Beurré De Buisson, Josephine de Malines, Olivier de Serres, Passe Crasanne, Beurré d'Anjou, President d'Osmonville, and Brown Beurré, Baron de Mello, and Duchesse d'Angoulême among autumn Pears are unusually clean, thanks to the well-ripened wood of 1893; and it is evident we ought to thin out the branches of our pyramidal and espalier Pears in the open more than we do to get high-class fruit on these Pears, and we must not be led away by the fine examples of such a year as 1893, when the tender Pears were superb in quality if somewhat out of season, for the kinds which ripen after Christmas were mostly over by November.

Taken as a whole, the season of 1894 has been unfavourable to the production of clean, handsome, large Pears, and it may probably be well to note those that have been good this cold, wet season. These were:—Beacon, a really nice fruit, led off the season. This is a remarkable bearer, and if not left on the tree too long is quite fair as regards flavour. Clapp's Favourite has been large, clean, and handsome. Williams' Bon Chrêtien.—This has been large and good, but rather spotty, and in beauty cannot approach Dr. Jules Guyot, which is gaining favour rapidly as a market fruit. Petite Marguerite will be one of our best August and September Pears. It is of Bergamot shape, and very sweet and pleasant. Fondante d'Automne is not so large as usual, but as good in quality as ever. Pitmaston Duchess, very large and good. This monster Pear is much improved in flavour if it is gathered before it is quite fit and laid by. Beurré Hardy is grand this season, and the crop is the heaviest we have seen. The clean fruit of this variety in the shops from California in September were remarkable. Louise Bonne and Marie Louise are not so good as usual, the weather being too wet and cold for these sorts. Our favourite Pear, Emile d'Heyst, is finer than ever. It is a pity people do not plant this in place of Marie Louise; its pleasant acidity would be greatly appreciated. Conseiller de la Cour is the best crop ever seen, and the perfumed flavour of this kind will always make it welcome. It does well on the Quince in cold soils. Beurré Bosc is not bearing well this year. An orchard tree has a quarter of a crop, but the fruit will be small. Beurré Jean Van Geert is very handsome, and a free bearer, not yet ripe. The red flush on the sunny side will be admired on the dessert table. Beurré Superfin is small, but a good crop. This may be called an improved Marie Louise. Doyenné Boussoch is very fine on pyramids, and quite clear and good. Doyenné du Comice, fruit rather irregular, owing to the season, but a good crop, and will yet grow to size.

Among the new Pears which have been good are Marguerite Marrillat, a monster fruit, ripening in September, of delicious flavour, melting, and altogether A1, and will take a high position. It bears freely and grows grandly. Beurre Mortillet is another very fine kind, ripening in September, of an unsightly shape, being, so to speak, like a Malta Fig, and generally one-sided, but superfine in flavour. Rivers' Conference is a grand bearer, and the long, russety fruit is most elegant, while the flavour is very fine; the habit of the tree is perfect, and it will certainly rank A1. Beurré Fouqueray makes a fine cordon, and is giving us a little fruit, but not yet ripe to report on. It is hardier than Beurré Bachelier, and will probably supersede it. Triomphe de Vienne is again grand; an enormous bearer, and of fine quality, juicy, and very handsome, being long and russety. Comte de Chambord is a fine bearer (on Pear only), of the Swan's Egg type, very rich, and of Bergamot flavour. Beurré Baltet Père is again grand; it ranks A1 for a close-growing kind, and is large, juicy, and good. Fandante de Thirriott has enormous crop of clean fruit; a grand, little known Pear for November. It should be borne in mind that my remarks refer to Pears quite in the open—*i.e.*, not on walls or fences, or under glass culture, as for all practical purposes this is the largest culture. Another reliable Pear for general culture is Belle Julie, small, but a great bearer, and of first-class flavour. Stewing Pears are all good, but the very large sorts—Grosse Calebasse, King Edward, General Todleben, Beurré Clairgeau—are scarcely so big as usual.

A host of better-known Pears has necessarily been passed over, but it is probable that we may be years before we see fruit of such a large collection. About 200 kinds have fruited this year, and we shall be able to gain much useful information when they have all been tested. We feel no doubt that, good as the 1894 crop is, we owe it more to the sun of 1893 than to any weather we have had this year. We are fruiting several novelties which may be noticed hereafter, but as a general rule planters cannot do better than stick to the varieties which are now named, as if good in a cold, sunless and wet season, they will be grand when old father Sol is more propitious. For the poet truly says of him:—

"Hail! Life-giving soul of creation
* * * *
Source of Fertility, Diffuser of Radiance."
* * * *

As may be expected the Pears on the water-loving Quince stock have come to the front this year, while the same kinds on Pear show many spotted leaves, but on both stocks they appear to have made ample provision for next season's fruit.

A word as to Orchard Pears. Generally the crop has been enormous, and low prices have ruled. We sold fifty to sixty bushels of Hessel on the trees for twenty-five shillings; for once the town dwellers will have cheap Pears, and wise growers will severely thin the boughs of their trees as soon as picked, or they will not get a return for many years after the trees have endured such a strain.

Before concluding this skeleton paper our hearers may be as surprised as the reader to learn that in an old book (1650) entitled "The Spirituall Use of a Garden of Fruit Trees," the writer recommends grafting the Quince on the Pear stock for standards; while in another ancient book (1757) "Eden, or a compleat book of Gardening, by John Hill," p. 514, of which we possess a complete folio copy, the author states that, "The Quince stock agrees very well with Pears, and should be chosen for those kinds which are melting." He also recommends it for espaliers and bushes, and this agrees with our practice to-day, as the gritty and crisp Pears are not so satisfactory on the Quince stock. The practice of working Pears on the Quince would therefore appear to be more ancient than is generally supposed.

* A Paper read at the Horticultural Club on the 9th inst. by Mr. G. Bunyard.

FLORISTS' AND OTHER FLOWERS AT READING.

On the occasion of a visit to Reading some time ago, we had a brief inspection of the grounds and houses at the Portland Road Nursery of Messrs. Sutton & Sons, Reading, and a more hasty survey of some of the subjects then to be seen on the Seed Farm alongside of the Great Western Railway. In the latter case more especially it was too late to see the wealth of flowers that make such a display there every year, and are the envy of all beholders passing along the railway. The seeds were being harvested in many cases.

Open air trials at the Portland Road Nursery.

Of the enormous number of varieties of China Asters we have already spoken in a previous issue. The two-year old plantation of Marguerite Carnations had been a mass of bloom during great part of the summer. Another sowing made in April last commenced to bloom about the end of August in spite of the cold, wet season, and were in fresh and attractive condition when we saw them. It is almost impossible to describe the range of colour in the Heddewigii strain of the Chinese Pink in their endless tints of rose, crimson, purple, and white, often arranged in the most fantastic way. The Laciniata type is notable for the deep fringes into which the petals are cut. Several kinds are named, while the superb mixed strain showed some grand colours. The single varieties are the most favoured, as the large flowers and rich colours are very telling for bedding purposes. On the contrary a plantation of Perpetual Carnations raised and flowered in six months from seed in the same way as Marguerites, had a very large percentage of double flowers of beautiful colours, in fact we noted only one that was quite single in the whole batch.

In the trial of Lobelias we noted a considerable range of variety. Some had pure white flowers, others were dark blue, light blue, and purple; all were dwarf, and included sorts with bronzy foliage. The plantation of double Balsams had grown well and flowered freely, but had been partly injured by frost, which had occurred a few nights previously. Pansies from seed sown in spring are grown to some extent, as are seedling Dahlias. Marvel of Peru in several colours was flowering profusely. A dwarf, single variety of French Marigold named Legion of Honour was notable for its even and regular character. Long lines of it in borders by the side of the gravel paths, were only 9 in. high. The flowers were yellow with a crimson zone round the centre.

The Verbenas from seed had also given great satisfaction, and were still in full bloom when we saw them. The flowers were white, blue, purple, and of other shades. There were dwarf and tall strains of Antirrhinum; amongst the former was Yellow Prince, of a fine yellow, and 6 in. to 8 in. high. It flowered all the summer. Aurora, yellow, with a pink tube was equally dwarf. Sutton's White Throated rises to a height of 2 ft. to 3½ ft., and has crimson flowers with an ivory-white tube. Both strains are necessary for different purposes. A plantation of a new Hollyhock, rightly named Bright Rose, and raised from seed in the last week of February, arrested our attention on account of the clean and bright appearance of the flowers. They have broad, light rose guards, and a darker rose centre. The variety is to be sent out next year. Amongst bedding Begonias, B. sempervirens, Duchess of York with pink flowers, and Coral Gem with rose blooms, were flowering finely. The latter has bronzy foliage and flowers, and blooms summer and winter under glass.

The Houses at Portland Road.

The extensive batches of Cyclamen grown at this establishment were in 48 size pots and furnished with fine foliage. They had been sown in November last, and will make a fine display presently. Gloxinias were still showing their true character, and amongst them we noted Her Majesty, white, Sutton's Purple, Duke of York, white with a five-lobed crimson zone at the throat, and Azure Blue, white, with a broad sky-blue edge. The velvety bronzy-red and olive foliage of Gesnera zebrina discolor was beautifully supplemented with the pyramidal racemes of orange-scarlet flowers. That useful and popular decorative plant, Cyperus alternifolius, is here grown from seed. Batches of Streptocarpus sown in March were still flowering freely. The varieties of Achimenes were numerous, and some of them had been raised from seed sown in February. Amongst those in bloom we noted Splendens, brilliant scarlet, Coccinea, similar in colour but smaller and very floriferous, Ambrose, white and netted with purple, Longiflora, large blue, and Margaretta, pure white with a long tube. The pretty blue flowered Saintpaulia ionantha was flowering very freely.

Tuberous Begonias are grown very extensively under glass for the production of seed, and it is needless to say that all of them are very floriferous kinds, suitable alike for culture in pots or in beds out of doors. Amongst the doubles were choice, scarlet, white, and Camellia-flowered varieties. The salmon and yellow single kinds were also handsome. The Reading Beauty strain is a series of single varieties more particularly adapted for bedding or pots on account of their floriferous character. There were several white varieties, but Queen of Whites was best, and Crimson and Carmine were also choice. Reading Gem, white with a rose edge, is a charming sort of the Picotee type. Reading Beauty, White, Coral, and Rich Yellow, are other choice sorts of the same strain. The luminous orange-scarlet and double flowers of Prince of Orange reminded us of the orange-coloured Trollius. Meteor is a very dwarf sort with bronzy foliage and orange-scarlet flowers. A pendulous strain suitable for baskets was grown in pots and stood upon shelves with their masses of double flowers hanging down. Yellow, orange, crimson, scarlet, sulphur, white, rose, and rose with a white centre were some of the numerous hues to be noted in the pendulous strain, all of which were raised from seed. One like the Rose Wm. Allen Richardson was very attractive, and various others served to show what could be done with tuberous Begonias in baskets.

The Seed Farm.

As already stated the seeds of many things had been gathered and others were being got safely under cover. The Stock-flowered Larkspurs were still in bloom and 3 ft. to 3½ ft. high. The orange flowers of Cacalia coccinea might be oftener seen in borders of annuals. The flowers of Helichrysum bracteatum monstrosum were glorious in their yellow, golden, crimson, scarlet, orange-scarlet, and silvery-white sheen. That named Fireball is of an intense glittering or fiery crimson. Golden Globe is another sort of huge size. Sutton's large-flowered Scabiosa atropurpurea grows to the height of 2 ft. to 3 ft., but the richly varied flower heads are far superior to the old German pincushion style of flower. White, purple and other shades of Xeranthemum annum were still very profusely produced; this annual is valuable for cut flowers and border decoration late in the season. The golden umbels of bloom produced by Tagetis lucida were bold and attractive. The species is very unlike other Marigolds in general cultivation, and ought to be more largely grown. The varieties of French Marigold are numerous and choice; the single striped sort has a velvety brown edge and is very beautiful. Queen of Dwarfs is an orange variety well adapted for edging, as are the Miniature, which is double yellow, and Miniature Spotted, which is yellow with a crimson blotch at the base of the petals. Tall French sorts are also grown, as well as the orange and lemon African varieties.

The annual Sunflower under cultivation has made great departures from the wild original, so that the latter would now fail to recognise its kinsfolk of the garden. Sutton's Giant was sown in May, and had attained a height of 6 ft. to 11 ft., bearing huge heads with long, golden rays, and a black disc. For a rich piece of ground in the wild garden this would be a magnificent subject, more especially if each plant were accorded plenty of space to attain its best development. Primrose Perfection was much dwarfer and had long, primrose rays with a black disc. Sutton's Dwarf formed a hedge about the height of 3 ft., and had double flowers, the central ones of which were tubular, much elongated and golden yellow, while the rays were pale yellow. Sutton's Golden Double had much darker flowers than the dwarf one, but the florets were similarly long and tubular.

The ordinary double Sunflower was simply yellow. The Silvery-leaved Sunflower (Helianthus argyrophyllus) was notable for the hoary character of its leaves; the flowers were single with yellow rays and a black disc. The Miniature Sunflower (Helianthus cucumerifolius) had much smaller flowers, very freely produced and similar in colour to those of the latter. A useful free-flowering Lupine is Lupinus-nanus albo-coccineus with rosy or red standards and white wings. Near one of the warehouses for the storage of seeds in the process of drying was a large collection of Onions which had been pulled and laid out to dry. They had been sown in spring, and were of good keeping size, though often of handsome proportions. They consisted of the leading varieties in cultivation including fine specimens of Golden Globe, Crimson Globe, and others.

LESSONS FROM FLOWER SHOWS.

Your correspondent "O" has either mis-read or misunderstood the meaning which my remarks *re* note-taking, on page 52, were intended to convey. Turning to my previous communication I find that I therein said, "By all means take notes, but if you do it at all, do it thoroughly." Well! what is wrong with that? I repeat that any man who upon seeing a new plant (to him) only takes its name without troubling to note also the general appearance of the same, as well as any cultural details upon which he can lay his hand, is not using his time to the best advantage. "O" talks about a gardener's memory being over-taxed. Certainly, we do meet with instances of this, but cases of over-taxing are are not nearly so common as "O" would have us believe.

A properly trained memory is capable of holding quite as much as the average gardener wants it to hold. A good memory is a natural gift it is true, but it is a gift that is capable of very great cultivation and improvement; nay, more, it is sadly subject to deterioration if not frequently used. Seldom indeed is it that a man's memory will wear out (except, of course, in the natural course of life), much oftener is it allowed to rust out, rather an ignoble way of treating so valuable a faculty. I maintain that the more memory is used, and the greater the quantity of matter committed to its care, the more powerful does it become, and the more capable is it of containing increased stores of knowledge. Like a spade (to use a homely simile), use it and it will be bright and keen—lay it by and neglect to use it and it becomes dull.

A man who devotes his whole attention to the filling of a note-book is failing to use (and hence improve) his memory to the extent he might do. Would it not be far better if, before writing anything down, a few salient and striking characteristic points of the plant whose name is to be put down on paper were to be committed to memory. Afterwards, when referring to his note-book, the note-taker would find that the reading of the name of the plant would conjure up its appearance before his mental vision, and he would feel that he knew it, and would feel able to recognise that plant whenever and wherever he saw it again, even though it should be under different circumstances.

Now a note-book is but an aid to memory, but most decidedly it is not memory itself. I again repeat that there are many who fall into the error of considering it as such. "O" says "he does not believe that there are such men." In reply I would invite him to go to any of our horticultural training institutions (I might quote Kew as an example) where lectures are given to young men upon sciences related to and collateral with horticulture, and where the student is expected to write a *resumé*, he will find that there are numbers who will tell him that it is a great mistake to take too many notes.

They will tell him, too, that when they were new to the work they would be writing down as fast as their pencil would travel during the whole of the time occupied by the lecture, but that when they came to put these notes into readable shape they found that they had got into a veritable maze of technicalities that were as Greek to them, and about which they had to confess they knew nothing at all, although they had been lucidly explained during the course of the lecture.

"O" remarks that when he sees a young man taking notes he has hopes of him, that he means business. This is very true, but the most hopeful thing of all is the manifest desire to learn and the evident thirst for knowledge thus exhibited.—*G.*

BULBS AND THEIR CULTIVATION IN HOLLAND.

We take the following extracts from a chatty and interesting paper read by Mr. Robert Sydenham, of Birmingham, at a meeting of the Kyrle Society, early in the present month. The paper was illustrated by various examples of growth, system of propagation, and culture of bulbs:—

We can hardly look upon Narcissus as Dutch bulbs, as many varieties are cultivated in different parts of Europe quite as well as in Holland, but the rich light sandy soil of Holland produces larger and better shaped bulbs. Many varieties of Narcissus are found in a wild state in various parts of Europe, and there seem to be almost endless varieties. In the mountains of Switzerland, the Poeticus or Pheasant's Eye variety is found in thousands, and in some parts at the end of May or early in June they form a mass of white which looks like snow at a distance, Some very lovely varieties of Narcissus are also to be found in Spain, Italy, Austria, and Egypt, and have been brought to this country and cultivated, and now form a very important industry.

A great many ask why Hyacinths, Tulips, Crocus, etc., should almost all come from Holland? I dare say this industry became located there as did the cutlery trade at Sheffield, the watch trade at Coventry, the lock trade at Willenhall, and the gun trade at Birmingham, and so on. No doubt the soil in Holland being of a very suitable nature, the bulb industry grew in extent as the love of flowers increased, and although bulbs have been cultivated in Holland for the last 200 or 250 years, it is only in the last fifty, or I might properly say thirty years, that the trade has reached such immense dimensions; one hundred years ago I do not suppose there was more than one square mile covered with these bulbs in Holland, whereas now I should say there are twenty square miles, lying chiefly between the towns of Haarlem and Leiden.

The great increase of this trade or industry has at times led to great fluctations of prices and even gambling. About the years 1634 to 1637 the Dutchmen had a mania or madness for Tulips, and some single bulbs were sold at fabulous prices, for I read in one work on the subject the following particulars:—"From 1634 to 1637 all classes in all the great cities of Holland became infected with the Tulipmania. A single root of a particular variety, called the Viceroy, was exchanged in the true Dutch fashion for the following articles—two lasts of wheat, four of rye, four fat oxen, three fat swine, twelve fat sheep, two hogshead of wine, four tuns of beer, two tons of butter, one thousand pounds weight of cheese, a complete bed, a suit of clothes, and a silver beaker, the whole being worth two thousand five hundred florins. A bulb of the variety called Semper Augustus has often been sold for two thousand florins: and it once happened that there were only two of these bulbs in existence, the one at Amsterdam, and the other at Haarlem. One of these sold for four thousand six hundred florins, together with a new carriage, two grey horses, and complete harness; on another occasion a bulb was sold for twelve acres of land." These high prices are not realised now, but for new and good varieties, ten shillings to five pounds is often paid at the present time in Holland for a single bulb at public auctions when growers want them for propagation.

A few years ago, a great demand for Tulips in America made prices advance very much, some varieties going up double and even treble their previous price, but this like all other too great or too rapid advances, checked and even greatly injured the trade, and the result is there are immense stocks in Holland which are now to be had at two-thirds the price obtained some two or three years ago, but as the demand for Tulips has fallen off, so has the demand for Narcissus and Hyacinths increased, and this year the Dutchmen have cleared out their Hyacinths better than in any previous year.

The district where the bulbs are grown is really below the sea level, but is protected from the ravages of the sea by high sand banks or dünes; these parts were formerly large lakes, and would now be under water if it were not for the immense pumping engines constantly employed in pumping the water into the sea; the ground is perfectly flat and divided into fields of a-half to an acre into extent, and are surrounded by strong beech or other hedges, about 4 ft. to 6 ft. high. The ground is highly cultivated and heavily manured every third year with cow manure, and the collecting of this cow manure forms quite an industry of itself, for it is brought in large canal boats from all parts of the country and sold to the bulb dealers from sixpence to tenpence per barrow load. About March or April this manure is put all over the ground about 3 in. or 4 in. thick, it is then dug in about 18 in. deep, and Potatos are planted the first year. After these Potatos are taken up, the ground is again dug and planted with Hyacinths.

The system of planting the beds is quite different from ours, for instead of making holes and dropping the bulbs in, the soil of the first bed is taken off and removed to the extreme end of the field, the bulbs are then placed by hand in their proper places, and the soil of the next bed is taken off and put on the one just planted, thus leaving the second bed ready for planting; this system ensures each bulb being of a uniform depth and being well in the soil, for often when a hole is made and the bulbs dropped in they do not touch the bottom, and get "hung" as the gardening phrase is, and naturally perish. After planting, the beds are covered over with rushes or reeds to protect them from the very severe weather: these coverings are not removed until the frost has gone, when the beds are carefully cleared of the broken reeds, weeds, etc. This constant manuring and cultivation makes the soil very dark, and when taken in the hand feels almost as soft as silk, for I should tell you that it is all sand, and it is quite a rare thing to find a stone in these fields.

The spades used in digging have large, straight blades, more of a heart shape than square, and to see the rapid way the soil can be turned over would make many an English gardener wish his soil was as easily worked. In these fields are rows of beds about 4 ft. wide and about 13 ft. long, containing Hyacinths of all colours; here one will see six beds of blue, then eight or ten of white, and three of yellow, followed by twelve or fourteen of red, and so on; Hyacinths are not planted in large masses of one variety, as they are very liable to disease, and this disease seems to show itself in a very peculiar way, for it will sometimes take the whole of one variety, and one variety only, in a field, and in another it will leave this particular variety quite sound and take some other. Rats also are very great enemies to the growers, for at times they will burrow in the soil and destroy all or nearly all of a variety.

Tulips are planted in much larger masses, for apart from the ravages of the rats they are generally free from any kind of disease, and it is a very magnificent sight to see the large brilliant masses of these blooms, for at times one can see as many as fifty to one hundred thousand of one variety together, and on one or two occasions I have seen as many as two hundred and fifty thousand of one variety of Tulips in a field or "garden" as the Dutchmen like to call them. It is a very lovely and beautiful sight to see these flowers all in bloom. The Hyacinths as a rule bloom a fortnight before the Tulips, and when these flowers are at their best, excursion trains are run from Amsterdam and Rotterdam, and all other parts; the people when walking about these beautiful gardens get large bunches of flowers for merely asking for them or for a very few coppers. It is a mistake to imagine because you see so many cut flowers come to market that they are all sold, for not one hundredth part are sent away. It is customary as soon as the flowers are at their best to cut them off and cast them over the fields that lie fallow or are out of cultivation; and it makes us wish when we see these lovely flowers wasted, that we were nearer our friends that we could send them a large bunch or basket full, which would be readily given by the growers.

(*To be continued.*)

TULIPA CONCINNA.

The flowers of this species are large and of a lively carmine with black blotches at the base surrounded by a golden line. It flowers later than T. chrysantha, is somewhat variable, and has been introduced in some quantity from the mountains of Asia Minor to Italy, where it proves perfectly hardy. The *Bulletino della R. Societa Toscana di Orticultura* describes it amongst the new bulbs for 1894 and as being a good thing. At least dried specimens of it have reached this country.

NOTES FROM DEVONHURST.

This compact little establishment, situate close to the Royal Horticultural Society's Gardens, at Chiswick, is the property of E. H. Watts, Esq. Mr. J. Gibson, the gardener, is well known to the horticultural world as a successful exhibitor of vegetables at various shows of importance, and the owner of the property is to be congratulated upon securing the services of such a competent all-round gardener. Although the gardens make no pretensions as to size, vegetables and hardy fruit receive special attention, whilst under glass Tomatos are a speciality.

Chrysanthemums are great favourites, and although quantities have to be grown to furnish supplies of cut flowers, many are cultivated for the production of large blooms for show purposes. In very many districts this year Chrysanthemums are of doubtful quality, rank growth and green unripened wood being the state of affairs in far too many instances. Where this is the case it is almost hopeless to expect large well-developed flowers. At Devonhurst the plants are of medium height, robust and sturdy growth. The wood is strong and well-ripened, and the leaves are of that dark green hue and crisp and leathery substance eo delightful to the eye of every Chrysanthemum grower as bespeaking good cultivation and giving promise of great things to come in the way of flower. The collection is well up to date. Many of the best varieties of last year's introduction are there, together with one or two that have not yet been introduced to the general public. One special feature was a number of dwarf bushy plants in 32-sized pots. These are giving abundant promise for flower, and will undoubtedly prove of the utmost service for indoor decoration.

Mushrooms, too, are well done. Last year a plentiful supply of Mushrooms was furnished for a period of thirteen weeks, commencing from the end of November, and this from a house that is of no great size. Like other successful Mushroom growers, Mr. Gibson pins his faith to an equable temperature in the house, with abundance of moisture.

In the kitchen garden this year the Potato disease has been pretty rampant, as indeed it has everywhere else. But still good crops have been secured. One sort in particular, Sutton's Satisfaction, has done well. The variety in question is a very heavy cropper, and, better still, resists disease fairly well. The tubers are of even size, and of splendid cooking quality. A quantity of tubers shown me by Mr. Gibson were fit to be placed upon any show table in the kingdom. Carrots and Parsnips were heavy crops, and the roots were cleanly grown and of good shape. The method pursued by Mr. Gibson in the cultivation of these last-named is worthy of mention. The ground is trenched in the spring. Instead of sowing the seed in the usual way in drills, holes are made with a crowbar, filled up with fine soil, wood ashes, etc., and the seeds sown upon the top. The young plants are, of course, thinned out as in the ordinary way. Every inducement is thus given the plants to make clean and shapely growth. The most important consideration is to take care that the holes are made straight, as the root will infallibly follow its course. A Parsnip taken up from the ground in my presence measured 2 ft. 6 in. in length, and with scarcely a vestige of side roots.

Beetroot were a great disappointment to Mr. Gibson this year, owing to some mistake in the fulfilment of his seed order. Pragnell's exhibition was the sort sent for, but a much coarser variety was forwarded. Altogether, the garden looked in a promising condition, although the work this year has been of the uphill order, owing to the much neglected state of affairs which obtained previous to Mr. Gibson coming there. One fact in connection with the owner of this pretty little place must be mentioned, and we trust the example thus set will be followed. On various occasions the gardens and grounds have been thrown open to friends and a small flower show organised as an additional attraction. An entrance fee is required from all visitors, and the money thus obtained is handed over to the funds of some charitable institution. This is a laudable practice and one that is certainly not so rare at the present time as it used to be; but, even yet, there is plenty of room for improvement in this direction.—*A. S. G.*

THE FALLING LEAVES.

Oh, what a litter they make, and with what a feeling of relief those upon whom falls the labour of clearing them up regard the final clearing up. There are many others who, when the fall is accompanied with similar atmospheric conditions to those prevalent at the present moment, regard the leaf fall with very mixed feelings, as there are but few in the country districts who are not more or less inconvenienced by these silent indicators of the approach of winter. A little reflection, however, should convince the most inveterate grumblers that instead of murmurs at this natural phenomenon, if they properly understood it, should call forth a feeling of reverence and thanksgiving, for the almost untold services these frail atoms of plant life carried hither and thither by every breeze, have during the brief space of their existence rendered to mankind.

Seemingly frail and often insignificant in themselves they collectively exert an immense influence in the forces of Nature. The leaf fall, familiar as it is, is still to the great multitude something of an enigma. The chances are that ninety out of every hundred, if asked, would think it quite a sufficient answer to give that "they were dead." This, however, is not, strictly speaking, quite correct, for leaves, which from any accident die on the tree, will generally adhere with great tenacity. The fall is really the completion of a natural process, which, we think, may fairly be said to have begun at the very commencement of its growth, and culminates by the change of the cellular tissue at the base of the leaf stalks at the point of its attachment to the branch from the soft watery tissue of its early growth to the stiffer and drier material of which it consists when matured.

When speaking of the leaf fall, deciduous trees and shrubs are mostly in view, evergreens not only retaining their foliage through the winter, but in some instances for several years, more especially Conifers, some from three, four, to seven years, while Yews often retain some of theirs for a much longer period than that. At the same time there is an annual leaf shedding going on also among these; but this is not contemplated in the general term, the leaf fall, which will with us always be primarily regarded as alluding to the general fall from deciduous trees in the autumn.

And what a glorious sight it is to view plantations of these from some eminence where there is a sufficient variety planted to see the various tints from bright golden yellow to various shades of red and crimson to brown bathed in bright autumnal sunlight, fitting garbs to take on at the close of a well-spent life, for truly what more useful and indispensable labour is there done in the world than that accomplished by the agency of leaves which, when they fall, are trodden carelessly under foot, and are regarded by many as a source of annoyance and vexation, who have no regard to the beneficial services they have rendered in purifying and vitalising the air we breathe, and in preparing abundant supplies of food and material for the use of man. Where would man be without the agency of leaves? To a large extent he is directly dependent on them for the material of the buildings he rears for his shelter, and as all animal life is primarily dependent on vegetation, it is difficult to conceive any department of human affairs which is not dependent for its continued existence upon these frail relics of the summer, which have clothed the kings and queens of our forests and gladdened the hearts of all animate creation by their beauty and beneficent shade. Thus they have far more indispensable uses than mere adornment.

To the tree the leaves are both stomach and lungs, for in their cellular tissues are elaborated the mineral matter brought up from the roots with the gaseous products inhaled through their pores from the atmosphere, which, by the aid of the sunbeams, are converted into the material of which the tree is built up. Thus it is that this frail thing of the summer, beautiful and gay, lives its life in producing for man the necessities and luxuries of life, and without the beneficial influences exerted by leaves in purifying the air and maintaining the proper balance between the gases of which it is composed, by the absorption of carbonic acid gas which passes into the air from our fires, and with the breath of myriads of living creatures, this is absorbed into the leaf from its countless pores which occur in the greatest numbers, generally speaking, on the underside of the leaf; one hundred thousand of them are said to have been counted on one Cherry leaf.

When it is considered that about one-half of the organic matter of a plant consists of carbon, a large proportion of which is absorbed by the leaves and worked up by them into material for the building of trees and plants, the immense amount of work done through their agency becomes more apparent. Nor do the services rendered by leaves end here. It is well known that they are great rain producers; districts suffering from a deficiency of rainfall have been completely changed in this respect by reafforesting their hill sides, and from being barren and uncultivated spots have been rendered fertile and well watered. The leaf again draws water from the earth in almost incredible quantities, which it again gives out to the air in invisible vapour to be again condensed into water and fall in showers to water the earth and feed the rivers, which furnish the motive power to many factories supplying many requirements of civilisation. Thus the leaf is a silent, humble, but powerful force in the building up and maintaining of the things which make for the enjoyment and comfort of all.

The life of the leaf is of much far-reaching importance than to merely nourish the plant which bears it, for it cleanses and purifies the air and preserves in healthy vigour the blood of man and beast, by sending rain which waters the valleys and renders them fruitful for both. Its fall and death is the completion of the good work it has lived for. Our indebtedness to leaves reaches far back into the early ages of the world's history, for to them we owe in a large measure the coals we use for domestic and manufacturing purposes, thus the humble leaf has for countless ages been one of the most active and beneficent agents working for man's good.—*W. B. G.*

DISTRIBUTION OF SEEDS IN AMERICA.

Mr. Morton, the new Secretary of Agriculture in the United States, is being commended by the American newspapers for the opposition he has manifested against squandering so much money in furnishing seeds and plants to Congressmen. Mr. Morton asked to have the appropriation cut down to quite a small sum, to be used only to purchase and send out rare seeds, and that his Department should attend to the distribution. This is just what the agricultural press and the leading agriculturists of the United States have advocated for many years past. But Congress would not have it. On the contrary, more money was appropriated for seeds than ever before, and nothing was said in the bill about "rare or uncommon" seeds, as usual. Congressmen wanted seeds, and plenty of them, no matter whether old and common, rare and uncommon, as any kind will do for electioneering purposes.

The report of the seed division for 1893, contains some interesting figures. There were 6,743,586 packages of vegetable seeds sent out that year, of which 5,689,304 were distributed by order of Congressmen, leaving a little 1,000,000 for distribution by the Department. The total number of packages of all kinds distributed was 7,704,943, of which Congressmen sent out 6,215,781. Southern members seem to use their prerogative the most liberally. Of 25,022 packages of cotton seed, Congressmen sent out 21,925; of 63,935 packages of tobacco seed, Congress appropriated 59,886, and so on. On the contrary, of 133 packets of wheat Congressmen only wanted two. Recipients of seed are requested in every case to report the result of their experience with the seeds to the Department. It is estimated that at least 1,541,000 different persons received seeds last year, and only 1,483 made any report in regard to them, and most of these were of no value whatever.

The cost of distributing the 387 varieties of seed last year was £2,000, besides loading down the mails with 275 tons of free matter. A study of the history of the seed division for many years shows that the "new and valuable seeds" distributed were all known and catalogued by prominent seedsmen for at least two years before their purchase by the Department. By the present system no useful purpose is served. When the distribution of seeds was commenced, in pioneer times, it was useful, but now there are plenty of seed establishments where people can get "new and valuable" seeds.—*Mark Lane Express.*

GARDENING MISCELLANY.

FLORAL DECORATIONS AT LEEDS.

On the occasion of the recent visit of the Duke and Duchess of York to Leeds the floral decorations were on a very extensive scale, the principal tradesmen along the route decorating their establishments with foliage and flowering plants to a large extent. The Town Hall was remarkably well done, gigantic Palms and other fine foliaged and flowering plants being used with grand effect. The Yorkshire College and its new wings, the Medical School and Victoria Hall, were also greatly beautified by the floral decorators. These were entrusted to Mr. Featherstone, of the Kirkstall Nurseries, who has very extensive resources to fall back upon for this kind of work, and he fairly astounded the thousands who were permitted to pass through the Town Hall after the ceremony was over. Over 100 vases of flowers were used to decorate the luncheon table; and the magnificent bouquet presented to the Duchess by the Yorkshire College authorities was also supplied by Mr. Featherstone, and was a splendid arrangement of Cattleya labiata, Odontoglossum crispum, Vanda caerulea, and Dendrobium Phalaenopsis Schilleriana relieved with Lily of the Valley. It was greatly admired by everyone.—*Rusticus.*

STRAWBERRY ROYAL SOVEREIGN.

Having been a Strawberry grower for over fifty years, and a raiser of some good varieties, will you allow me to give my experience of Laxton's Royal Sovereign. I bought some plants last March and planted them close by a variety of my own named All Round. This is an early sort, but Royal Sovereign is ten days earlier, which, in my opinion, add much to its value; indeed, I look upon it as being ahead of all the sorts raised by the late Mr. Laxton. It is a splendid grower, a heavy cropper, and of good flavour, and the fruits also travel well.—*E. J. Atherton, Chatteris, Cambs.*

EUPATORIUM RIPARIUM.

It is rather difficult to understand why a plant of this description is not more of a general favourite than it is. It possesses very many good qualities, and its hardy constitution and free blooming character render it a most desirable greenhouse subject. Its flower heads are white and the inflorescence panicled, the corymbs composing it being terminal and axillary. The leaves are dark green in colour, deeply toothed, and oblong-lanceolate in shape. It is of strong and vigorous growth, and large plants of it may be obtained with exceedingly little trouble, and form very pleasing objects for the greenhouse or conservatory when in flower. It is a native of South America, but has only been known here since the year 1867.

ADIANTUM CILIATUM.

Mr. J. Birkenhead (p. 93) is of opinion that Adiantum caudatum and A. ciliatum are as distinct from each other as are A. cuneatum and A. gracillimum. Perhaps the pinnules of the one are a little deeper cut than are those of the other. This difference, however, is far too little to warrant the giving of two separate names to plants that are so nearly alike (to say the least of it). The cutting of the pinnules is extremely variable, and as much difference may be seen between plants of A. caudatum as between representatives of the supposed distinct A. caudatum and A. ciliatum. Asplenium foeniculaceum, according to the nomenclature of the Royal Gardens, Kew, this is a variety of A. fragans. If Mr. Birkenhead will refer to the article, some of the statements of which he calls in question, he will see that it was stated that Davallia parvula had particularly small fronds. This is a wonderfully pretty little Fern, but does not possess a particularly robust constitution. It has a great dislike to being disturbed too often. It becomes necessary, therefore, to place it in a position where the soil will not soon get sour. In a basket (as recommended) it has the best chance of showing itself off to advantage. Here, too, it gets the greatest possible amount of surface room (which its creeping rhizomes need) without a superabundance of wet, heavy soil, so injurious to it during the winter months. With regard to Woodwardia radicans, Mr. Birkenhead

states that the fronds of this Fern frequently attain the length of 10 ft. I certainly have heard of them exceeding 6 ft., but have not seen such gigantic specimens as these.—*Filices.*

GLORIOSA ABYSSINICA.

THREE good species of Gloriosa are known to science, but that under notice does not seem to have been hitherto introduced to European cultivation. It is a native of Abyssinia, whereas the well-known G. superba comes from Malabar. It grows to a height of 6 ft. or thereby when grown in a large pot, tub or vase, and flowers in June. The flowers are large, very beautiful, and rosy-scarlet margined with green. The *Bulletino della R. Societa Toscana di Orticultura* describes it as a magnificent acquisition, recording it amongst the new bulbous and rhizomatous plants for 1894. Seeing that it has found its way to Italy and flowered there, we may expect to see it in this country before very long.

TULIPA CHRYSANTHA.

THIS Persian species is evidently a highly desirable species for garden cultivation. Though it has been described for some time, it does not seem to have been introduced to this country, but is recorded amongst the new bulbous and rhizomatous plants for 1894 by the Italian journal, *Bulletino della R. Societa Toscana di Orticultura.* Though just introduced to that country it is still rare in cultivation. The flowers are of a uniform and magnificent yellow colour without spots or blotches at the base of the segments. It requires to be grown in rich sandy soil and flowers in the month of March, but in all probability would be a month later in our climate. The flowers are sweetly scented like those of a rose, and in that respect recall the odour of our native species, Tulipa sylvatica.

PLEROMA MACRANTHUM.

PLEROMA MACRANTHUM—or, to give it its commoner name, Lasiandra macrantha—is a plant, the beauty and effectiveness of which cannot well be over-praised. Its large violet-purple flowers are produced at a season of the year that renders them particularly valuable. Batches of small plants in pots may be had in bloom from late autumn to spring, although the true character of the plant is better shown when it is permanently planted out in the greenhouse or cool stove, and trained against pillars, rafters, etc. Under these circumstances it flowers even more profusely than in a small state. It is of very easy culture, is not particular as to soil, and will thrive almost anywhere. Propagation may be readily effected by means of cuttings, which will strike easily during almost any season of the year if placed in a gentle heat in a close frame. The larger-flowered variety, Pleroma, m. floribundum, is even better suited for cultivation in pots than the type. Its flowers are very large and of a vivid violet-blue colour. Young plants in pots will bloom when only a few inches in height, and it is really amazing to note the large flowers borne by such diminutive subjects—they seem out of all proportion when the extreme smallness of the plants are taken into consideration. P. m. floribundum, like the type, is a Brazilian plant, but is of much later introduction (1870), although it bids fair to outstrip it in the race for popularity.

COCKROACHES.

OF all the enemies which do their utmost to spoil the work and bring to nought the exertions of the gardener none are more indefatigable in their efforts to attain this end than the cockroaches. Just as our favourite plants, after a deal of care and attention have been lavished upon them, are throwing up new growths, and we are congratulating ourselves that our efforts are about to be suitably rewarded, than the work of weeks, or it may be months, is destroyed in a single night through the inquisitive propensities of a vulgar cockroach. This is, to say the least of it, terribly provoking and disheartening. Nor are the ravages of these pests confined to one class of plants alone. Nothing seems to come amiss to them, whether it be stove foliage plants, Ferns or Orchids, all seem to be suitable foraging grounds. They multipy with extraordinary rapidity, and it becomes necessary, therefore, to devise some means for their rapid extermination. The old-fashioned beetle-traps are of but little use—a much better plan is to use poison. If a quantity of phosphorus paste be spread upon pieces of slate, card-board, &c., and these scattered about the last thing at night, in the houses they visit, the poison will be greedily devoured —the result of course being death to those who taste it. Their dead bodies will be found lying about in all directions in the morning. These should not be removed, for, if left, the living beetles will feed upon their dead brethren, and will most assuredly pay the penalty for so doing. As a rule, more in proportion will be found dead on the second day after the laying down of the poison, than on the first.—*G.*

LAPAGERIAS.

THAT no great amount of root room is required to enable these beautiful plants to produce abundance of flower is evidenced by a cool house at Greenlands, Henley-on-Thames, which is at present affording a brave show. The plants, contrary to the custom which usually obtains in very many gardens, are grown in pots, and although they do not produce such strong growths and large vigorous leaves as they do when planted out in specially prepared beds or borders, their flowering qualities at all events do not seem to be in the least affected. The house in which they are grown is a lean-to of no great size, having a northern aspect, and certainly could not possibly be put to greater advantage than it is at present, filled as it is with these fine old garden favourites.—*G.*

HIPPOPHAE RHAMNOIDES.

More use might be made by gardeners, than at present, of this useful shrub. The effect produced at this season of the year, by its bright orange coloured berries, in conjunction with its glaucous foliage, more than counterbalances the loss of its leaves and consequent barrenness, during the winter months; moreover, the ease with which it can be propagated, aed the manner in which it will accommodate itself to almost any situstion and soil; should obtain for it a more favourable position with the gardeniug faculty, than it at present enjoys.—

SPIRAEA ARGUTA.

THE above name has been given to a hybrid Spiraea obtained from S. Thunbergii crossed with the pollen of another species at the School of Forestry, Muuden (Hanover). Judging by a specimen of it (says the *Bulletin d'Arboriculture*) which flowered last spring in the Arnold Arboretum the plant will be a happy addition to the early flowering species. The branches, slender and gracefully recurved, are covered with numerous sessile umbels of flowers like those of S. Thunbergii. As to the leaves they are shorter, broader, less abundant, and do not take on the brilliant colouring of S. Thunbergii in the autumn. Our readers will remember that the last-named is amongst the few species which expand their flowers very early in spring before the leaves are put out and that the flowers in this case have the additional merit of being scented like the Hawthorn. The name arguta applied to the hybrid is considered not to be very appropriate.

GLOXINIAS PLANTED OUT.

IT is so customary to see these in pots that few ever try the expediency of growing them planted out. The plan would answer for various decorative purposes, and for growing on seedlings with a small amount of trouble so as to get good tubers for the following season. We noted a large batch recently that had been treated in this way in the nursery of Messrs. J. Laing & Sons, Forest Hill. They were planted in some frames by the side of the Begonia houses, and made very satisfactory growth. There were some pretty varieties amongst them, including a shade of blue, and blue and purple edged with white, also scarlet, red and crimson with a white edge. All were erect, regularly funnel-shaped and in some cases they had a remarkably wide tube. Some of the paler varieties were also good. In a house close by was a large batch of Streptocarpus, the flowers of which were chiefly notable for their size. Some of them were dark sky-blue, violet purple, and light blue. All were more or less banded in the throat with violet purple. sometimes running down the lower lip forming blotches. Less common, yet forming a good sprinkling, were the rose, pink, white and other soft colours with the usual stripes in the throat more or less pronounced. These were sown in January, and though only in 60 size pots showed what can be done with them in such restricted root room. The continuous flowering, the small amount of attention they require, and their showy character are all points in the favour of Streptocarpus.

SOCIETIES.

The National Chrysanthemum Society held its early autumn exhibition on October 10th, 11th, & 12th, at the Royal Aquarium. A fair number of visitors attended, although their number was undoubtedly considerably lessened by the unpropitious weather that prevailed on the opening day. The exhibits in the special classes were (all things considered) as good as those of the October show last year, but as usual the show was greatly augmented and rendered attractive by the number and excellence of the miscellaneous exhibits of hardy cut flowers, Dahlias, foliage plants and by several fine collections of fruit and vegetables.

In the open classes, Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, took first prize for a group of Chrysanthemums and foliage plants arranged for effect, and filling a space of not less than seventy-two superficial feet. Fine flowers of Charles Davis, W. H. Lincoln, and Frank Wells were specially prominent in this group. The second prize in this class went to Mr. G. Stevens, St. John's Nursery, Putney, S.W.

In a class for twenty-four blooms of the Japanese section, comprising not less than eighteen varieties, and not more than two blooms of any one variety, Mr. W. Wells again carried off first honours with a very fine lot of blooms (for the earliness of the season). He had excellent samples of sorts like Mdle. Thérèse Rey, Professor Whitmack, Ed. Molyneux, Miss Dorothy Frankland, Mrs. E. W. Clarke, W. H. Lincoln, and Kentish Yellow. Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, came second, fine blooms of Madame C. Molin, Mdle. Thérese Rey being special features of his collection, Mr. Chas. Cox, gardener to J. Trotter, Esq., Brickenden Grange, Hertford, taking third position. Mr. E. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey, N., had the best twelve blooms of Japanese distinct. He showed very good samples of Primrose League, Puritan, Louise, and Mrs. E. W. Clarke. The second prize fell to Mr. W. Wells, who had good blooms of Edwin Molyneux and John Shrimpton; the third to Mr. W. Collins, Mr. E. Rowbottom had the best twelve blooms of the incurved section, Mr. J. Agate Nurseryman, Havant, Hants, taking second place. Miss Debenham, St. Peters, Herts, took prizes for twelve bunches of Pompon Chrysanthemums, comprising not less than six varieties, also for six bunches of Pompons, distinct.

In the classes for amateurs and single-handed gardeners, there were very few exhibits, and the material shown boasted of no great attraction. In the amateurs' division Mr. William Amies, South Ashford, Kent, took first prize for six blooms of Japanese Chrysanthemums, whilst in the classes for single-handed gardeners, Mr. E. Tukner, gardener to John Watney, Esq., Shermanbury House, Reigate, took first for twelve blooms of Japanese, distinct, a like place being taken by Mr. J. Knaggs, gardener to F. W. Amsden, Esq., 22, Chichester Road, Croydon, Surrey, for six blooms of the Incurved section. In a special class for six blooms, distinct, of new varieties (open) the prizes in which were given by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, Mr. W. Wells took first prize, showing fine blooms of Chas. Davis, Wm Seward, Frank Wells, and Miss Dorothy Shea; Mr. James Agate won the second prize. Keener competition obtained in the classes for floral decorations. In a class for a Table of bouquets, wreaths, sprays, etc., to illustrate the decorative value of Chrysanthemums, Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, carried off the first award with a tasteful arrangement of Chrysanthemums, Asparagus, and Fern fronds, Mr. J. R. Chard, also had the best three epergnes of Chrysanthemums, suitable for table decoration. For a vase of Chrysanthemums suitably arranged for table decoration (the trade excluded) Mr. E. Becket, Aldenham House, Elstree, Herts, took the first place.

In the miscellanous classes, Mr. W. J. Godfrey, Exmouth, Devon, staged a fine collection of cut

blooms of Chrysanthemums of the Japanese class, for which a Silver Medal was awarded. Petit Delaux, Mrs. F. W. Fowler, Marquis de Paris, and Th. Dennis were amongst the best blooms shown here. A superb collection of flowering spikes of Gladioli exhibited by Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, received a Silver Gilt Medal. Many fine varieties were represented, Glare de Feu, Hesperide, Seedling, and La Vesuve being specially good. A Silver Medal was awarded to Mr. Thos. S. Ware for a superior collection of perennial Asters, and Dahlias, both single and Cactus flowered varieties of the latter being well represented. Messrs. B. S. Williams and Sons, Holloway, staged a number of well-coloured Crotons together with a bright little batch of Cannas for which a Silver Gilt Medal was awarded. A splendidly flowered, and vigorous specimen of the old Scarborough Lily (Vallota purpurea) exhibited by Mr. Thos. Anstiss, Brill, Bucks, deservedly received a Bronze Medal. Mr. S. Mortimer exhibited seven dozen cut blooms of Show and Fancy, and four dozen blooms of Cactus Dahlias. Sorts like Majestic, James Cocker, Lord Salisbury, and Mrs. Morgan, among the Show and Fancy, and Matchless, Apollo, and Juarezi among the Cactus varieties were in excellent condition (Silver Medal). Mr. H. J. Jones, Lewisham, showed a quantity of cut blooms of Chrysanthemums arranged with Fern, Asparagus, etc., that received appropriate recognition in the way of a Silver Medal. Blooms of Alice Seward, Mrs. Conway, Duchess of York, and Commandant Blusset, attained a high standard of excellence. A nice collection of hardy cut flowers, amongst which, perennial Asters, and Anemone japonica figured conspicuously, exhibited by Messrs. Wm. Cutbush & Son was awarded a Silver Medal. A like award was made to Mr. L. H. Calcutt, Fernbank Nursery, Stoke Newington, for an elaborate collection of floral crowns, suitably filled with flowers and Fern fronds, for table decoration—a very pretty and tasteful arrangement. Messrs. H. Cannell & Sons exhibited a fine lot of Cactus and Pompon Dahlias arranged in bunches of ten with sprays of Asparagus. Varieties of the Cactus section like Old Gold, Professor Baldwin, and Vulcan were in exceedingly good condition for the lateness of the season. Messrs. John Laing & Sons, Forest Hill, staged a quantity of blooms (both single and double) of tuberous Begonias. Messrs. J. Cheal & Sons, Crawley, Sussex, were awarded a Silver Medal for a tasteful and effective group of single, Cactus, and decorative Dahlias, with other hardy flowers. Of the Cactus varieties shown, Aurora, Mrs. A. W. Tait, Black Prince, and Kaiserin, were of the best; Cupid, Achilles, and Geo. Brinkmann being well worthy of note in the Pompone section. Collections of fruits and vegetables were also well represented, and showed what can be done in our climate even under the influence of an unfavourable season like the past. Messrs. J. Laing & Sons, Forest Hill, had a large table of Apples and Pears often neatly and attractively displayed in baskets. We have previously mentioned some of the numerous examples of Apples that have been well grown by the above-mentioned exhibitors. They had some good samples of Pears such as Pitmaston Duchess, and Duchesse d'Angouleme, and a new variety of a late-keeping Apple named Dyke's Seedling was commended (Silver Gilt Medal). Messrs. H. Cannell & Sons, had a large collection of vegetables, including Onions, Savoys, Brussels Sprouts, Carrots, Leeks, Shallots, and Celery. The collection of Onions was the largest and most important, seeing that it included thirty-four varieties, of which Ailsa Craig, Main Crop, The Record, Cannell's Globe and others were of large size. Carrots were also good (Silver Gilt Medal). Mr. H. Berwick, Sidmouth, Devon, had a large collection of Apples and Pears displayed in baskets and plates. Emperor Alexander, Gravenstein and Peasgood's Nonsuch were well-coloured Apples, and Beurré Clairgeau and Grosse Calebasse were amongst the larger samples of Pears (Silver Gilt Medal). The Onions shown by Mr. H. Deverill, Banbury, were marvels for size as usual, in spite of the adverse season. Ailsa Craig has done best this year, but the Lord Keeper, Rousham Park Hero, and Anglo-Spanish are scarcely smaller. The Wroxton, The Lord Keeper, and Royal Jubilee are good-keeping Onions (Silver Medal). Messrs. S. Spooner & Sons, Hounslow, had a fine collection of Apples and Pears, but the former were the most plentiful, including well-coloured samples of Hoary Morning, Col. Vaughan and Duchess Favourite (Silver Medal). Mr. Alfred Wyatt, Hatton, Middlesex, had a collection of Apples and Pears, in some cases neatly displayed in baskets. Messrs. Wm. Cutbush & Son, had a collection of Apples and Pears arranged in front of, and forming part of their group of herbaceous plants which won the medal. Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon Common, staged a fine dish of Sutton's Perfection Tomato.

QUESTIONS AND ANSWERS.

Grub in Cineraria Leaves. — *S.C.*: Your Cinerarias are attacked by the grubs of a small, black fly, named Phytomyza nigricornis. It is the Chrysanthemum Leaf Miner, and if you are growing Chrysanthemums of any sort you will probably find that the leaves are more or less tunnelled, like those of the Cineraria, but probably to a much greater extent. By lifting up the leaves and looking upon the lower sides you will find gray or dirty white, elevated spots about ⅛ in. long. These spots contain the fly in the pupa or resting stage, and should be squeezed between the finger and thumb so as to crush the pupa, and thereby prevent the next brood from laying a fresh batch of eggs upon the leaves. Be careful not to break nor injure the leaves more than can be helped while searching for the grub or its resting pupa. It would help to prevent the fly from laying its eggs upon the leaves if you syringe the plants occasionally with weak tobacco water.

Names of Fruits.—*John Reid*: 7, Hollandbury; 9, Stirling Castle; 5, Ne plus Meuris; 4, Beurré Diel; 6, Louise Bonne of Jersey; 8, Minshall Crab; 2, Pitmaston Duchess; others rotten.—*W. Tolley*: 2, Beurré Diel; 3, Flemish Beauty; 4, Marie Louise; 5, Beurré superfin; 6, Fondante and Automnes.

Pruning. *Constant Reader*: Perhaps the most useful to you would be Du Breuil's *Scientific and Profitable culture of Fruit Trees*, published by Crosby Lockwood & Co., price 3s. 6d.

Training Chrysanthemums.—*Anglesea*: Using a few stakes for supports is a very different thing from training a Chrysanthemum, as the word training in connection with specimen Chrysanthemums is ordinarily understood, and their use to a moderate extent should never disqualify in a class for untrained plants. An untrained plant means one which has been naturally grown, and not had its growths twisted and contorted in all directions to reduce its height and to form a rounded head.

Mushroom Bed.—*W. T.*: The horse droppings should certainly not be so wet as they appear to reach you, but if you have any floor space in a dry, open shed, there ought to be no difficulty in drying them sufficiently by spreading them out thinly over the floor for a day or two, before throwing them into a heap to ferment.

Pruning Habrothamnus.—*W.T.*: The sooner this is effected after the plants have done flowering, the sooner they will come into bloom next year. The plant may not be entirely done flowering even now, but as pruning is so necessary to keep the plant within due bounds, and to make it appear tidy, fresh and attractive every year you must annually prune it pretty hard back. Leave a few eyes at the base of every shoot, except in the case of the leaders which should be left at much greater length, provided always that there is plenty of head room for it. When the plant is as high as the house, or as high as may be convenient to allow it to go, then the leaders may be cut back in the same way as the laterals. Avoid crowding by thinning out the shoots where necessary.

Names of Plants.—*R.S.*: 1, Chrysanthemum uliginosum; 2, Anemone japonica elegans; 3, Aster diffusus horizontalis; 4, Aster Novi-Belgii; 5, Lonicera flexuosa aurea reticulata. *H.J.*: 1, Oncidium incurvum; 2, Oncidium tigrinum; 3, Cattleya maxima. *W. Jamieson*: 1, Juniperus virginiana var.; 2, Cupressus nutkaensis (Thujopsis borealis is only a synonym); 3, Libocedrus decurrens; 4, Retinospora pisifera.

Primula Sieboldi grandiflora.—*W. T.*: The culture of this plant is very simple. At present, all you have got to do is to plunge the pots in ashes in a cold frame to prevent the frost from breaking them. As growth commences in spring give plenty of air to prevent the leaves and flower stems from getting drawn. The pots should then be taken out of the ashes and stood on the top of them as near the glass as possible, but the flowers must not touch it. The sash should be tilted up all along one side, preferably the lee side of the wind. Attend regularly to watering when needed. As the plants go out of flower the pots may be stood on ashes in some half-shady place behind a hedge or wall out of doors. The plants may be carefully repotted after they have done flowering, or towards the end of July or in August, when the leaves have mostly died down. They will require shading for a few days if the potting is done when in full leaf, but none whatever if the leaves have partly died down. Put them in the frames again about the end of September or in October.

Richardias, Violets, and Frost.—*W. T.*: When there is likely to be more than 3° or 4° of frost, the Richardias should be taken into a greenhouse or pit from which frost is excluded. If the frames are close and well matted up at night they might exclude 6° of frost, but the Richardias are very tender and the leaves liable to be destroyed, so that we should make them safe at the earliest opportunity. Violets are hardy, so that they may be kept in frames all the winter. You cannot, however, expect them to flower under those conditions. If they are grown in pots, plunge the latter in coal ashes to prevent the frost from breaking them.

Communications Received.—R. S.—W. R.—A. O.—J. M.—A. N.—B. F.—J. B.—W. H. C.—Luxor—Z.—A. D.—W. F.

TRADE CATALOGUES RECEIVED.

A. Bailey, Jun., Silksworth Lane, Sunderland.—Show and Fancy Pansies.

Wm. Clibran & Son, Oldfield Nurseries, Altrincham. — Shrubs, Fruit Trees, Plants for forcing, &c.

Thomas Rivers & Son, Sawbridgeworth.—Fruit Trees, Select Roses, &c.

John Watkins, Pomona Farm Nurseries, Withington, Hereford.—Hardy Fruit Trees.

W. Rumsey, Joyning's Nurseries, Waltham Cross, N.—Roses, Fruit Trees, Ornamental Trees and Shrubs, etc.

LONDON SEED TRADE.

October 16th, 1894.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a smaller demand for Winter Tares and Rye. Clovers unchanged. Rape Seed steady. Ryegrasses easier.

COVENT GARDEN MARKET.

October 17th, 1894.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	3 0	7 0	Peaches & Nectarines, per doz.	2 0	10 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Coh Nuts and Filberts, per 100 lbs.	22 6	24 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	0 6	1 6	Strawberries, per lh.	0 0	0 0
Melons .....each	1 0	2 0			

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, hundle	2 0	4 0
Beans, French, perlb.	0 3	0 4	Lettnces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. hasket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per hunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Caullflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumhers .....each	0 4	0 6	Spinach per bushel	3 0	
Endive, French, dz.	2 6	3 0	Tomatos..... per lh.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Asters...per doz. pots	4 0	6 0	Foliage Plants, doz.	12 0	60 0
Aspidistra, per doz	18 0	42 0	Heliotrope...per doz.	3 0	6 0
—specimenplants, each	5 0	15 0	Marguerites, perdoz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz	6 0	0 0
Chrysanthemums, per doz.	4 0	15 0	Palms in variety, each	2 6	10 0
Dracaena term., doz.	18 0	36 0	Palms, Specimen ...	15 0	63 0
Dracaena viridis, doz.	9 0	18 0	Pelargoniums, scarlet per doz...	3 0	6 0
Evergreens, in var. doz	6 0	24 0	Primulas, per doz. ...	4 0	6 0
Ferns, invar., per doz.	3 0	8 0	Solanums, per doz. pots	10 0	12 0
Ferns, small, per 100	3 0	6 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arnm Lilies, 12 blms.	4 0	6 0	Maidenhair Fern, 12bs.	4 0	6 0
Asters, English, doz. bchs.	3 0	6 0	Marguerites, 12 bun.	1 6	3 0
Bouvardias, per bun.	0 9	1 0	Mignonette... 12 bun.	1 0	3 0
Carnations...per doz.	1 0	2 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Carnation, doz. hchs.	9 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Chrysanthemums, doz. blooms	2 0	6 0	Pink Roses...per doz.	2 0	4 0
,, doz. bunches	3 0	9 0	Pyrethrum doz. bun.	2 0	4 0
Eucharis ...per doz.	3 0	6 0	Primula, double, hun.	4 0	6 0
Gardenias 12 blooms	2 0	4 0	Roses .....doz. bchs.	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	Roses, yellow, dozen	2 0	4 0
Lillum Harrisil, doz. hlooms	6 0	9 0	— Red..... doz. blms.	1 0	1 6
Lilium lancitolium, white.....doz. blms.	2 0	4 0	— Tea ..... per dozen	0 6	2 0
			Scarlet Geraniums, doz. hchs.	4 0	6 0
			Tuberoses, per doz	0 4	0 6

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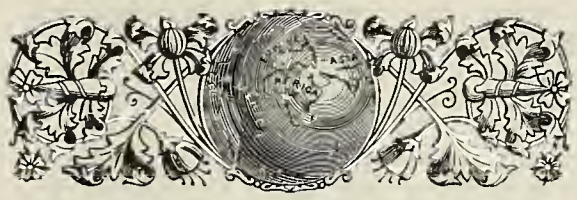

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 29th.—Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.
WEDNESDAY, Oct. 31st.—Kent County Chrysanthemum Show at Blackheath (2 days).
Exmouth Chrysanthemum Show (2 days).
Dorchester Chrysanthemum Show (2 days).
Sittinghourne Chrysanthemum Show (2 days).
Steyning Chrysanthemum Show (2 days).
THURSDAY, Nov. 1st.—Highgate Chrysanthemum Show (2 days).
Chudleigh Chrysanthemum Show.
People's Palace Chrysanthemum Show.
Teignmouth Chrysanthemum Show.
FRIDAY, Nov. 2nd.—Crystal Palace Chrysanthemum Show (2 days).
Battersea Chrysanthemum Show (2 days).
Brixham Chrysanthemum Show.
Havant Chrysanthemum Show.
Orchid Sale at Protheroe & Morris' Rooms.
SATURDAY, Nov. 3rd.—Loughborough Chrysanthemum Show

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 27th, 1894.

GARDENERS AND HOLIDAYS.—We presume that most gardeners by this time will have had their holidays and returned home, so that they will now be in a position to judge whether the start for the holiday or the return home is the more delightful. Doubtless the pleasure of such times varies according to the places visited and the duration of sunshine, for the weather is generally the most dominant factor in determining whether a holiday can be pleasantly spent or otherwise. Many on the other hand may complain that gardeners' holidays are too short, too few and far between, to form any opinion of the pleasure experienced in returning home. That may be so, but as a rule it only serves to intensify the happiness that may be derived from the same. The general public has its places of resort, which change from time to time according to the prevailing fashion; but any observer at all intimate with the ways of gardeners can see that the latter do not follow the prevailing fashion of the public. A gardener's holidays are valuable to him in proportion to his energy and his desire to better his prospects by thirsting to acquire fresh knowledge and experience. His occupation is a wholesome one, so that he is not compelled to resort to sea-side towns and watering places, as the toiling, middle-class, and business people generally, who are pent up in towns for the greater part of the year, do for the sake of recuperating their mental and physical faculties. His places of resort are therefore different, and we frequently find that he contrives to combine business and pleasure for the sake of economy. The latter may either be immediate or prospective, as when he makes the journey partly educational.

Relatively few gardeners, in proportion to the whole number, ever cross the "silver streak" for the purpose of visiting Continental countries; yet the facilities and cheapness of modern travelling enable an ever-increasing number to find their way to Holland, Belgium and France or even Switzerland. The occasion of a great international exhibition is generally selected as the *raison d'etre* for the luxury of such a holiday. In this respect he is economical, and his advantages educational; for in proportion as he cultivates the faculty of observation, so will he profit by a stock of new ideas which he can put into practice upon his return, or on some future occasion when opportunity serves, while the delight experienced during the acquirement of such knowledge will be immediate and in after life retrospective. Independently of exhibitions, however, the enthusiastic gardener, when he goes abroad, may and does add largely to his knowledge by visiting nurseries and gardens of repute.

Without crossing the Channel, the gardener may make his holidays both pleasureable and profitable. Those in surburban districts contrive to get to the sea-side or frequent rural districts, which may not coincide with the resorts of the general public; and even here, especially when a party of gardeners arrange to travel in company, one may note that the visiting of note-worthy gardens frequently forms an important element in the day's enjoyment. All this is educational, but even if any or all the party choose to spend a day in pure amusement, we can readily take it for granted that such a holiday has been well earned. On the contrary those who reside and toil from one year's end to the other in rural districts are glad of a day or a week's respite from their labours so that they can visit London or some other populous centre for the purpose of visiting the parks and gardens they may have known for years, but only by repute and by what they have read concerning the same. Young gardeners are often the more enthusiastic concerning such travel and sight-seeing; but their superiors not unfrequently rank in the same category, particularly those residing in districts remote from the great centres. Their first inspection of flower-bedding, carpet-bedding, and sub-tropical gardening, when the best modern examples are seen, generally constitutes a red-letter day in the quiet annals of their after life.

Apart from the above modes of spending a holiday there are others which are equally enjoyable to those of different tastes and inclinations. Gardeners may be naturalists like those of any other avocation, or they may be botanists, as we know that some of them are. We read of shoemakers who are naturalists, bakers and weavers who are botanists. Their labours in those directions would be carried on for pure amusement and recreation—the latter of no small importance to those whose occupation is sedentary. Gardeners who get fascinated with the study of botany, really adopt a science which has a strong affinity with their profession. Botany is wrongly described as a string of Latin names; for the proper study of it offers much that is instructive in the habits and mode of growth of plants akin to those under cul-

tivation, furnishes many an object lesson in the mode of treatment that should be given to the same or allied subjects in the garden, and at the very lowest estimate can only be regarded, but not stigmatised, as a harmless amusement. Our pages, at intervals for some time past, furnished ample evidence of the keen enjoyment experienced by several in their distant excursions or Saturday afternoon rambles in search of wild flowers. Such rambles, indeed, often constitute the primary and leading feature of a holiday; or if the latter is an extended one, the inspection of flower shows and the visitation of gardens are included. These excursions enable the participants to see and enjoy the characteristic beauty of their own country, enlarge their views and give them a wider knowledge of the ways of the world and of men. Such travellers may realise the views of the French Abbé related by Sir John Lubbock. The Abbé, had been very ill, almost unto death, and in a faint imagined that an angel came and asked him, "Well, M. l'Abbe, and how did you like the beautiful world you have just left?" It then occurred to him that he had been preaching about heaven all his life, but had seen almost nothing of the world in which he was living. He determined to see something of it if his life was spared, and later on he was discovered amongst the Rocky Mountains by a traveller on a scientific mission, to whom he related the reason of his sojourn in those distant regions.

Gardeners' Royal Benevolent Institution.—Intending candidates at the forthcoming election in January next, are notified that their applications must be made to the Secretary, Mr. G. J. Ingram, 50, Parliament Street, S.W., on or before November 10th.

Royal Honours to a Kelso Firm.—Messrs. Laing & Mather, of Kelso, have just received a Royal Warrant appointing them Seed Merchants and Nurseryman to H.R.H., The Prince of Wales.

The Ripon Chrysanthemum Show will be held on Tuesday, November 20th, and not on the dates previously announced.

Mr. T. W. Edmunds of the Westerham Nurseries and Seed Establishment has just taken over the Darenth Nursery and Seed business, Westerham, Kent, lately in the occupation of Mr. Arthur Jeffkins, who has retired from business. We understand that the seed business will be transferred to Mr. Edmunds' establishment, and the Nursery entirely replanted.

Frequent illustrations are to hand showing the resistless force of growing fungi. A curious case is reported from Torquay. It seems that for some time past a portion of the tar pavement was misplaced in a singular manner, and a few days ago a Mushroom was plucked from between the paving and the kerbing. Several square feet of the tar paving was found to be broken off, and then it was discovered that it had been slowly raised by the growth of a large mass of Mushrooms or Toadstools. So completely had the spores or spawn got possession of the material on which the pavement was laid that a very considerable portion had to be taken up and relaid.

Canaigre—Such is the name given to a kind of Dock (Rumex hymenosepalus), a native of southern California, and which is known to the people there as the "Wild Pie plant," or "native Rhubarb," because the leaf stalks are used in the same way as Rhubarb. The roots contain a large quantity of tannin, and it would seem that an industry has sprung up in Arizona for the extraction of this substance. A writer in *American Gardening* expresses the opinion that Canaigre or "native Rhubarb" is worthy of introduction, and would probably improve under cultivation.

North of Scotland Horticultural and Arboricultural Association.—The members of this Association held their first meeting of the session in the Christian Institute, Aberdeen, the other evening:—Mr. J. Munro, the president, in the chair. A discussion took place as to what means should be adopted to interest a wider circle in the proceedings of the Association, and it was ultimately resolved to endeavour to organise classes for young gardeners for the study of botany and other subjects during the winter. It was remitted to a Committee to arrange for a course of lectures on subjects interesting to gardeners.

Improved Traffic Service for Market Gardeners.—Market gardeners in the west are looking forward with great expectation that the change in the district superintendentship of the Great Western Railway at Penzance will have a good effect. The old conservative action as to the running of a limited number of ordinary and special trains for the conveyance of fruit, vegetables, and fish will, it is hoped, be speedily broken down. Already it is announced that from next week a new goods train will run daily to London. This will be a convenience to the market gardeners which they have not hitherto possessed, and especially as the rates have been considerably reduced, there is some hope for the prosperity of the Cornish growers yet.

Death of Mr. Robert Petfield.—We regret to record the death on Monday, after a long illness, of Mr. Robert Petfield, gardener to A. J. Thornhill, Esq., Diddington, near Huntingdon. Mr. Petfield had been at Diddington since he was twenty-three years of age, and was well known as a successful exhibitor at the St. Neot's and other local shows. He was especially successful for many years as an exhibitor of Chrysanthemums at the National and other shows. His contributions to the stands put up by the St. Neot's Horticultural Society in competition for the National Chrysanthemum Society's Trophy, greatly helped to bring about that Society's numerous successes; and it will be remembered that last year this Society won the Trophy with blooms entirely o Mr. Petfield's cultivation. He was a very able man, and respected alike by his employer and all who knew him. We understand that he will be succeeded by his son as gardener at Diddington.

The Hampstead Heath Firs.—Last week four of the trees in the splendid group of old Firs on Hampstead Heath, near the Spaniards' Road were removed by workmen in the employ of the London County Council. The spot on which the clump stands is one of the highest on the heath, and commands a fine view of the Brent valley and the hills beyond. The trees are several hundred years old. Those just removed were considered to be dangerous, and some of the remaining ones show signs of decay. Some years ago, when the decay was first noticed, it occurred to Mr. G. S. Jealous, a Hampstead resident, that, though nothing could be done to save them, the memory of the beautiful old trees ought not to be allowed to pass out of existence, and, in accordance with his suggestion, a large picture of them in oils, with the view of Harrow in the distanoe, was painted by Mr. W. J. Callcott, the well-known scenic artist. This picture is now the property of the parish of Hampstead, and hangs in a prominent position in the vestry hall on Haverstock Hill.

Great Fall in Mustard Seed Prices.—The *Wisbech Advertiser* remarks this year's first market for the sale of Mustard Seed on the 13th inst. was one of the most remarkable that has been known for many years. In one respect—for lowness of price—we have to go back to 1852 to find a parallel. This unsatisfactory state of things, from the grower's point of view, is mainly due to the increased quantity of seed that has been grown, but at the same time there is not wanting evidence that the growers have a great deal to thank themselves for, in the matter of price, in the indiscriminate manner in which they rushed their samples in front of the merchants. The market opened with varying prices, for while two of the biggest manufacturers offered 7s. and 8s. per bushel for the best samples, another well-known firm was giving 8s. 6d. and 9s., which prices would, it is believed, have continued, had they not been overwhelmed with seed.

Private Post Cards for Places Abroad.—Private post cards bearing adhesive stamps of the value of one penny, and private reply post cards with penny adhesive stamps on each half, may now be sent as post cards to places abroad, provided that they are in conformity with the official post cards. These private cards, whether single or double, must be of the same size and substance as the official cards, and must have the words "Post Card" printed on the address side, without the Royal arms. The reply halves of private double cards, which will be available only for return to this country from places abroad, must bear in print the words "Post Card—Great Britain and Ireland" and "Reply." Plain cards, without any printed inscription, cannot be sent abroad as single or reply post cards. The rules relating to the address side of the official single and reply cards for places abroad apply also to private cards. Any infringement of these rules will subject private cards for places abroad to be charged as letters.

Chrysanthemum Lady Selborne.—Amongst the numbers of varieties of the Chrysanthemum we possess, and their name is legion, none are more valuable than this beautiful sort. It is particularly suitable for growing for cut flowers. It is of medium height, about 5 ft., and readily adopts the true bush form, as well as of strong constitution. The flowers are not particularly large, and there are several white varieties that would beat it by a long way with regard to size. The florets are of good substance, and intermingle with each other in a way that adds very greatly to the charm of a beautiful flower.

Begonia semperflorens gigantea.—Although many good varieties of Begonias of the semperflorens type have been given us of late, none surpass this one in beauty and in general usefulness. Taller in habit than the type it is rather more free flowering, and the cymose inflorescence is of a much looser character. The flowers are of a beautiful bright pink or rose, and are produced in great profusion. As a summer and autumn flowering plant it is of the utmost service, and its easily contented nature, added to its great beauty, have both combined to make it a general favourite.

The Grand Yorkshire Gala—Donations to Charities.—At a meeting of the Council of the Grand Yorkshire Gala, held at Harker's Hotel, York, on the 2nd inst., Ald. Sir Joseph Terry presiding, it was resolved to recommend to the general meeting of life members and guarantors, to be shortly held, the following grants, amounting in the aggregate to £306, to charitable institutions, out of the surplus in hand:—York County Hospital, £50; York Dispensary, £50; York Blue and Grey Coat Schools, £10; Yorkshire Society's School, London, £21; York Boys' and Girls' Industrial Schools, £20; York Association for the Care of Young Girls, £15; York Home for Nurses, £15; York Lunatic Asylum, £25; York Children's Home, York Home for Friendless Girls, York Blind School, York Soldiers' Institute, York Penitentiary, York Invalid Kitchen, and York Charity Organisation Society, £10 each. Since the formation of the Society in 1859 no less than £2,000 has been distributed among the York charities. A general meeting of the guarantors and life members was held on the 19th inst., when Mr, Ald. Milward, who presided, congratulated the meeting upon having had a successful year. The profit for this year was £346 13s. 4d., and there was a balance in hand from the previous year of £71 13s. 4d. For the few days preceding the last gala they had disastrous weather, the rain making the gala field in a deplorable condition. This caused an extra expenditure of £50. They had, however, a surplus of £418. He congratulated them on their prosperity and having been able to give the handsome sum of £306 to charities, (Applause).—Mr. Henry Scott proposed a vote of thanks to the Lord Mayor (Mr. Ald. Clayton). Votes of thanks were accorded to the Chairman of Committee, Sir Joseph Terry; to the Vice-chairman, Mr E. Rooke; to the Treasurer, Mr. Joseph Wilkinson, who had occupied that position for thirty-six years; and to the Secretary, Mr. Chas. W. Simmons, for the admirable way in which he discharged his duties. The fixing of the dates for the next gala was referred to a committee for consideration.

A New Heliotrope.—A new variety for the following year is being offered by an Italian nurseryman in plants. It is named Queen Marguerite, aud is represented to be of dwarf and compact growth and producing immense clusters of deep dark coloured flowers. Can any good come out of the Continent to plant growers? is a question worth asking one's self. Because it often happens that foreign novelties are often very disappointing and predisposes the gardener to use bad language. After all this new "Cherry pie" may turn out to be a prize among many blanks, but without vouching for it as a really good thing, I content myself with recording the fact that it is on sale.—*R. D.*

CHRYSANTHEMUM NOTES.

About a month ago Chrysanthemums in the South looked the picture of health and excellency of condition with regard to foliage, wood and other evidences to which cultivators look for the promised harvest of fine blooms. Since then, however, and especially since the plants were housed, they have put on an extra amount of growth, or in other words have lengthened considerably, and damping has been more or less mischievous amongst the expanding buds and blossoms, even in cases where extra feeding has in no way been carried to excess. Every grower of course knows the reason which must be attributed to the damp and sunless character of the season. Notwithstanding all this, however, we expect to see some grand blooms at the November shows. The number of new varieties to be brought before the public is simply amazing, and makes one wonder when the evolution of the autumn queen of flowers will reach a climax and be reduced within comprehensible limits. One peculiar characteristic of the season is that Chrysanthemums are about a month later than they were last year, so that collections are yet far from being at their best. We have seen sufficient, notwithstanding, to expect some wonderful surprises in November.

Lilford Road Nursery.

The houses of Mr. Norman Davis, Lilford Road, Camberwell, are filled to overflowing as usual, and although the Chrysanthemums are late, a large number of them are giving indications of what may be expected. In the large house the plants are arranged in groups of a kind but in such a manner that the whole forms a close bank facing the pathways all round. The dark crimson flowers of William Seward are already conspicuous. Commandant Blussett has rich amaranth florets with a white reverse, but William Bolia is a more characteristic Japanese variety of a brilliant amaranth with broad twisted florets. The recently certificated Th. Dennis is of the same type as E. Molyneux, but differs somewhat in form A handsome sort is the waxy white J. W. Moorman of the incurved Japanese type as is the well known G. C. Schwabe with reddish-crimson florets and a buff yellow reverse. Ad. Giroud is of the same type as the last named but is more golden on the reverse of the narrower petals. Another incurved Jap. is Vice-president Calvat with globular heads, a strong constitution and leaves about 10 in. long. Though a tall grower, W. G. Newitt has been very much dwarfed by striking the cuttings late and taking the first bud. It has broad, pure white deeply fissured florets. Mrs. Libbie Allen is a pale golden yellow improvement upon Peter the Great. Florence Davis still maintains its reputation as a green sort, and in that it is both distinct and attractive. President W. R. Smith is a flesh-pink incurved Jap. and beautiful in its way. John Schrimpton is remarkably easy to grow. Etoile de Lyon will require another month to be at its best. President Borel, (deep rose amaranth), colours best at a distance from town atmospheres.

Reflexed Japanese sorts are not particularly plentiful amongst new kinds, but Niveous is one in the style of Elaine but larger, and tinted with pink on the early bud, but pure white later. Another of this type is Le Rhone, of a rich golden yellow, always dwarf and robust. One of the best of the new American varieties is Rostredor, a conical, incurved Jap. that is orange-yellow and keeps its shape to the last. M. Pankoucke is also incurved, and bright yellow with broad florets. Mrs. E. G. Hill is in the way of Madame Charles Capitante, but a greatly improved flower of a flesh pink, and a splendid grower, but rather tall. Charles Davis is as popular as ever. The broad, blush, incurved petals of Louise are very attractive. As far as can be seen the best of Calvat's novelties for this year is M. G. Montigny with creamy-white flowers heavily striped with rosy-purple. The blooms spread well out and show themselves off to advantage. The flowers of H. Hammond Spenser are said to attain the size of Viviand Morel, and at present the buds are very promising. Master Bates Spalding is a lemon-yellow Japanese sort with large, spreading flowers. Inter Ocean is said to be a seedling from Viviand Morel, but one-third larger; the florets are white, narrow, and interlaced. Another year will be necessary to show its capabilities from cuttings struck at the proper time. Madamoiselle Thérèse Rey was the best of last year's novelties. A new sport obtained by Mr. Davis is likely to be in great demand. It is a sport from William Tricker, and holds the same relation to that variety which Charles Davis does to Viviand Morel. The blooms are rosy-bronze, with a buff-yellow reverse, and very distinct. The only true incurved type we noted was Baron Hirsch, which has done well this season. The blooms are neat and crimson, with an old gold reverse, and dies off with a chestnut shade.

Besides the plants which are grown for show blooms, Mr. Davis gives a considerable amount of attention to plants for cut flowers. One of the most striking is the yellow Lady Selborne, put into commerce last year. It is tall, of branching habit, very floriferous and continuous, for, when the top flowers are cut, others are thrown out from the sides of the stems. The graceful flowers are bright yellow, but otherwise like the white Lady Selborne, grown by thousands for market work. Ryecroft Glory must be put in the same category, for the plants are dwarf, bushy, flat-topped, and bear a wealth of golden-yellow flowers tinted with bronzy-orange. Vice President Hardy produces orange-red and graceful blooms suitable for sprays. The second crop of salmon-pink flowers of Samuel Barlow is being cut. General Hawkes has purple-amaranth flowers, and those of the pompon Snowflake are pure white and pretty. Souvenir de Petite Amie is a large Japanese sort, but does well for conservatory purposes or cut flowers when six to ten buds are allowed to develop on a plant. In the same way the White Louis Boehmer will produce twenty good flowers on a plant. Batches of late varieties, some just showing their buds, and others not, are being brought on for cutting about Christmas and also in January. Royal Wiudsor is one of them. They are of dwarf branching habit, very free and truly late. Amongst the large kinds Lord Brooke is excellent for mid-winter work.

Ryecroft Nursery.

When we visited Mr. H. J. Jones at the Ryecroft Nursery, Hither Green, Lewisham, active preparations were being made to house the stock plants of Chrysanthemums of which there are about 20,000. All the rest had been housed for some time, including 2,000 seedlings, the seed of which had been obtained from various sources, but a large quantity was of his own saving. Most of them are showing buds so that the best of them can have their value determined before many weeks are over. Of named varieties he has about 1,400 distinct, and 6,000 plants in large pots. They are accommodated in three houses, each over 100 ft. long and 20 ft. wide. In one of the houses he has all the named, single varieties obtainable, arranged on the central bed. The best display of exhibition kinds is arranged on the floor of a large house on each side of a winding path formed by the plants themselves. In two or three weeks this house will be worth a long journey to see, especially to those who desire to see the new kinds.

New varieties of this, and last year are in great prominence here. Vere Flood is a dark rose-amaranth, reflexed variety, a seedling from Mrs. Falconer Jamieson. Phoebus is also reflexed but clear bright yellow with broad florets. A tall grower is Madame Carnot with long interlaced white florets. The Queen is an American variety of large size and which to all appearance will be an incurved Jap when fully developed. The broad, golden yellow florets of W. H. Fowler are very striking. Duchess of York, recently described in our columns, is a handsome, golden yellow variety. One of the most strikingly curious, and at the same time handsome varieties which we noticed was that named Hairy Wonder with blooms of a deep buff, becoming tinted with rose as they fade, and as bristly as a stinging nettle or a hedge-hog's back, but without the disagreeable sensations experienced on handling either. Similar in character but less bristly is King of the Hirsutes, with long, spreading, bright yellow florets. It is the best of the plumy yellow kinds we have seen. The recently certificated Madame C. Molin is an easily grown variety. In no other Chrysanthemum, perhaps, is the contrast of colour on the two sides so conspicuous as in M. Thomas Hallyar an Italian variety. The upper surface of the florets is brilliant crimson-red with a white reverse. Close by was a seedling like BellePaule, but having much more colour and really handsome. Commandant Blusset, recently certificated is of dwarf habit. The large heads of W. H. Newitt are white and the florets are incurved. The blooms of Mrs. E. G. Hill are blush, but those of the similarly formed Madame Charles Capitante are flesh-pink and pretty. The brilliant crimson florets of M. Georges Beron, are brilliant crimson with a golden buff reverse. Both this and Lady Randolph are Japanese kinds; but in this case the blooms are sub-globose, rose amaranth and silvery on the reverse, which is shown at the incurved tips only. The broad florets of M. G. Montigny are of a beautiful pearl-rose.

The Maze is rightly named for the florets are twisted, interlaced, and often upside down, so that the silvery reverse is much shown. The upper surface is purple-amaranth. The long, tubular florets of Lady Smith are white, and tinted at the tips with pink. Th. Dennis is much incurved, showing buff reverse largely in proportion to the crimson surface. The reflexed Japanese variety H. Shoesmith is compact, pretty, and soft buff yellow, but not very large. Charles Davis and William Seward still maintain their popularity. Wm. Bolia is crimson-red with a paler reverse, but ultimately becomes paler. W. A. Manda is of a beautiful yellow, but only slightly hirsute. Souvenir de l'Ami Coye is similar to Mrs. Alpheus Hardy, but is a great improvement upon that sort, both in habit and constitution. Very choice is Miss Alice Love with pure white, and very broad petals, all closely incurved. It is considered the best of its type this season. Beauty of Exmouth and W. G. Childs are better known kinds, and very choice in their way. Very striking is M. Aug. de Lacvivier on account of the broad crimson-red florets, with a golden edge; they are flat and recurved, thus showing them off to advantage. The broad white florets of Parthenia, are tubular at the base, particularly the outer ones. The flowers of Gaspard Boucharlat are bright orange, and similar to those of Source d'Or, but much larger, and broader in the florets. M. Ernest Frere has broad, flat, deep rose florets, with a silvery reverse.

The above are all Japanese varieties of the true type, or reflexed or incurved. The last-named are strongly represented in all collections of varieties obtained within the last few years, and reflexed Japanese sorts are amongst the least common of the new kinds. The true incurved varieties are hardly evident as yet, and may not be over-plentiful in November. The new Baron Hirsch seems an early sort, and has done well here. It opens of a deep chestnut red, fades to cinnamon, and ultimately becomes pale chestnut red. Descartes, the only large Anemone we noticed, is also the darkest of its class, being deep crimson-red, with a correspondingly dark centre. Ryecroft Glory, the market variety above mentioned, is in fine condition, very floriferous and richly tinted with bronzy orange. E. Rowbottom is also a market variety with larger, bright yellow blossoms similar in shape to Source d'Or, and equally light and graceful.

TREATMENT OF LATE CHRYSANTHEMUMS.

The culture of Chrysanthemums has of late become such an ordinary matter of course consideration that we look on them as indispensables, as indeed they are. For many reasons it is advisable to extend the flowering season over as long a period as possible. This may be performed either by the selection of very late sorts, or by the judicious manipulation of mid-season varieties. Of course the bulk of flower is produced at the end of October and early in November, but by taking terminal instead of crown buds, the season may be greatly prolonged. A supply of bloom during the latter portion of December and the beginning and middle of January is of the greatest value usually.

Generally speaking, to take the terminal instead of the crown bud means the delaying of flowering for about a month. One peculiarity about the former buds is, that once they commence they open very much more quickly than do the latter. The houses in which these later Chrysanthemums are placed should be freely ventilated on all possible occasions. This is especially a necessary precaution when strong manures (as for instance soot) are being used. At this dull time of year much less water will be needed than formerly, although as the pots are full of roots they must not suffer from lack of moisture. The manure given is in my opinion much better applied in solution. The practise of sprinkling the dry manure (as for instance Clay's Fertilizer) upon the surface of the soil does not particularly recommend

itself, for unless performed by careful and experienced hands too much is given, and the surface roots suffer, the plant, as a matter of course, sustaining proportionate injury.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids were certificated according to merit by the Royal Horticultural Society, on the 23rd inst.

Cattleya Clonia, *Nov. hyb.*—The seed parent of this hybrid Cattleya was C. Warscewiczii crossed with the pollen of Laelia elegans Turneri. The sepals and oblong petals are of a soft blush pink. The lamina of the lip is of a rich dark purple tinted with crimson towards the base, and having a narrow lilac edge, the throat has a transverse band of lemon-yellow, and lower down the tube is pale purple; externally, the tube is white except just under the lamina. Award of Merit. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Oncidium ornithorhynchum album.—The flowers of this variety are borne in long, graceful sprays, and are creamy-white, with exception of the prominent and much lobed yellow crest. The plant shown being large and well flowered, a Cultural Commendation as well as a First-class Certificate was awarded it. There were seventeen panicles upon it and over 1,700 flowers. Exhibited by R. I. Measures, Esq. (gardener, Mr. Henry Chapman), Cambridge Lodge, Camberwell.

Pleurothallis lepanthiformis.—The oblong-ovate leaves of this species are very leathery, dark green above and leathery beneath. The flowers are small, brown, and produced in clusters beneath the leaves by which they are sheltered. Botanical Certificate. Exhibited by R. I. Measures, Esq.

Masdevallia Laucheana, *Nov. sp.*—The lanceolate leathery leaves of this species are about 3 in. high, and the one-flowered scapes slightly surmount them. The sepals are white and form a cup with triangular free points; the tails are 1¼ in. long, reflexed and orange-coloured. The small petals are white, the lip yellow, and there is some purple on the column. It is a distinct and pretty little species. Botanical Certificate. Exhibited by R. I. Measures, Esq.

Masdevallia attenuata.—The oblanceolate leaves are deep green and very leathery. The scape bears a single campanulata flower of a creamy, white with seven purple lines in the tubes and three triangular lobes terminating in pale yellow tails less than an inch in length. The minute petals and lip are white. Botanical Certificate. Exhibited by R. I. Measures, Esq.

Sophronites cernua.—This pretty little species is seldom seen; it is like a miniature of S. grandiflora. The leaves are roundly cordate, leathery and olive-green. There were seven orange-scarlet flowers upon a scape of the plant shown. The wings of the column are violet-purple. Botanical Certificate. Exhibited by Messrs. W. L. Lewis & Co., Southgate.

Dendrobium Coelogyne, *Nov. sp.*—The 4-5-angled pseudo-bulbs of this curious species are produced on running rhizomes; they terminate in two oblong-lanceolate leaves and a flower scape bearing a solitary bloom. The dorsal sepal is sub-erect while the lateral ones are broader and more spreading above the middle. The whole surface is netted with brownish-purple overlying yellow. The petals are linear, erect and similarly coloured. The three-lobed lip is nearly black, except towards the base of the lateral lobes. Botanical Certificate. Exhibited by Messrs. Hugh Low & Co., Clapton.

Miltoniopsis Bleuiana rosea, *Nov. Var.*—The flowers of this variety of the hybrid M. Bleuiana are of huge size. The upper sepal is tinted with blush on the lower half, and the lower half of the petals is rosy-purple. The lip is lightly tinted with pink, and there is a many-rayed buff blotch at the base. First-class Certificate. Exhibited by M. Jules Hye Leyson, 8, Le Coupure, Ghent.

Odontoglossum Wattianum superbum, *Nov. Var.*—The sepals are heavily blotched with rich, chocolate on a bright yellow ground. The spots and markings on the petals are smaller and more numerous. The lip is somewhat concave, ovate, white, finely spotted with violet at the base, and having a large, ovate deep purple blotch along the middle of the upper half. The lip is both beautiful and distinct. Award of Merit. Exhibited by Messrs. F. Sander & Co., St. Albans.

Odontoglossum asperum fulvidum, *Nov. var.* The sepals and the base of the petals of this form of O. Rossii are blotched with brown on a yellow ground. The rest of the petals and the lip are fulvous. Award of Merit. Exhibited by Walter Cobb, Esq., Dulcote Park, Tunbridge Wells.

Laelia monophylla.—The dwarf, compact habit of this showy little West Indian orchid should render it a general favourite. It is fairly plentiful in Jamaica, being found at an altitude of from 3,000 ft. to 5,000 ft. Coming from a situation such as this, it will be found to succeed best when grown in baskets, suspended near the glass, in a cool part of the intermediate house; or, lacking space there, in the Odontoglossum house. Equal parts of peat and and sphagnum answer best as potting compost, and abundance of fresh air and water must be given when growing.—*Rex.*

Oncidium ornithorhynchum.—Although not among the showiest of the Oncidiums, the floriferous habit, and sweetly-scented flowers of this species, combine to make it well worthy of a place in collections. The flower scapes are produced from either side of the pseudo bulbs, and a sharp watch should be kept on them, as thrips are extremely partial to the tender spikes and buds. It is a native of Mexico, having been known since 1826.—*Rex.*

THE PLANT HOUSES.

Stove.

The cold damp season of the year is just upon us. The coming month is possibly the most trying time of the whole year. The light will be very much reduced, and in districts that are low lying, and on that account particularly subject to the visitations of fogs, very few hours of bright sunlight will be experienced. As the mean temperature of the ensuing month is only just over 40° Fahr., fire heat must be applied pretty vigorously. The regular and consistent syringings carried out in this department must now be discontinued entirely. A light dewing overhead may be given, however, on very bright days, and this always in the mornings. Watering, too, must be performed in the fore part of the day—in fact, many plants, even if not dormant, will at least pass through the winter much better if kept upon the dry side. It will not be possible to give much ventilation, indeed, in very many instances the top lights and lanterns are closed for the winter, and the grooves in which they work packed so as to preclude the necessity of too vigorous firing. Air should, however, be given whenever possible through the bottom ventilators. During foggy weather the house should be closed as tightly as possible, particularly if the fog be heavily charged with injurious gases. On such occasions the atmosphere of the house may be kept fairly moist, and not allowed to get too dry.

Plants of Euphorbia pulcherrima that are developing their flower heads may be given a little weak manure occasionally. This stimulation is very necessary if good flower heads and large, well-coloured bracts are looked for.

Euphorbia jacquinaeflora.-This pretty Mexican plant ranks among the most useful stove flowering plants known to us. It is very suitable either for growing as small plants in pots or for adorning pillars, rafters. etc., in which latter position it looks singularly handsome. It should also be given occasional doses of manure to assist in the production of large flowers. It is very suitable for cutting, and is a general favourite on that account.

A sharp eye must be kept upon Anthuriums and Alocasias, which together with many other members of the Aroid family, are very liable to rot off at the root if kept too wet. Too much stagnant moisture round the roots during winter is often the real cause of these beautiful plants looking so unhappy during great part of the summer, from the simple reason that they have no healthy living roots at the commencement of spring to assist in the work of absorption.

Greenhouse and Cool Conservatory.

Here the greatest enemy, and the one calculated to do the largest amount of damage at the present season, is damp. Strict attention should therefore be paid to the instant removal of old and useless leaves, blooms, etc. These, if left on the plants for long, will be sure to foster the growth of the fungus. Great discrimination will be necessary in the use of the watering can, and except in cases of vigorously growing plants like Salvias Richardia, etc., water must be very sparingly given. All the plants may be allowed to get a great deal drier than was the case during the spring and summer—many, indeed, will need very little water at all. Plenty of air should be given on all possible occasions, but it will no longer be safe to leave the ventilators open all night. They should, therefore, be closed the last thing at night and opened the first thing in the morning if the weather is mild and open.

Chrysanthemums.—These, of course, are the most attractive feature of the cool houses at present, and as a consequence they will absorb a great deal of the gardener's time and attention. A sharp eye should be kept for decaying petals upon those which are now in bloom. If these are picked out as soon as seen the flower may be made to last for a much longer period than would be the case were this very simple but necessary precaution neglected. Manure water must be given those plants which are developing their flowers, and staking must receive the most careful attention, for nothing detracts so much from the appearance of good plants as bungling, untidy staking. If green stakes or bamboos are not obtainable, rough hazel stakes may be used. How often do we see plants stuck full of hop-pole like arrangements that look sufficiently substantial to uphold a sapling oak, but which certainly do not tend to increase the natural beauty of the plant.

Pits and Frames.

The earliest batch of Freesias may now receive a little more heat, and as soon as the pots are fairly well filled with roots occasional supplies of liquid manure may be given with great advantage. For the purpose nothing is more productive of good results than Clay's Fertiliser or Guano.

Batches of Hyacinths, Tulips, Narcissi, etc., in pots should be introduced into heat at appropriate intervals to afford suitable successions. It must be borne in mind that it takes a much longer period of forcing to enable a plant to flower at this the fag end of the year than it does after the turn of the new year. Accordingly sufficient allowances must be made with regard to time. It is usual to start with the Roman Hyacinths, and this is both a safe and a wise plan. White flowers are always in request, and particularly so at Christmas time, and the Roman will stand hard forcing much better and will produce more flowers under such treatment than will the other Hyacinths.

Frames which are not furnished with heating appliances must be covered at night with either tiffany, tarpaulin, or Russian mats to exclude frost. Covering up should be just as much a matter of course at this time of year as watering, and should be as regularly performed, no matter what the weather might be. The weather is particularly liable to great and sudden changes, and a very little time will often suffice for the mercury to drop ten or fifteen degrees, which it often does with disastrous results to the unprepared gardener.

Hybrid Pelargoniums should receive their final potting if this has not been done already. The soil used should not be too wet, and after potting, great care should be taken that too much water is not given. Cinerarias, Primulas, and herbaceous Calceolarias will by now have filled their pots with roots. Liquid manure should therefore be given to assist the plants in the production of healthy and vigorous growth.

Plants of Deutzia gracilis, Staphylea colchica, Lilacs, Ghent Azaleas, etc., that are intended for forcing may be plunged deeply in ashes out-doors. This is a necessary precaution, for if left exposed a few sharp frosts will inevitably cause many of the pots to break. No water at all should be given, and the plants may be lifted and taken into the forcing pit as occasion requires.

Carnations.—Layers of these potted up from the open ground may be plunged in ashes in a cold frame. No fire heat will be necessary, and we may add, but very little water. Under no circumstances should the plants be coddled, but abundance of air always given in the absence of frost, The lights should be entirely removed whenever it is possible to do so.

Cuttings of bedding plants which are to furnish next year's stock should be kept well on the dry

side, and care should be taken when removing old leaves from them that they are not unduly disturbed. —*A. S. G.*

THE ORCHID HOUSES.

CATTLEYA HOUSE: VANDAS.—Now is a good time to overhaul such species as V. tricolor and V. sauvis, cutting down those that have become leggy through having lost their lower leaves, &c. The majority of ours were lowered last autumn, and will only require to be resurfaced with fresh sphagnum moss. With this we mix a good quantity of clean crocks broken up fine, this is much better than silver sand, as it keeps the compost more open. Some we grow in pots and for small plants no doubt they are best, and for large ones, too, if intended for exhibition as they are better to handle. I must say though that our best plants are grown in baskets, in which they flower twice during the season. When affording these plants fresh material we use peat and moss in equal parts, which they seem to appreciate. The one drawback to basket culture is that there is some difficulty in getting the plants out of the basket when they require a new one without damaging a lot of the roots; on the other hand the roots get a free circulation of air about them which they naturally like.

LAELIA ANCEPS.—The spikes of these plants should now be got into position so that the blooms, when open, will all face one way. The plants, too, should be so placed that the spikes do not touch the glass and so get injured by a sudden change in the outside temperature, such as we had on October 16th, which cut all the tender things down in this district.

CATTLEYA LABIATA.—These are quite a fortnight later in blooming this year, but promise to be very fine. I have counted to-day plenty with four blooms to a spike, and these without exception are grown in baskets. Those in pots are not only later but poor in comparison, which clearly proves that the more natural mode of growing them is the best. The baskets are suspended, which admits of their receiving the benefit of a free circulation of air about them which, in conjunction with heat and moisture, is so essential to them.

COOL HOUSE.—The Odontoglossums are beginning to push up their spikes, requiring the watchfulness of the man on duty to prevent the slugs from eating them off. We make a practice of hanging all plants up as soon as they show for flower. This serves as a check to the slugs, but oftentimes, even with this precaution, we loose several spikes by very small ones that are hidden in the moss.

ONCIDIUM TIGRINUM.—This beautiful Orchid is just opening its handsome flowers, and will serve to keep the cool house gay up to Christmas. Some growers fail to grow it well, chiefly, I believe, through not allowing it a good season of rest after flowering. We ourselves used to think that, like Odontoglossums, they require to be kept rather moist and shady at all times, and in consequence they never did well, but since affording them a good rest we have never failed to flower them well.—*C.*

THE VEGETABLE GARDEN.

Current Work.

IT will now be necessary to finish earthing all Celery except that for very late use, which should be left so long as there is no danger of severe frost. Celery is much harder than most people think if it is not blanched, it is this bleaching that makes it so tender. Fine weather should be chosen for such work, for if the foliage and soil be wet at the time the earth is put to them the leaf stalks will rot. It is a good plan to dust the ground along each side of the rows with soot or lime previous to earthing, as this will help to ward off the slugs and worms. As too often happens in close heavy soils, the hearts of the plants are spoiled during the winter months with these troublesome pests, therefore precaution should be taken to ward them off before any damage is done. When earthing see that sufficient soil is put to the sides of the rows, to prevent the frost from penetrating. The tops of the ridges can be covered with litter should severe weather set in. Before doing this, boards or other covering should be laid along them to prevent the water from running down into the hearts, as many plants are spoiled owing to the wet lodging in them.

When earthing is finished smooth the sides of the ridges with the back of the spade, as this will cause the water to run off more freely, thus preventing the soil from slipping down in wet weather. Do not cover the tops of the ridges till there is actually a necessity, as this would have a tendency to hold moisture. See that all growing crops are kept free from weeds, and any falling leaves that may blow amongst them, for at this time of the year when there is so much moisture these would cause the plants to suffer considerably if allowed to accumulate, and would in time so weaken them that they would not be able to withstand the frost during winter if severe.

Forcing Rhubarb.

FORCING of this will soon have to be commenced, and plants intended to be started early should be taken up and put into a cool shed for a week or two, as this has a tendency to give them a check, by treating them in this manner they start into growth more freely when introduced into the forcing house. It is often difficult to get the first batch to start freely unless some such mode be adopted, especially if old roots are used. We prefer those of two years' growth, as such can be lifted without much injury to them, and therefore make stronger leaf stalks. Whereas if old clumps have to be taken up many of the young roots are cut off in the operation, thus rendering them almost useless for such work. Gardeners, as a rule, do not pay sufficient attention to this part of the work, as there is quite as much care needed in preparing plants for forcing as there is in forcing them. This should be borne in mind, and if a sufficient stock is not at command, young ones should be raised. This can be easily done if the old roots that have been forced are taken care of as they are brought out of the forcing house, for the crowns will readily start again if taken off and planted after the weather has become sufficiently warm to cause quick growth. There is much difference in varieties, but none are better for early work than a true stock of Readiug Ruby, Dancer's early Scarlet, and Royal Albert. For a later supply Myatt's Victoria is one of the best, therefore a good supply of roots of these sorts ought to be had in every establishment. We mostly find such crops as Rhubarb, Horse Radish, Globe Artichokes and Sorrel grown in some out-of-the-way place where they have to take care of themselves, whereas if properly grown a much less space would be needed for them, and more satisfactory results would be obtained. Rhubarb requires good ground to grow it well, and if of a tenacious nature ought to have some light, gritty soil worked into it so that the water may pass away more freely. Propagation may be done either in autumn or spring, the latter, however, is far preferable on heavy soils, as the roots are apt to rot in winter after being newly planted.

Those who have already a stock to work from should have no difficulty in keeping up a good supply of suitable roots for lifting, those, however, who have to purchase should do so from a reliable source, as many spurious kinds are in the Market. Crowns can be taken off singly with a small piece of root attached, and if these are planted 2 ft. apart each way, will, in the course of two years, make strong roots fit for forcing. If a piece containing as many plants as will be required be planted each season, there would always be a good stock to draw from, thus preventing any anxiety on the part of the gardener, or any trouble with the chef or cook, for the latter often causes much mischief if not kept well supplied.—*Kitchen Gardener.*

Gleanings from the World of Science.

Is Poa annua an Annual?—Generally speaking, gardeners, botanists and others, rest satisfied in considering this plant an annual. When it germinates, grows up, flowers, fruits, and dies in the course of a few weeks, one would be justified in considering it truly an annual; but it seems to us to be a question of conditions and environment rather than a hard and fast rule as to whether it is an annual or perennial. On dry gravelly or sandy soils on roads and walks it germinates and grows when the supply of moisture is sufficient, but as the warm and dry, or relatively dry, period of summer advances it runs to seed and generally dies. This may be due to the lack of moisture and to the fact that the plant has exhausted itself in the production of seeds. In the London parks and in other urban or suburban districts it often constitutes a large portion of the turf, and in such cases, if it were truly annual, the ground would be bare and patchy between the dying of one crop of plants and another, because the turf or carpet of grass is often so dense as to preclude a second crop from making advances till the old crop had died away sufficiently to leave space for the younger generation. In well-kept and sufficiently moist turf, whether naturally or artificially so, this is not the case. Then again, on the banks of the Thames and other rivers in this country, plants of Poa annua may be noticed which have ripened a crop of seeds, are in full bloom now, and show other flower stems in all stages of progression, while the small but dense tufts of leaves showing no signs of flowering would argue that the plant is prepared to go on growing and flowering for an indefinite period, and has no intention of dying. These facts would seem to prove that the duration of the plant is a question of environment and sustenance. These views receive corroboration from Professor Henslow when speaking "On the Origin of Plant Structures by Self-adaptation to the Environment." He says that "Poa annua, if grown in plenty of moisture, at once becomes a perennial; as it does on the Alps, just as several other annuals at lower altitudes, as well as latitudes, become perennials when growing at higher altitudes and latitudes." A perennial supply of moisture seems to us to have as much influence upon Poa annua as altitude.

Perennials treated as Annuals.—Many plants which are treated as annuals in this country are truly perennials in their native habitats, but from long custom of sowing and raising them afresh every year, we forget their real nature and come to look upon them as annuals. The Castor-oil is a good instance of this, while in the tropics it becomes a small tree with a woody stem. In cooler climates it assumes the form of a shrub, but in Britain and other temperate climates it gets killed with the first frosts of autumn or winter. Now, if the Eucalyptus globulus were as easily killed as the Castor-oil, cultivators would be apt to look upon it as an annual, whereas it is one of the tallest trees on the globe in its native home. Tropaeolum majus gets destroyed with the earliest frosts, and is by most cultivators regarded as an annual, but in a greenhouse it is truly perennial. Dahlias would fall into the same category if it were not for the fact that the tubers are lifted and preserved under suitable conditions immediately after the tender leaves get killed by frost. The Scarlet Runner has been considered an annual by most cultivators until comparatively recently, when a few cultivators discovered by accident that the somewhat tuberous roots live through the winter when protected from frost or if the latter is not very severe, and throw up young stems the following year. Numerous cultivators now testify to the fact that Nicotiana affinis is truly a perennial under favourable conditions in the open air. Where frost is excluded it lives for many years without losing its lower foliage. The Castor-oil, Tropaeolum, Scarlet Runner, and Night-scented Tobacco above mentioned are, therefore, truly perennials.

Annuals with a perennial habit.—There are several annuals which in their spring and summer growth appear as if they were meant to be perennials. Most of the species of Linaria or Toadflax would give the observer this impression if examined in the earlier stages of growth, so that their peculiarities may be distinctly noted. The primary stem of the seedling does not attain any great length as a rule, but an indefinite number of stems more or less in proportion to the strength of the plant arise at a point below the cotyledons of the seedling, and really constitute the flowering stems. Annual and perennial species in most cases behave alike, and seem to be forming a persistent or perennial rootstock, but the annuals die after ripening their seeds. The inference seems to be that the species of Linaria were all perennials in ancient times, and that though the annuals have changed their natures they retain their primaeval habit. Several of the annual species of Euphorbia behave in the same way.—*J. F.*

FLORICULTURE.

The Florist's Polyanthus.

In the culture of this Polyanthus, which is the only truly gold-laced type, two very important points are—(1) not to grow the plants under pot culture if it can be avoided; and (2) not to try to propagate or establish plants in the autumn. If pot culture must needs be adopted, then Mr. Thurstan's plan of keeping the pots well plunged is the best. I should say that to be shelved under greenhouse glass would be distasteful to a plant that loves cool moist surroundings and no coddling. The lateral fibres on the roots the Polyanthus are extremely fine and delicate, and hence very susceptible to heat and dryness reaching them through a pot exposed to any such influences.

There is a magic month for propagating the Polyanthus by division, and that month is May. Pull the plant to pieces when the flowers are well over and the spring foliage has attained its full length and breadth. At that time the growths for the future appear as several almost sessile eyes of short red bracts seated on the old root stem neck, and each connected with a few full-sized leaves.

Each new heart, with its share of foliage, should be slipped off the parent stem and planted firmly and deeply enough to all but cover the proud young heart with its red leaf bracts. No part of the old root stem should be left attached. The young plant is able and ready to strike at once from the collar, but the strong leading new roots must meet with the earth immediately and receive no check.

I have heard much and seen something of the so-called gold-laced Polyanthus of other than our florist section, but would trust none of them for seed parentage.

The lacing is generally uneven, ragged or heavy, and broken in that critical central line down the middle of each petal. Neither is the yellow of the eye and lacing uniform, that of the lacing being often of a different, (usually weaker) shade from the yellow of the eye, which in its turn is often faulty in smoothness, purity, roundness and breadth.

If we only had "Kingfisher" still with us in red-ground flowers, and "Lord Lincoln" in black, there would be much more hope for advancement in the true gold-laced Polyanthus. At present I only see "Lancer" and "Geo. IV," worth trying with, though Lancer is of short and dumpy habit in flower stems, and Geo. IV is, as a rule, coarse and big. In black grounds, "Cheshire Favourite" is our most correct flower, and "Lord Lincoln" would have been the mate for that. Yet have I raised great rubbish out of "Cheshire Favourite," even down to plain coloured primroses.

Anyone taking up the florist Polyanthus should be prepared for profound disappointment and many false starts, or no start at all till he has some seedlings that look like promising departures in a move onward. The flower is very sportive, and faults imperceptible almost to a casual observer are grave in the eyes of the specialist. He is a man pretty well abused for being so particular, that is, for having eyes where other men have none; and in silent amusement we read the exhortations to abandon our special aim and to do no more than add to the already easy abundance of flowers in popular and common types.

Well, though we have had better gold-laced Polyanthuses than we possess now, still they will surely come again to anyone with time and perseverance and room enough to follow the flower with patience and thoughtful care.—*F. D. Horner, Burton-in-Lonsdale.*

Cimicifuga simplex.—This plant is well-nigh an unknown quantity to many gardeners, a fact to be regretted, for like other strangers it possesses intrinsic merits. In a show house, or conservatory its tall, graceful habit and the long panicled racemes of white flowers render it peculiarly suitable as a dot plant for dwarfer and bushier subjects. It is also known under the name of C. foetida, is a native of Siberia, where it is said it is used for the driving away of bugs, for which purpose the unpleasant odour which it possesses renders it particularly suitable.

BRIAR ROSES.

There is a group of free-flowering Roses known as "briars," but not to be confounded with the common Briar Rose of the hedgerows. They do not include varieties which are grown for exhibition, though they sometime appear at Rose shows in a collection of garden Roses—Roses which are cultivated for the ornamentation of the garden. Among these "Briar" Roses there are several that produce yellow flowers—and yellow is generally a favourite colour among lovers of Roses—though this tint is present among the tea-scented varieties. Marshal Niel, among the Noisette, and Boule d'Or among the Teas, being the two which perhaps have the most yellow in the blossoms. These Briar Roses are all hardy, as hardy as the common Dog Rose of the hedgerows, and they require no particular cultivation except that they should be allowed to grow with scarcely any pruning, only the very weaker growths being cut away, which is necessary, as the flowers are always produced upon the wood of the previous year's growth—a fact it is very important should be borne in mind.

One of these is the yellow Austrian Briar, a very free-flowering Rose indeed, producing clear yellow flowers in great abundance. Another is the Austrian Copper, which bears purely single flowers of a nankeen or copper colour, the underpart of the petals shaded with orange. These are two very old Roses, as they were known in this country as far back as 1576. Another is Harrisoni, a double yellow Rose of a fine golden yellow colour, introduced to this country about 1830. Then there is the Persian Yellow, which is the deepest yellow of the Briar Roses, large, full, and very double, introduced to English gardens about the year 1838. Lastly, comes a charming Sweet Briar, known as Janet's Pride, which was found in a garden in the north of England a few years ago, and which has the fine perfumed foliage of the common Sweet Briar; the flowers are semi-double, shaded with crimson-lake, and having broad stripes of bright crimson, quite attractive in its colouring. I may add that these Roses can be bought of the Rose nurserymen in the autumn months at a moderate price, and they are either worked upon the stock of the old Dog Rose, or else raised from cuttings, and known as own root Roses. They do best in a fairly light soil, and in a somewhat dry and sunny position; but during the hot summer months they should have the surface soil about them mulched with manure, and be well watered in dry weather.—*R. D.*

THE VARIEGATED WINTER CRESS.

Some day someone who is not at all particular about what is put into an advertisement will get hold of this and announce it as a new plant at a big price. He might advertise things a good deal less useful, but at the same time it is exasperating to a son of Adam who possesses a touch of Cain's hasty temper to find he has been had. The most sweet-tempered man I ever knew swore (inwardly of course) when he was once had over a blue Rose—he went blue through the exertion of bottling up his noble rage. The variegated land Cress is a real thing, it is the common yellow Rocket in a kind of glorified form, but the blue Rose! Reckitt's Blue we know, and the blue at the tips of one's nose in frosty weather, saying nothing about other causes for the appearance of the colour in that prominent extremity. The blue rose is a dream of the ambitious rosarian. The other day a gardener sent me a plant of the variegated Winter Cress, and I had to blast his hope of making a fortune through it, for he really thought he had got hold of a bran new thing, and, for ought I know to the contrary, he may hug that belief to his heart still. Not long since a gardener came to me at a flower show and described a new and wonderful plant which had come up in his garden. He gave me an elaborate description of it, and I had to tell him it was common enough. You should have seen how he received that intelligence. Like Naaman, the Syrian of old, he turned and went away in a rage.

But though it is a weed in my garden, it is a real good thing in autumn, winter and spring until it flowers, and then it is of little value. I allow the plants in my garden to seed, and seedlings come up freely and almost everywhere. How the seeds reach such long distances from the plant I do not know, but they get there. It is so hardy, so bright, and persistent, and so accommodating that it is almost a pity it is so common, for it would otherwise be run after. Probably at no remote date some enterprising seedsman will offer seed at five shillings per packet, but that must be when we have more spare cash than at the present time. If I went in for early spring gardening the variegated Cress would be one of my most prominent plants.—*R. D.*

THE LATE FROSTS.

The few degrees of frosts we have experienced during the last three or four nights has put a full stop to the unusually plentiful supply of late vegetables. I suppose it is a good few years since such freedom from frost has been experienced, the splendid condition of the Dahlia at this advanced season being sufficient evidence of this. Up to the middle of last week, that is to say about October 17th, in many parts of the country good dishes of Runners and French Beans were being gathered, and I saw a lot of Tomatos in the open ripening off wonderfully well. Preparations have been made to cover these latter should occasion require, but up to that date protection had not been necessary.

Now, however, a different tale may be told. In some localities ten degrees of frost have been registered, and this of course is enough to completely cut up such tender subjects as Beans, Marrows, Tomatos, etc. As might be expected the autumn tints of which we heard so much a few days ago are now no more, for the leaves, whose dying efforts imparted those rich glowing tints to the landscape which are so dear to all of us, forcing upon us as they do the conviction that the season of beauty is fast slipping from us, are in very many cases lying upon the ground beneath the trees upon whose branches but a few short days ago they so joyously fluttered. I have no doubt the prosaic matter of fact gardener will say with bated breath, and a good job too. This may seem to be gross Vandalism, but it certainly is very justifiable and by no means difficult to understand.

There seems this year to be a great quantity of Holly berries, and these are fast acquiring the vivid red tint so suggestive to the minds of all of us of the season of frost and snow, mutual congratulations, and joyous revelry. In the hedges, too, the duller scarlet berries of the Hawthorn and the brighter "Hips and Haws" of the Wild Rose are now plainly visible, for the leaves which sheltered and hid them from our gaze have also succumbed to the advancing season. If there is any truth at all in the old idea that an abundance of wild fruits of this kind foretells a hard winter, a wise provision of Nature for the sustenance of her feathered children, we may expect a very trying season to all except the coal dealer.—*H.*

APPLE AND PEAR STOCKS.

It is somewhat curious to an old gardener who can remember the advent of the Paradise Stock for Apples and the Quince stock for Pears, to find the subject cropping up in the gardening papers quite freshly every now and then, and being written about as if it was a new idea. Any reader of the gardening papers in the fifties and sixties will know what an excitement there was then about these stocks, and how, almost furiously, the battle on their merits and failings was fought by men who have been under the Daisies now for many years; I quote three:—Mr. Thomas Rivers, of Sawbridgeworth, Herts; Mr. J. R. Pearson, Chilwell, Notts; and Mr. John Scott, of Merriott, Somerset. There was some very plain plain speaking done by these gentlemen in their contentions as to favourite stock, one against the other, as I was reminded the other day on turning over the pages of "The Orchardist," by John Scott, specially on page 8. All these men were thoroughgoing fruitists, and each spoke or wrote as their individual, practical knowledge dictated, and each was, no doubt, right according to his own theory and practice.

The question of stocks is just one of those debateable questions which every gardener has to think out and work out for himself according to his soil, climatic

position, space, requirements, and labour power. Every one of these points have to be taken into consideration. If a gardener's fruit space is small, his soil, one which will feed roots right up to the surface, or he can have labour and material to mulch well, or house sewage, or even water, and he can summer-pinch his bushes and thin his fruit, and do all else that is required, then the dwarfing stocks will do for him, either the Doucin or Paradise for Apples, or the Quince for Pears, because stocks are surface-rooting subjects; but if his soil is thin and poor at the top, his requirements large, his labour power (as is, unfortunately, too often the case in these days), limited, and all the other conditions reserved, then the Crabstock for Apples and the Pear or free stock for Pears is best.

This I have proved over and over again in my forty to fifty years' practical experience in fruit growing. The subject has to be thought out, each one for himself, but the intending planter will get much assistance by consulting the nurseryman to whom he intends to give his orders to, and plainly stating how he is situated in every particular. These gentlemen are strictly honourable men, men who have studied the subject thoroughly, particularly as to their own neighbourhood, and are authorities to be relied upon. But even when this is done the gardener himself has to decide the whole matter, and he can only do this by much thought, and the outcome of his practical knowledge. So peculiar, however, are sites, elevations, climate, soils, protection or no protection, that with the best judgment, there may be failure. "Blessed is he that expecteth little—for he shall never be disappointed."—*X*.

Cornus tatarica Spathii

CORNUS TATARICA SPATHII.

There are numerous species of Cornus or Dogwood in cultivation, but those which most often find their way into private gardens owe their popularity to the red colour of the bark of young twigs or the variegation of the foliage. The flowers are white and generally abundantly produced though they cannot be considered showy, and they are followed by red, white, or black berries, according to the species. C. tatarica is best known in gardens under the name of C. sibirica, but the former is the older, having been used by Miller in his "Gardeners' Dictionary." The red stems are very conspicuous in the winter when leafless. The variety under notice is the best of the broad-leaved variegated sorts, and a glance at the accompanying illustration will show the distribution of the variegation. When young the leaves are clear yellow with a large, irregularly shaped blotch of green along the centre; as they get matured and firm the yellow gives place to silvery-white and is equally attractive as before. All stages of the colouring may be seen upon the bush at the same time. Sometimes nearly all of the leaves on a shoot will be wholly yellow. In all cases the beauty of the bush is so well marked as to make it a useful adjunct to any well-kept garden or shrubbery.

BULBS AND THEIR CULTIVATION IN HOLLAND.

(*Continued from p.* 123.)

When the flowers are cut off, the foliage begins to grow very rapidly, and upon the health and strength of the foliage depends the next year's blooms, and it seems to me that the growers look more to the strength of the foliage than the flowers, perhaps, because upon this growth depends the crop and their living. The bulbs are usually lifted out of the ground at the end of July, when they are carefully cleaned and put upon tiers of shelves in large warehouses which have windows on the sides and at the top to create as great a draught as possible; all are carefully put in rows not more than two layers deep; here they are allowed to remain as long as possible, for if they are packed up too soon they become heated and get mouldy and very often go rotten.

When the harvesting of these bulbs is in full operation, all the inhabitants are more or less engaged in the work, men, women, and children, from early morning till late at night, in cleaning and preparing the various bulbs for market. I should mention that Hyacinths or any other sort of bulbs are rarely grown in the same ground two years in succession; one year the ground is planted with Hyacinths, the next year it is planted with Tulips, Crocus, and Scillas, or other bulbs, and the third year the ground is generally allowed to lie fallow or out of cultivation.

The propagation of the various bulbs is done in various ways, Hyacinths, Tulips, Narciss, etc., may be grown from seed, but as it takes from six to eight or even ten years to bring to maturity, very few growers adopt this, but those who do are well repaid for their trouble, for if they get a choice new variety it will readily fetch from one pound to ten pounds per bulb at the auctions of the present day. Hyacinths are generally increased by scooping or crossing the large or mother bulbs. Crossing a bulb simply means cutting three times at the bottom to form six points; they are then put on shelves to dry until you would think all the nature was dried out of them, but it is then the little bulblets or small bulbs begin to show; the large bulbs are then planted and by next summer each parent bulb has from thirty to fifty small bulbs; these are then carefully taken up, cleaned, dried, and then planted in beds for some three or four or even five years, but are taken up, dried and cleaned each year, being planted further apart as they grow older. The first year the beds contain from fifteen to twenty in a row, the second year nine to thirteen, the third year nine, and the fourth year seven, and so one can easily see the age of the bulbs and those ready for sale.

Scooping is done by scooping out the bottom of the bulb by making a hollow, they are then perfectly dried, which is done by placing them in the sun or in heated houses, when the little bulbs or bulblets seem to form on every layer of scales as the examples here shown; this method will produce a great many more bulbs than the system of crossing, but it takes somewhat longer to bring the bulbs to maturity than by the system of crossing.

Tulips are increased by the little offshoots or little bulbs, each bulb generally produces one or two good flowering bulbs and three to five offshoots, which become flowering or saleable bulbs in two or three years. Crocuses are increased in much the same way as Hyacinths, but instead of forming at the sides like Tulips they form at the base of the old bulb, which seems to die right away; Crocuses increase much more rapidly than Tulips or any other bulbs, hence it is they are so low in price. Gladioli increase like Crocus, but rarely more than two or three from the parent bulb or corm, except at times; they seem to make quite a number of little bulblets or corms which come to maturity in two years. Scillas, Chionodoxa, and other small bulbs are generally produced from seed and will generally form good flowering bulbs in two or three years. Narcissus are increased much as Tulips and other bulbs, but unless carefully cultivated many are of such bad shape or of such poor size as to be quite unsaleable for market purposes. This is a great drawback, as a third or half the stock has to be replanted and grown on again so as to get better shaped larger size bulbs, hence it is that the large selected bulbs are much more expensive, but all large bulbs are really cheaper than the small bulbs for growing, as the small ones will only throw two and sometimes three flowers, whereas the large ones will throw four and five, and large Crocuses will throw as many as twelve or fourteen blooms from each corm, and some of my friends have told me that they have had as many as sixteen and even eighteen flowers from a single corm.

When one sees or hears of the vast amount of labour and the time it takes to bring the Hyacinths and other bulbs to maturity or to be saleable, it is wonderful how they can be sold for the money, but wages are low and poor in comparison to what the skilled mechanic gets in Birmingham, Sheffield, and other towns. The pay of the ordinary labouring bulb grower being only from ten to twelve shillings per week, with a little for overtime in the very busy seasons, and yet although these Dutch people are dressed in rather inexpensive materials, they never look rough or poor. The women usually wear a blue or black material with a white cap, and the men black or blue blouses with a black cap peculiar to the Dutch nation; food and meat are cheap, as also are vegetables in the summer; clothing is also cheap and shoes cheaper, or I should more properly say wooden clogs, for except in the summer, and even then, they are worn by many men, women, and children, and they make quite a clatter as they go along the roads, which are usually paved with small bricks placed edgeways; these clogs may be bought from eightpence to one shilling and threepence per pair and will usually last several months.

But I may tell my friends that the eight hours a day work is not known in the bulb districts, for the men begin in the busy season at five or six o'clock in the morning and go on till seven or eight in the evening, or even much later when the harvesting and packing up of their bulbs begins. And I may perhaps be allowed to say, that although I am not an advocate of these very long hours, I think the agitation for such short hours, will, if carried too far, be England's downfall; she is already being cut out of some of the markets in the world, and if foreigners will work so many hours at a much less remuneration, England must do something to hold her own; our forefathers did not become the greatest nation in the world on the eight hours' movement, neither has any man or woman who has risen from the ranks to a high position to-day, done so by working short hours, those who have been successful in life have worked hard and long hours, and very often under adverse circumstances; the new system seems to me to keep all workman down to one level, rather than encourage them to rise or improve their position; it therefore behoves us all not to carry this agitation to too great an extent if we are to maintain England's greatness.

(*To be continued.*)

WREATH MAKING.

Most gardeners have more or less to do with the making of these beautiful tributes of respect and sympathy, the giving of which is such a common occurrence everywhere. The trade in them has greatly increased of late, and the quality of the article sold has considerably improved. A few years ago wiring was never thought of, and even now there are many who adhere to the old-fashioned way of laying and wrapping. It is to these whom I would like to say a few words. Having decided that you will give the practice of wiring each flower a trial, proceed as follows:—First of all procure an assistant. It is very trying to have to keep laying your work down to wire and wrap your flowers. A couple of clean newspapers spread out are as good as anything to work upon, unless a place built for the purpose is part of the establishment.

Next proceed to cut the flowers and Fern that you consider to be most suitable for your purpose. A good plan is to place cut fronds of Adiantum in water for two or three hours previous to using them. This makes them far more durable than when they are used directly they are cut off the plant. The foundation for the wreath should be made of wire, and it must be covered evenly over with fresh moss. Take care to bind the moss on firmly so as to insure a good hold for the wires. As to the wiring of the flowers, the method of performing this should be governed by the kind of flowers employed. Roses, for instance, should have their own stalk removed, and a stout wire passed through the heart of the flower; no wrapping will be necessary in a well-formed Rose. Stephanotis should have a wire with a small hook at the end passed through each flower separately, and the stalk afterwards wrapped round with a small piece of cotton wool, to prevent cutting. Practice will, however, very soon show what each individual flower requires to make it look well.

A layer of something slightly stiffer than are the fronds of Adiantum should be used as a ground work, and upon this the flowers and pieces of Fern fronds may be tastefully arranged. The wires holding these should be passed through the foundation and the points twisted and turned back into the moss underneath for security. Pieces of Stephanotis, Tuberoses, or double Hyacinths slightly raised above the level of the larger flowers present a light and graceful appearance, and shapely pieces of Asparagus tenuissimus inserted at regular intervals will add a finishing touch to the whole. In most cases the gardener has to make the wreath of the best flowers he has, so its quality will, in a great measure, depend upon what flowers are in season at the time. Many wreaths are, in my opinion, much too heavy. Lightness and firmness are the two main points to be noted.

The size of the wreath, will of course largely depend upon the purpose for which it is to be used. But for an ordinary wreath of from twelve to sixteen inches across, flowers of Richardias, Lilium auratum, L. lancifolium, etc., are much too large. Firmness in wiring and fixing, is a most important consideration, while each flower should stand clearly out from those around it. To do this the wires should be bent into the particular position which shows the flowers they hold to the best advantage.

A few of the flowers most suitable for ordinary wreath-making are Gardenias, Freesia refracta alba, Roses Niphetos, The Bride, The Queen, Devoniensis and Marie Van Houtte; Lapageria alba, Tuberoses, Deutzia gracilis, Chrysanthemums Elaine, Mdle. Lacroix, Lily of the Valley, etc. Besides these there are very many other flowers eminently suitable for the purpose.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

VINE DISEASE IN KASHMIR.

The following note, taken from a memorandum by Mr. W. R. Lawrence, Settlement Officer, Kashmir State, is published by the Indian Government as one of their Agricultural Ledger Series:—

In 1889, Mr. Lawrence was desired to assist the Darbár by superintending the State vineyards. It was then generally believed that the decay of the vines was due to lax management, and it had not been suggested that the real cause of the evil was phylloxera. At the beginning of 1890, Monsieur Peychaud, who had been given charge of the vineyards as well as the wine factory, reported that he had described the symptoms, and had sent specimens of the rootlets of deceased vines to his father, who is a vine-grower in the Bordeaux district, and that he, after consulting other experts, had pronounced the disease to be phylloxera. Inasmuch as the vines were originally imported from the Bordeaux country, it appeared *prima facie* possible that, just as Bordeaux had suffered from phylloxera, so the vines imported from Bordeaux might have brought the disease with them.

To meet the ravages caused by phylloxera in France, vine-growers imported a strong, healthy stock from America, which is able to resist the disease. At the end of 1890, by the assistance of the Government of India, a large number of rooted American vines and cuttings were received, and were taken charge of by Signor Benvenute, the trained vine-grower, who joined the service of the Kashmir State at the end of 1890. One vineyard, the Jhid vineyard, which was destroyed by phylloxera, has been replanted with American vines, and they look extremely strong and well, and in the next planting season, the Chashma Shahi vineyard will be replanted with American stock. Of the various kinds imported, the Riparia has been the most successful. Had any doubts as to the disease being phylloxera existed, they would have been removed by the fact that, in the spring of 1891, Signor Bassi and Signor Benvenute, both of whom hold certificates of proficiency in vine culture, often demonstrated on the phylloxera insect on the roots of the old vines.

As regards Dr. Watts' suggestion that the Indian wild vine may prove an efficient substitute for the American vine, the experiment is being tried, and a large number of wild vines have been budded with French vines. It is too early yet to say whether the wild vine will be able to throw off the phylloxera in the same way as the American stock throws it off. So far the experiment has not succeeded, for 900 wild vines budded with French vines died this year (1892) from phylloxera.—*Society of Arts Journal.*

THE CULTIVATION OF DENDROBES.*

When commencing the cultivation of any class of plants, it is best, if possible, always to ascertain their origin and introduction to this country, as by so doing and studying the conditions of growth which obtain in their native habitat, though we may not all become experts in their cultivation, yet we cannot fail to receive material assistance. To begin with, we will for this reason take a glimpse at the countries in which Dendrobes are found naturally. But as they cover such a wide area it will be evident that the climate of each district cannot be alike, nor the conditions under which the plants subsist be the same. Their most northern limit is said to be Dhera Dhoon, which we find from the map to be about 300 miles north of Delhi in North Hindustan. Here amoenum is found growing on the hills, where in winter the temperature falls occasionally as low as freezing point. From this northern limit they are found growing to the eastward through India, China, and parts of Japan, extending in a southerly direction through Australia to New Zealand. Generally speaking then, the Denbrobe covers a range of country extending from north to south of over 5000 miles, and about the same distance from east to west. The majority, however, of the varieties cultivated in this country are found within the tropics, where there is a very high average temperature, and the atmosphere is for the greater part of the year so saturated with moisture as to present a constant vapour. Nor is this all, for though the sun is so powerful in some districts that the temperature rises to 110° F. or more in the shade, yet the days are short. Even in the height of summer there are only fourteen hours of daylight, so that during the ten hours of darkness the plants may recoup themselves somewhat if exhausted by the intense heat of the daytime. Though the temperature is so high, scarcely a day passes without some rain falling, in some places to an extent equal to the whole rainfall of our summer months. Here, then, is some guidance for the cultivator. But each species must be studied separately, no two being exactly alike. Having given a rough outline of the native home of the Dendrobe, and an idea of the climate, let us now turn to

Their Introduction to Britain.

It is well for all lovers of Orchids that we live in more peaceful days than those of our forefathers, and that a more humane and generous class guides the helm of this mighty Empire. If it were not so, I fear there would be but few of these charming plants adorning our homes, and that those of limited means would never possess them. Had the duty on glass even to a small extent been retained, the noble ranges, the miles of glass houses that we see at the present day would have been non-existent. Thanks are due also to the use of steam and hot water, which have played no small part in bringing to our shores these gems of far-off lands and in their preservation from the vicissitudes of our climate. We, who are of a progressive turn of mind, are more than thankful that these great boons were conferred before our time, so that we could start without hindrance in this respect. Though Dendrobes were known to science for some time previous to their introduction, it was not till the commencement of the present century that a real attempt was made to cultivate them in this country. The genus was founded by Ploff Swartz, a Swedish botanist, about 1800. It then comprised but nine species; now more than 300 are cultivated under glass, besides others known to science.

One of the first species we hear of being brought to this country is D. lingueforme; this was found in N.S. Wales, and was imported in 1810. Slow progress only was made with the importation of these plants for some years, only odd ones reaching this country alive. About 1836, however, an attempt was made in real earnest, as several private gentlemen sent out collectors, and the various nursery establishments then springing into existence were induced to make every effort to supply the ever-increasing demand for these rarities in order to have new plants to offer, and from that time to the present new species have arrived, one of the latest being D. Phalaenopsis Schroderianum, which was found in New Guinea a few years ago.

The Evergreen Section.

That the cultivator may the more easily master the cultural details of this vast genus, we will divide them into groups. First, those having persistent foliage, that is which retain their leaves for several years and flower from the same growths for two or more years in succession. This group we will subdivide into two, taking first such as densiflorum, Farmeri, thyrsiflorum, chrysotoxum, suavissimum, etc. These succeed best when grown in pots, for they should never even when at rest be allowed to become dry at the roots. Good fibrous peat intermixed with clean crocks is all that is needed to grow them in. It seems to me to be a mistake to mix sphagnum moss with the potting material, as it so soon becomes sour when decayed, so that unless watering is done carefully when the plants are at rest the roots soon rot. With attention this is by far the easiest section to cultivate, as they are not so apt to go wrong in winter through being overwatered. They must not, however, be subjected to a low temperate even when dormant, or they will rot off at the base of their growth. From 50° to 55° F. during the winter months suits them admirably. When the flower buds are swelling they should have an increase 5° to 10° according to the weather. They should be kept shaded from the sun and in a rather dry atmosphere.

After flowering they should be placed in a warm house to make their growth, which, if the temperature be suitable, they will do in about two months, so that if they begin early in June they will complete the growth by the end of July. During this period water should be given liberally, so that there may be no check, for if this should occur, the leaves, from four to six in number, which are formed on the top of the growths, will be imperfect, in which case the flower spike, if formed at all, will not be well developed. Shade will be very necessary at this stage, as the bright sun shining on the young leaves would cause them to become spotted. When growth is complete and the foliage has become firm, the plant may be gradually hardened off, so as withstand the sunlight. This will be towards the end of September.

The other portion of this group consists of such species as Jenkinsii, aggregatum, and Kingianum. The first-named is one of the smallest of the cultivated species, its growth not exceeding 1 in. in height. These succeed best when grown on blocks of wood and kept near to the roof. They must not be allowed to get parched at the roots, which they will soon do if not well attended to. They must also not be subjected to a low temperature in winter.

Our next group will include such species as fimbriatum, f. oculatum, Dalhousianum, moschatum, Gibsoni, &c. These for the most part make strong terete stems from 3 ft. to 8 ft. or more in length. Their leaves are not so stout as the former, and are produced on the whole length of the growth. Though flowering on pendulous racemes they are not produced from the tops of the growths, but from the various nodes at intervals. They also flower from the same pseudo-bulbs for several years successively so long as any life remains in them. These plants being evergreen require careful treatment in winter. fimbriatum when well grown is one of the best of this class. The photograph represents a plant grown by me, which will show its habit. We have had them make growths 10 ft. in length, from which thousands of flowers have been produced, as will be seen from the photo. This species is wrongly described in most works on Orchids, doubtless from imperfect knowledge, few people having seen a well-grown plant. With me it is the most beautiful of all that section. The flowers, which are of a bright orange-yellow, are about 2 in. across. The lip having a dark maroon blotch at its base is beautifully fimbriated, somewhat similar to Brymerianum, but shorter. We have had plants of this species nearly two years in making their growth; from this it is evident that they should neither be allowed to become dry at the roots, nor be subjected to a low winter temperature. This then should be borne in mind by the cultivator. There is also another thing to be taken into account if the plants are to do well. With us the growths are trained to wires a few inches from the roof glass of the house while growing. They are shaded from the bright sun, but in that position get plenty of light. The great drawback to this section is that the flowers last so short a time in perfection, from six to ten days being the utmost. They are best grown in pots in peat, as recommended for the former group.

The Terete-stemmed Species.

We will next take those with slender terete stems, as for instance, Devonianum, Pierardi, primulinum, secundum, &c. Though not a large group, it includes some lovely species, which when well grown are most interesting. They are best grown in baskets suspended from the roof, but will grow in pots equally well. Peat and crocks only should be used in potting. When grown in this manner their growths should be staked in an upright position in order that they may be thoroughly ripened, for if this be properly accomplished fascicles of flowers will be produced from each node the whole length of the pseudo-bulb. When the flower buds are formed the growths should be let loose, as they are much more graceful when hanging down.

There are some kinds that make long growths, such as chrysanthum, Wardianum, crassinode, &c. These differ somewhat from the former, particularly the first-named, its flowers being produced on the current year's growth, which are from 3 ft. to 7 ft. long. The photograph here shown represents a plant 12 ft. in diameter grown by me, and carrying between four or five thousand flowers. The long stems are clothed with leaves of very delicate texture, and on that account need great care, as thrip is very troublesome to them, and is very difficult to eradicate if it gains a hold. The sun is apt to scorch them also, so that they must be carefully watched. This species was first brought to England by Dr. Waneck (from the hot valleys of the Himalayan zone) to whom we are indebted for several other species also. It has now gone almost out of cultivation, no doubt because other species of less size have taken its place. When in bloom it is one of the handsomest of the late flowering section, and when well grown presents a sight not easily forgotten. The flowers, though not individually large, are produced in great profusion along those stems which have just completed their growth. I have counted as many as eighty-five on one stem, sometimes five at one fascicle. They are of a bright orange colour, with two deep maroon spots on the lip, and are of such substance as to present a wax-like appearance.

As growth commences shortly after flowering the plants should be taken to the stove for winter, where they will have made considerable progress by spring. Crassinode is a beautiful species well worthy of a place in every collection. Those who saw the piece exhibited by me at the spring show will no doubt remember its character. The flowers of this species will remain fresh for six or eight weeks. Wardianum is so elegant a species that no collection is complete without it. The large bold flowers are so striking that one is at once charmed with them, and though it is a rather more difficult species to grow than some others, yet it may be successfully cultivated if care be taken to shield the plants from the direct rays of the sun during their time of growth. The colouring of the flowers is variable, but the petals are always more or less tipped with purple. The lip is golden-yellow with two maroon blotches at its base. They will grow in either pots or baskets, but care must be taken to ripen the growth properly or they will not flower profusely.

Another, and perhaps the most difficult group to cultivate under glass, consists of such species as formosum, f. giganteum, cruentum, draconis, Jamesianum, etc. The latter seems to be the most tractable under cultivation, as it will succeed in a lower temperature. The flowers of these are produced on the tops of the growths as soon as the latter are completed, and for the most part are very beautiful. We have still another group which requires careful attention, and in this we will include aureum, moniliforme, Findlayanum, luteolum, etc. The first mentioned is a beautiful species, making growths nearly a foot long clothed with leaves to near their base. The flowers are produced in fascicles during the winter months, and are pale yellow in colour, and delightfully fragrant. Moniliformia is also a delicate plant requiring special care. It is something similar to the nobile type, but not so robust. These plants succeed best when grown near the roof, but should be kept shaded from the sun.

(*To be continued*).

* A paper read by Mr. H. C. Prinsep, Buxted Park, at the last meeting of the Brighton Gardeners' Improvement Society.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

BORDER CARNATIONS.

AUTUMN v. SPRING PLANTING.

This is a question that I have no hesitation in answering, as after fairly testing the merits of both in all sorts and conditions of seasons, I most decidedly prefer autumn as being the best time to plant border Carnations; the first half of September (weather permitting), and the layers well rooted, which they ought to be then if layered in good time. If planted at that time in any good garden soil, they will before winter sets in have a good hold of the ground, and will be quite able to stand the test of a very severe winter. I grow considerably over 1,000 plants in something like 100 of the leading varieties, including yellow grounds. I also plant the majority of our show Carnations and Picotees at the same time, and find them to do equally as well as the border variety. The losses are few and can be set down as being weak and badly rooted when planted; these of course are made good in spring with plants that have been in cold frames all winter, and can easily be singled out as the season advances as weaklings compared to those planted in September.

Anyone who has not tried this system I would advise to do so, not this season certainly as it is now too late, but keep it in mind next year; layer early and get your plants well rooted in time, as I believe more failures result through putting out badly rooted plants, than through those causes mentioned by "G" at p. 101. If the soil is inclined to be wet, I find a good plan is to raise the beds by throwing up the alleys to the depth of 9 in. between the beds, which is proof against almost anything short of a flood.

The Carnation is one of the hardiest subjects we have, and why it should be propagated in the open ground and when rooted stored away under glass, is a question that wants more ventilation. To pot the plants in small sixties as suggested by "G." takes time; to winter the large quantities that some of us have to grow takes room, both at a discount with most of us, and above all to keep a strong Carnation layer in a small sixty from October to March without unduly starving it is next to impossible; the roots have no room to ramble, and as a consequence the energy of the plant spends itself in a premature flower spike. Where it is impossible to plant in the Autumn owing to circumstance that we can't sometimes control, instead of putting the layers in pots, it is much better to plant them, or lay them in a cold frame, where they will root freely, and lift with fine balls of fibrous roots in spring. Keep them as near the glass as possible, and giving abundance of air on all favourable occasions. The slight check they then receive, is hardly felt by the plants, provided a good watering is given, and dull weather chosen for the operation.

I am well aware that many varieties are poor growers, plant them while you may; some of these we can easily afford to dispense with altogether, as it is no use fighting away with plants that will neither die nor live; the great point is to get a strong well-rooted plant to start with, when this is possible there is no difficulty in succeeding whether yellow grounds or not, in fact I find many of our choicest yellow self Carnations, and yellow ground Picotees, if properly rooted when planted, stand the winter much better than many of the pink rose or scarlet selfs. Germania I grow in large quantities and have no hesitation in saying that it is the best yellow self in cultivation, and, while doing well in the open, I also grow it in quantity in pots; three strong layers in a 7 inch pot I find to answer well; I also pot a dozen or two of the choicest varieties. I treat them in the same way, getting them into flower earlier, and at the same time, I can with safety rely on getting a few pods of good seed which I sow as soon as gathered; by doing this the strongest of them will flower the following autumn, if well cared for. I have in flower at the present time some promising things from last season's crop. Most of the named varieties are nearly past, yet a few such as Duchess of Fife, Countess of Paris, Albert Whale, Fireball, Florence, Hotspur, Ketton Rose, Lady Agnes, Miss Abercrombey, Countess of Jersey, Romulus, Ruby Queen of Bedders. Mrs. R. Hole, Victory, Rose Unique, Stadtrath Bail, Border Maid, Border Lass, etc., are still very fine, Queen of Bedders, especially being very fine.

This was one of the first to open, and will I think be the last to say farewell. It is undoubtedly one of the very best border Carnations grown, being very dwarf in habit, and generally one mass of bloom; a good grower. And the colour, which is a salmon rose, is generally a great favourite with ladies; it is not a burster, and can be cut with good long stalks which is a great point in its favour. The above varieties form a nice collection in themselves, and certainly quite won my favour at once, when I saw them growing in Mr. Forbes Nurseries at Hawick, who I may mention in passing informed me that he plants all his extensive collection in autumn, and always with the best results. When our brethren in the north have found success attend their labours by planting in autumn, where the climatic conditions, are generally more trying than in the balmy south, I think the most timid may take heart and at least give it a fair trial.—*S.*

WINDOW GARDENING.

To the close observer of life in the suburbs of our great cities, the attempts at gardening made by those people who, from the very force of circumstances, are placed at a great disadvantage are very amusing, and in many cases well nigh pathetic. In the heart of the city, too, surrounded on all sides by smoke and dirt, one often comes across a cherished friend in the window in the shape of a pot of Mignonette or other hardy plant of iron constitution, which, in spite of the incongruity of its surroundings, seems to look genuinely happy. It forcibly illustrates how deeply the passion for flowers is engraved upon the heart of those inhabitants of our towns, who, less favoured than their more fortunate brethren of the country, have really no convenience for the culture of floral favourities. To the holder of villa and suburban gardens, who would like to grow flowers, but cannot, because he doesn't know how, the wide circulation of gardening literature should prove of the utmost service.

The first step is to learn what is suitable, what plants are likely to grow in the neighbourhood. For, while there are plants which thrive, even in smoky districts, it does not follow that all will do so. Indeed, it would be only courting failure to catch hold of the first plant that pleases the eye, and to transplant it to the dull smoky districts of central London, or, in fact, to any other of our great cities. And yet it is quite natural that those who have a nice window in a favourable aspect should wish to render it as attractive as possible. I suppose no plant is so perfectly good-tempered as the old-fashioned scarlet Pelargonium. One may often see in the windows of a cottage belonging to some old woman, Pelargoniums bearing trusses of flower that put to the blush many of those grown in more favourable situations. It is very suitable either for growing in pots or for planting out in the window boxes.

Amongst foliage plants for growing in pots, Ficus elastica, popularly known as the India-rubber plant, is most frequently met with. It puts up with the smoke very well indeed, but wants a bit of care and attention to keep it safely through the winter. Many nurserymen in the vicinity of London annually sell thousands of this plant for the purpose of adorning the windows of villas and flats, where its glossy, leathery-like foliage is held high in estimation. Fatsia japonica, syn. Aralia Sieboldii, may also be classed as a fairly good smoke-resisting subject, as is also Aspidistra lurida variegata. Both these last-named, however, require a warmer temperature to carry them through the winter than usually obtains in the windows of a dwelling-house during frosty weather. They must, therefore, be granted a position in the centre of the room during the prevalence of frosts or cold winds.

Mention has already been made of Mignonette. This is notoriously easy to grow. Pots of two or three kinds of Rhodanthe look very pretty and are not difficult to look after. Amongst Ferns, some of the numerous crested and tasselled varieties of Scolopendrium vulgare and Lomaria (Blechnum) spicant are wonderfully pretty and effective. Some, indeed most of them, stand the smoke very well, and they are contented little plants generally. I remember once seeing a fine little specimen of Aspidium falcatum var. caryotideum growing in a pot in a window of a house in Dalston. It seemed perfectly at home and really looked remarkably healthy. I remarked upon its presence at the time, and was told it gave but very little trouble.

For growing in pots or baskets, or for planting in the window boxes, the pretty little Campanulas, C. isophylla and C. i. alba, take a lot of beating. They are not employed nearly so much as they deserve to be. Their graceful drooping habit, and the great profusion with which their pretty blue or white flowers are produced, entitle them to a prominent place in the catalogue of window plants.

Lysimachia nummularia, commonly known as Creeping Jenny, is a well-known British plant. It is of singularly graceful appearance, and wonderfully hardy. Its flowers are freely produced, bright yellow in colour, and from three quarters of an inch to an inch in diameter. This may be planted at the edge the window box and allowed to hang over or to ramble at will.

During the summer considerable use may be made of the dwarfer varieties of Tropaeolum magus. These Tom Thumb Nasturtiums, as they are popularly called, are eminently suitable for the filling of window boxes. Their profusion of brightly coloured flowers will add a splendid touch of colour to even the dingiest brick or stone work, besides which they will grow almost anywhere. They do not require a rich soil and will stand as much drought as anything. One great pity is, however, that they are extremely sensitive to frost. A very few degrees will completely spoil their beauty.

Amongst evergreens, varieties of Cupressus, of Thuja and of Buxus are very serviceable, although I would not advise the too liberal use of these plants, as this would only service to increase the apparent dinginess of the house. The golden-leaved Privet is a bright and serviceable little shrub, as is also its variegated congener; but an occasional use of the pruning knife will be necessary to keep them within bounds.

One of the finest floral displays that I remember ever to have seen, was afforded by the planting of that bright little Calceolaria Golden Gem. An edging of Lobelia speciosa var. completed an effect that was really gorgeous. The blue flowers of the Lobelia afforded a most striking contrast to the yellow of the Calceolarias behind them. I have seen many cases of the splendid contrast of colour afforded by the bringing together in close proximity of blue and yellow, but never one which was so strikingly effective as this I have mentioned.

Another example which is quite good enough to copy, was formed by a tasteful arrangement of the white-flowered Marguerite, and the scented-leaved Pelargonium Lady Plymouth. An appropriate edging was in this case furnished by a number of pink-flowered, ivy-leaved Pelargoniums, which, hanging gracefully down over the edge of the box, looked really splendid. I might go on indefinitely giving examples of tastefully planted and effective window boxes. These, however, will suffice to show what can be done in a small way by the utilisation of even very humble and common subjects to brighten up and enliven the outside of our dwelling houses.

BEGONIA PRESIDENT CARNOT.

A WELL grown specimen of this garden plant is a conspicuous object in the warm conservatory or intermediate house during autumn, winter and spring. It is one of Mr. Crozy's acquisitions and said to be a hybrid between Begonia olbia and B. rubra, but there are differences of opinion, and some consider that B. coccinea is a more likely parent. The latter is generally known in gardens under the name of B. corallina, a name doubtless suggested by the red colour of all parts of the inflorescence including the stalks and the ovaries. The leaves of President Carnot are obliquely cordate-oblong, and pale green margined with red. The flowers are produced in large, pendulous cymes, and when the tall slender stems are trained to the rafters of a house or upon a trellis, the blossom hangs down in such a way as to be most conspicuous and attractive. The petals are of medium size, but they as well as the winged ovaries and foot stalks are rosy carmine and very handsome. The female flowers retain their freshness for a month or more. Young plants may be brought along in pits during summer and taken to an intermediate house during autumn, when they will commence flowering. Old plants may be cut pretty hard back in July and encouraged to grow again; keep them rather dry till they commence to grow again, when they may be repotted if necessary. They will commence flowering again in autumn.

SALSAFY.

This is one of the few vegetables that are seldom seen except in large gardens—the holder of a small garden is able to devote the space at his disposal to better advantage. But to the wealthy owner of gardens where space is not a matter of such paramount importance, and where the relative values of different vegetables have not to be so closely calculated, Salsafy finds considerable favour as an agreeable change from the usual run of winter garden produce. When we take into consideration the comparative scarcity of vegetables during winter —that is to say with regard to variety—and the fact that the demand never really decreases, it becomes a matter of considerable importance to take advantage of a vegetable like this, the flavour of which is so different to that of any of the other winter vegetables of the root class.

The ground intended for the culture of Salsafy should be well manured, trenched in late autumn, and the seed sown in drills, which should be from 12 in. to 14 in. apart, about the end of March or beginning of April. When the young plants have reached a fair size they should be thinned out to 8 in. or 9 in. apart. The after cultivation is extremely simple, and consists chiefly in the keeping of the ground free from weeds, an occasional use of the Dutch hoe being all that is required. The roots will have finished growth and be quite ready for use by the middle of October.

If necessary they may remain in the ground throughout the winter without fear of deterioration. It is always advisable, however, to have a supply on hand, for, during the prevalence of hard frosts, it will be almost impossible to lift them without injury. If a few roots are lifted upon the approach of hard weather and laid in sand or dry soil in the store house they will keep sweet and fresh for a very long long. Indeed it is the regular practice of some cultivators to lift the whole of the crop at the approach of winter and store it. While this practice has very much to recommend it, as a rule the roots keep in rather better condition when left in the ground than they do in the storehouse.—*G.*

GARDENING MISCELLANY.

SEEDLING HOLLYHOCK.

Two grand blooms of a seedling Hollyhock have been sent us by Mr. James Bryson, Nurseryman, 173, Princes Street East, Helensburgh, Scotland. The blooms measured 4 in. across, a fact which will give some idea of their bulky dimensions; they were also semi-globular and so full that the guard petals were almost hidden, but just formed a narrow, surrounding border. This might be considered a defect by some who like to see a well displayed guard, but the size and fulness of the bloom made ample compensation in other respects. The petals were broad, wavy and much interwoven with one another, as is commonly the case with a good double flower, and they were pink, and beautifully netted with light and heavy shades of reddish purple. It argues well for a mild autumn that the flowers were in such excellent condition at this late period of the year. In fact they seemed in good enough trim for exhibition purposes, and in proper season would answer that purpose admirably.

ADIANTUM MACROPHYLLUM ALBO-STRIATUM.

I suppose it is a fact that has been demonstrated over and over again that when a plant departs from the normal green colour of its leaves very rarely indeed is it that its constitution is improved. Variegation being a form of disease it must of course follow that no variegated plant can be as healthy as one whose state of health is normal. This pretty little fern is no exception to the rule. As its name states it is a variety of the well-known Adiantum macrophyllum. The variegated form does not, however, possess the splendidly robust constitution and free growing qualities that the type does. On the contrary, it is rather delicate in constitution, and it is very seldom that one sees a really healthy specimen of it, and it is very questionable whether it will ever be extensively cultivated. It requires a stove temperature, but not so much water at the root as the generality of Adiantums need. A compost of two parts good turfy loam and one part good leaf soil with plenty of silver sand should be used, and care should be taken not to pot too firmly. A sharp look-out must be kept for cockroaches, who evince a particular regard for the young fronds, nibbling them off as fast as they appear—a proceeding not calculated to improve the health of the plant.

SALVIA SPLENDENS.

The Salvias hold a prominent position among the list of autumn and winter flowering plants, and among them all none are more worthy of cultivation than S. splendens—perhaps more often met with under the name of S. colorans. If propagated from cuttings taken late in spring or early in summer, and attention paid to potting when required, splendid plants may be obtained by autumn. If not thought advisable to grow them in pots during the summer they may be planted out in the open; where they may stay until the frosty nights render it perilous to leave them longer unprotected. A little care will be necessary when lifting them, the roots should disturbed as little as possible, and the plants should be shaded from direct sunlight for a few days, until they have recovered from the check consequent from lifting and potting. S. splendens attains a height of about 3 ft. The flowers are produced in whorls, bright scarlet in colour, and in contrast with the rich green of the foliage combine to make the plant one of the most showy and useful members of its class.

SALVIA AZUREA GRANDIFLORA.

This is really a prince among greenhouse subjects. Like most of the Salvias it is quite easy to grow. The tall spike-formed inflorescences are crowded with a great number of the bright blue flowers, and present both an imposing and a grateful appearance. Coming into flower in August it remains in condition for some long time after. Indeed at the present some well-flavoured specimens of it may be seen at Kew, in greenhouse number four. S. a. Grandiflora has rather larger flowers, and a denser inflorescence than its type—S. azurea.

MOLOPOSPERMUM CICUTARIUM.

Several of the Umbelifers whose flowers, as a rule, are neither particularly interesting nor showy, have large and much divided leaves, which present a handsome appearance, particularly when grown under favourable conditions, so that they attain their proper development. Such is the case with the plant under notice, and of which an illustration in black and white is given in the *Revue de L'Horticulture Belge* for October. Other names are given to it, such as Ligusticum pelogonense and L. cicutarium. It is a native of the mountains of Southern and Central Europe, from whence it was introduced to this country in 1596. Notwithstanding this, it is comparatively little known and less cultivated at the present day. The leaves are very large and much divided with linear or lanceolate segments, and the flower stems rise to a height of 4 ft. to 5 ft., producing their pale yellow flowers in May, June, and July. It should be grown in an isolated position to show off its beauty to advantage, and when making its growth will derive much advantage from being watered with liquid manure. Many a rough bank could be adorned with this plant, and the wild garden would constitute an excellent home for it. The soil should be rich and friable if good results are expected, but it is not at all particular.

RICINUS ZANZIBARENSIS.

The above name has been given to a new variety of Castor Oil Plant, put into commerce from Continental sources last spring. For sub-tropical gardening it will prove very useful on account of its great vigour and the enormous size of the rich green leaves. Planted out in the heavy clay soil of Inglenook, Bellaggio, it has attained the height of 3 ft. to 8 ft., but under more favourable conditions there seems no reason why it might not grow taller, and if isolated on an undergrowth of dwarfer plants would show its characteristic appearance by developing side branches, thereby making a handsome bush with a decidedly tropical appearance As it is the plants we noted recently had strongly ribbed wrinkled leaves of a dark almost metallic-olive-green, and measuring 2 ft. to 2 ft. 9 in. in diameter. The owner, J. C. Stogdon, Esq., is to be complimented on his diligence in acquiring new plants and making fresh acquaintances.

APPLE—MERE DE MENAGE.

Whilst many Apples have been a failure this year, Mère de Ménage has done remarkably well, and heavy crops of fine fruit have been gathered. A first-class culinary Apple, it often attains an enormous size, added to which it is a first-rate keeper. The fruit is highly coloured and often prominently ribbed. Being such a consistently good bearer, and of robust and hardy constitution, it is specially suitable for planting in cottage gardens, in many of which it is deservedly held in high esteem. Combermere Apple and Flanders Pippin are other names under which it is often met with.

LIFTING BEET.

Although this is an extremely simple operation, a little care is needed when performing it or the roots will be damaged. The leaves must not be trimmed off too closely to the crown, or bleeding will result. An inexperienced hand is very liable to make a mistake in this direction, and on that account some gardeners will not allow a knife to be used. A safer way, but hardly such an expeditious one, is to twist the leaves off by hand. In lifting the fork should be inserted at a sufficient distance from the plant, for if the tap root is broken the root is completely spoiled for table.—*A.*

SOCIETIES.

Royal Horticultural, *Oct. 23rd.*—Fruit and vegetables, but particularly the former, coustituted the stronger features of the meeting on Tuesday last. Chrysanthemums were, however, strongly in evidence, and Orchids were also strongly represented for this season of the year. A group of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans, a prominent feature in which were the well-flowered specimens of Dendrobium Phalaenopsis Schroderianum and the varieties of Cattleya labiata. Pescatorea Dayana was both curious and beautiful, and Cattleya O'Brieniana and Odontoglossum Wattianum superbum were both very beautiful (Silver Banksian Medal). A little group of Orchids set up by Messrs. B. S. Williams & Son, Upper Holloway, included Dendrobium album, D. Goldiei, D. superbiens, and Laelia Perrinii nivea. A good sized group of Cattleya labiata in great variety was exhibited by Messrs. Hugh Low & Co., Clapton The numerous specimens of Miltonia Roezlii and M. R. alba and Phalaenopsis Portei were also well flowered and conspicuous, and Vanda caerulea was intensely coloured (Silver Banksian Medal). A mixed group of Orchids was exhibited by Messrs. W. L. Lewis & Co., Southgate. Noteworthy kinds were Catasetum Bungerothii, Oncidium Forbesii, Miltonia Morrelliana, Laelia Pinellii, Odontoglossum madrense, and the varieties of Cattleya labiata. They were set up with Palms and Ferns (Silver Banksian Medal). A showy and interesting group of Orchids was shown by R. I. Measures, Esq. (gardener, Mr. Hy. Chapman), Cambridge Lodge, Camberwell, to whom a Cultural Commendation was awarded for a huge and well-flowered plant of Oncidium ornithorhynchum album. He also had well-flowered pieces of Cypripedium Arthurianum, C. Mrs. C. Canham, C. Bellona, Pleurothallis plumosus, and Odontoglossum Insleayi splendens. They were set up with Palms and Ferns (Silver Banksian Medal). A large group of Orchids, consisting for the most part of varieties of Cattleya labiata was staged by J. Gurney Fowler, Esq., Woodford. Amongst others was a finely-flowered piece of Cattleya Bowringiana, some pieces of Vanda caerulea, and numerous pieces of Calanthe vestita (Silver Flora Medal). Laelio-Cattleya Pallas, Cattleya Wendlandiana, and C. Clonia, all very showy hybrids, were exhibited by Messrs. J. Veitch & Sons, Chelsea. Odontoglossum grande with huge flowers, also Pleione Reichenbackiana, Brassia Lawrenceana, and other Orchids were exhibited by J. Foster Alcock, Esq., North Church, Berkhamstead, Herts. Odontoglossum aspersum fulvidum was staged by Walter Cobb, Esq., Tunbridge Wells. Cattleya labiata Young's var. and Cypripedium Hermione were set up by R. Young, Esq., (gardener, Mr. Poyntz), Sefton Park, Liverpool. Miltonia Leopoldiana was shown by M. Jules Hye-Leysen, 8, le Coupure, Ghent, who also had a fine piece of Cypripedium Albertianum hybridum. A very tall piece of Cattleya Alexandra was shown by C. J.

Lucas, Esq. (gardener, Mr. C. Duncan), Warnham Court, Horsham. Cattleya aurea splendens, C. gigas autumnalis, and Cypripedium Charlesworthii conchiflorum, and others were staged by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. F. Hardy, Esq. (gardener, Mr. Thos. Stafford), Ashton-on-Mersey, near Manchester, showed the beautiful light-coloured Cypripedium insigne Hardyana. A beautiful collection of dried flowers of Orchids was exhibited by Mr. R. Hinds, gardener to Matthew Wells, Esq., Broomfield, Sale. The flowers of Cattleya aurea, C. Hardyana var., Odontoglossum grande, O. Harryanum, O. Hallii, O. sceptrum, and Oncidium Krameri had retained their colours splendidly; in fact, C. aurea was quite a picture in itself and better than any painting. They had been treated by a new process of drying, arrived at by Mr. Hinds after much experiment and careful, assiduous working (Silver Flora Medal).

The display of fruit and vegetables was of an extensive character, and reached a very high standard of merit. Messrs. J. Veitch & Sons showed a fine group of Chrysanthemums in pots, in which the Japanese varieties figured conspicuously. Well developed and meritorious blooms of Viviand Morel, Wilfred Marshall, Chas. Davis, John Lambert, and Baron Hirsch were shown (Silver Foral Medal). Three dozen of cut blooms of Chrysanthemums were exhibited by Mr. W. J. Godfrey, of Exmouth, Devon, for which a Bronze Medal was awarded. His blooms of M. Chas. Molin, Mme. Ernest Frere, President Borel, and Mrs. E. G. Hill, were in excellent form. A few blooms of his Perpetual Carnations, Reginald Godfrey, and May Godfrey were also noteworthy. Messrs. H. Cannell & Sons, exhibited two dozen cut blooms of Japanese Chrysanthemums, and Mr. Robert Owen, Maidenhead, had a few spikes of Canna blooms in good condition. Mr. Darnell, Devonshire House, Stamford Hill (gardener, Mr. W. Davies), staged a collection of stove foliage plants, Ferns, and cut blooms of Chrysanthemums. This was a tastefully arranged group and received a Bronze Banksian Medal. Messrs. Veitch & Sons exhibited fine trusses of cut blooms of hybrid Rhododendrons of the Javanico-Jasminiflorum section, Princess Frederica, Favourite, Lord Wolseley, and Maidens Blush, being among the best sorts shown. A Silver Flora Medal was awarded to Henry Tate, Esq., Park Hill, Streatham Common (gardener, Mr. W. Howe), for a collection of beautifully grown and well-coloured plants of Dracaenas. Many kinds were represented, and such sorts as D. hybrida, G. Goldieana, D. excelsa, and D. Lindenii were especially fine.

Messrs. John Laing & Sons, Forest Hill, exhibited a magnificent collection of hardy fruit, and small fruit trees worked on the Paradise stock, and carrying heavy crops. The Apples, both dessert and culinary, were of sterling merit, in fact, for size and colour, the best we have seen this season, and than the samples of The Queen, Peasgood's Nonsuch, Beaumann's Red Reinette, Cellini Pippin, Gravenstein, Tower of Glamis, Red Bettingheimer, and King of the Pippins nothing finer could be desired. Only a few dishes of Pears were shown, but they were all of fine quality. A Gold Medal was deservedly awarded for this fine display. Messrs. J. Cheal & Sons, Crawley, exhibited over 100 dishes of Pears and culinary and dessert Apples. Amongst the Pears such sorts as Emile D'Heyst, Marie Louise D'Uccle, Durandeau, General Todleben, and Beurré Clairgeau were of the best, whilst of Apples Ecklinville Seedling, Peasgood's Nonsuch, King of the Pippins, Cox's Pomona, Hawthornden, and Emperor Alexander left nothing to be desired (Silver-gilt Knightian Medal). A Silver-gilt Knightian Medal was also awarded to Messrs. J. Veitch & Sons, for 150 grand dishes of Apples and Pears. Such Apples as Gravenstein, Worcester Pearmain, Peasgood's Nonsuch, Warner's King, and Golden Noble, were all remarkably fine, whilst Pears, like Forelle, Pitmaston Duchess, Beurré Bachelier, and Grosse Calabasse were also very fine samples. Mr. J. Watkins, Pomona Farm, Hereford, received a Silver Banksian Medal for fifty dishes of Pears, amongst which the Louise Bonne of Jersey, Beurré Bosc, Beurré Baltet père, and Doyenné Boussoch were especially worthy of mention.

In a class for three dishes of dessert and four dishes of cooking Apples, C. Lee, Campbell, Esq., Ross; Hereford (gardener, Mr. S. T. Wright), won the first prize. He had good samples of Ribston Pippin and King of the Pippins amongst the dessert, and Peasgood's Nonsuch, Ecklinville Seedling, and Stirling Castle in the culinary sections. Mr. G. Wythes took second place. Mr. T. Osman, Ottershaw Park Gardens, Chertsey, took the first prize for five dishes of dessert Pears with splendid samples of Beurré Clairgeau, Beurré Superfin and Pitmaston Duchess. Mr. Wm. Howe, Park Hill Gardens, Streatham Common, carried off the first prize for six bunches of grapes. Showing good bunches, of Alicante, Gros Maroc and Muscat of Alexandria Mr. T. Osman, Ottershaw Park was second. A silver Banksian Medal was awarded to C. Lee Campbell, Esq., for six splendid bunches of Gros Colmar grapes. The bunches were of good size and the berries large and well ripened.

Vegetables were a grand show and Mr. G. Wythes gardener to the Duke of Northumberland, Syon House, received a Gold Medal for an exceedingly extensive and most meritorious collection. The roots particularly were clean and of good shape, whilst Tomatos also although of no great size were of fine shape and particularly well-coloured. French and Runner Beans, Saladings, Cauliflowers, Brussel's Sprouts, etc., were also well represented.

A Silver Banksian Medal was awarded to Lord Carnarvon, Highclere Castle, Newbury (gardener, Mr. W. Pope) for a very choice collection of potatos. The collection comprised a great number of the best varieties grown, and the tubers were of medium size, and good shape, and were cleanly grown. H. H. Gibbs, Esq., Aldenham Park, Elstree (gardener, Mr. E. Beckett), exhibited large and good samples of twelve distinct varieties of Celery, for which a Silver Banksian Medal was awarded, whilst the Rev. — Terrace, Woburn Park, Weybridge, also received a Bronze Banksian Medal for a nice little collection of vegetables.

QUESTIONS AND ANSWERS.

GRUBS DESTROYING LAWN.—*W. H. W.*: The grubs you send are those of the Garden Chafer or Bracken Clock (Phyllopertha horticola), otherwise they are young specimens of the Cock chafer or May Bug (Melontha vulgaris). Encourage rooks and starlings. You might hang up boxes in the neighbouring trees for the latter to build their nests in. You might also apply a dressing of nitrate of soda and soot at the rate of two hundredweight of the former to thirty bushels of the latter per acre. This might be done in April, again in July during showery weather, if possible, and again in September. A good dressing of gas lime would destroy the grubs, but it would also kill the grass. During May, June and July, you should find the beetles more or less plentiful upon the neighbouring trees and bushes. A cloth may be spread under the trees or bushes on dull days, or in the early morning when the beetles are sluggish. Shake them down and destroy them before they have time to get away; by this means you will greatly lessen their numbers. In very bad cases you might lift a portion of the turf or all of it during December or thereabouts; then dig over the soil, breaking it up fine and make it level. By this means you may collect a large number of grubs, destroying others with the spade. Fowls may be encouraged to follow the men at work. Relay the turf and give the above-mentioned dressing at the times stated.

TRANSPLANTING PYRETHRUMS AND GAILARDIAS.—*Omega*: If you find the soil in sufficiently dry and workable condition, the month of October is a better time to plant the above and a large proportion of herbaceous subjects than in spring. They have under those conditions a chance of getting firmly established in the soil before the drought of summer sets in. Trench the ground or dig it deeply and manure it with old hot-bed dung or leaf soil, preferably the former if you have got it. If the Pyrethrums are very small plants you had better perhaps keep them in pots in a cold frame till March, as the slugs are very fond of the leaves, and sometimes eat them all up in the case of small plants. If your soil is at all poor a mulching of old hot-bed manure in April or May will help the plants greatly.

ABIES MAGNIFICA.—*T. Rixon*: All the Silver Firs are now classed under Abies. The species concerning which you make inquiry grows to a height of 200 ft. in North California. Your tree may be healthy but does not seem to be growing so rapidly as it ought. It seems, in fact, to be reaching maturity; but we think that feeding would benefit it greatly and cause growth to proceed again more rapidly. If twenty cones are allowed to mature upon it, which they will do in the course of the coming winter, they will to a certain extent tax the energies of the tree. We would remove half or more of them according to the value you set upon the cones. The tree would have benefited by their removal last spring. They will not kill nor render the tree unhealthy, but merely retard its growth. We should get together some rich soil, such as that from beneath the potting benches, also old garden refuse, rotted weeds, vegetables, leaf soil, etc., then mix them together, and spread over the roots for some distance around the tree to the depth of 6 in. or 9 in. You could lift the turf and then replace it above the fresh material if necessary.

FRUITS TO NAME.—*J. R. M.*: Next week.

MUSHROOMS.—*Aberdeenshire*: "Mnshrooms for the Million," by J. Wright (171, Fleet Street, E.C.), price 1s.

COMMUNICATIONS RECEIVED.—J. W.—L. & M.—O.—M. C.—J. G. P.—C. W. S.—W. E. B.—R. D.—W. J. G.

TRADE CATALOGUES RECEIVED.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham.—Roses, Clematis, Climbing plants, Florists Flowers, &c.

W. P. LAIRD AND SINCLAIR, 73, Nethergate, Dundee.—Forest and Ornamental trees, Fruit trees, &c.

K. HOPKINS, Mere Cottage, Knutsford.—Price list of Herbaceous Plants, etc.

JAMES VICK'S SONS, Rochester, N.Y., U.S.A.—List of Novelties.

THOMAS W. EDMUNDS, Westerham, Kent.—General Nursery Stock.

HERB & WULLE, Naples, Italy.—Novelties in Seeds for 1895.

THE EARLSWOOD NURSERIES, LIMITED, Redhill.—Chrysanthemums.

P. LAMBERT TRIER, RHEINPROVINZ, Germany.—Catalogue of Roses.

LONDON SEED TRADE.

October 23rd, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report Red Clover firm and Alsike dearer, owing to an increased demand. White Clover steady. Ryegrasses neglected. Winter Tares and Rye unchanged.

COVENT GARDEN MARKET.

October 24th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	7 0	Peaches & Nectarines, per doz.	2 0	10 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples.		
Coh Nuts and Filberts, per 100 lbs.	22 6	24 0	—St. Michael's, each	2 6	6 0
Grapes, per lb.	0 6	1 6	Plums .....half Sieve	0 0	0 0
Melons .....each	1 0	2 0	Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 6	1 0	Lettuces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mnshrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumbers .....each	0 4	0 6	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Asters...per doz. pots	4 0	6 0	Foliage Plants, doz.	12 0	60 0
Aspidistra, per doz	18 0	42 0	Heliotrope...per doz.	3 0	6 0
—specimen plants, each	5 0	15 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz	6 0	0 0
Chrysanthemums, per doz.	4 0	15 0	Palms in variety, each	2 6	10 0
Dracaena term., doz.	18 0	36 0	Palms, Specimen ...	15 0	63 0
Dracaena viridis, doz.	9 0	18 0	Pelargoniums, scarlet per doz...	3 0	6 0
Evergreens, in var. doz	6 0	24 0	Primulas, per doz. ...	4 0	6 0
Ferns, invar., per doz.	3 0	8 0	Solanums, per doz. pots	10 0	12 0
Ferns, small, per 100	3 0	6 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0	Maidenhair Fern, 12 bs.	4 0	6 0
Asters, English, doz. hchs.	3 0	6 0	Marguerites, 12 bun.	1 6	3 0
Bouvardias, per bun.	0 9	1 0	Mignonette... 12 bun.	1 0	3 0
Carnations...per doz.	1 0	2 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Carnation, doz. hchs.	9 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Chrysanthemums, doz. blooms	2 0	6 0	Pink Roses...per doz.	2 0	4 0
,, doz. bunches	3 0	9 0	Pyrethrum doz. bun.	2 0	4 0
Eucharis ...per doz.	2 6	4 0	Primula, double, bun.	0 6	0 9
Gardenias 12 blooms	2 0	4 0	Roses .....doz. bchs.	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	Roses, yellow, dozen	2 0	4 0
Lilium Harrisii, doz. blooms	6 0	9 0	— Red..... doz. blms.	1 0	1 6
Lilium lancifolium, white.....doz. blms.	2 0	4 0	— Tea ..... per dozen	0 6	2 0
			Scarlet Geraniums, doz. hchs.	4 0	6 0
			Tuberoses, per doz	0 4	0 6

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Exotic Nurseries, CHELTENHAM.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 5th.—Chrysanthemum Shows at Dulwich (2 days), and St. Neot's.
Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.
TUESDAY, Nov. 6th.—Chrysanthemum Shows at the Royal Aquarium (3 days), Leeds, Watford, Truro, Barnstaple, Sevenoaks, Highbury, and Ryde, all 2 days.
Sale of Nursery Stock, at Mr. T. S. Ware's, Tottenham.
WEDNESDAY, Nov. 7th.—Chrysanthemum Shows at Bath, Northampton, Dalston, Liverpool, Bournemouth, Doncaster, and Wolverhampton, all 2 days, and Bromley, Market Harborough, Newbury, Torquay, Evesham, Ealing, and Highbridge.
THURSDAY, Nov. 8th.—Chrysanthemum Shows at Westerham, Romford, Cirencester, Stirling, and Streatham, all 2 days; and Buddleigh Salterton, Chichester, Tenby, and Caterham.
FRIDAY, Nov. 9th.—Chrysanthemum Shows at Balham, Nottingham, Wellingborough, and Leicester, all 2 days, and Reigate, Hitchin, Dalkey, and Exeter.
Orchid Sale at Protheroe & Morris' Rooms.
SATURDAY, Nov. 10th.—Chrysanthemum Shows at Bacup, Crewe, Derby, Uttley, and Yeovil.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 3rd, 1894.

AUTUMNAL RAINS.—During a droughty period in summer the great need for rain is apparent to all, but in autumn a very small number of the same people realize the necessity for rain at the period when the crops have been harvested and safe under cover. Rain is then looked upon as seasonable, simply because long experience has taught us to expect it. In towns of any size rain is looked upon as a great inconvenience, and snow a greater one by the average townsman; but there are a few cases in which the need for rain is brought home with peculiar force, as at Leicester, where the inhabitants have been scared by a water famine, or, at least, a reduced and inadequate supply to meet the ordinary wants of the community. This, of course, is chiefly due to the massing of human beings together on restricted areas of ground. Modern civilisation requires a large supply of water, which it tends to pollute, and the clearest streams are rendered filthy. The noble rivers have not only to bear the burdens of commerce, but they are polluted and become obnoxious through the filth of manufactories and the sewage that is turned into them. London looks to the Thames above tide and to the Lea to supply it with clean water; Glasgow has become similarly independent since it tapped Loch Katrine for its supplies; and Manchester has been recently rejoicing over the completion of the works which bring it water from the distant lake of Thirlmere. These lakes are, however, dependent upon rain for their supplies, as well as the springs, artesian wells, and the water-bearing strata that supply all these as well as the streams, brooks, and rivers.

When the records have been made up for the year, it will, in all probability, be found that the rainfall for the British Islands in 1894 has not in any way been excessive. There was a considerable rainfall during summer, but considerably less during autumn; in fact, there has been a deficiency in many localities. For instance, until recently there had been no rain at Glasgow for many weeks, and the people at Leicester, as above mentioned, had been put on short supplies owing to the lightness of the rainfall. In London there has been a great lack of sunshine rather than an excess of rain; and a fair amount of bright sunshine would more than have counteracted the influence of the rain. Elsewhere, a short distance out of town, the country has been more favoured in that respect, although the terms "balmy and sunny south," if ever truly applicable, would seem to have lost great part of their significance in 1894, as they did in 1888. Both of these years were preceded by very hot and unusually droughty summers, so that we have two marked cases of the unequal distribution of three great requisites in gardening—namely, light, heat, and moisture.

Turning from general to more particular aspects of the value of autumnal rains, we may glance at its effects upon trees generally—fruit trees in particular. Many gardeners are still under the impression that a dry autumn is more favourable to the ripening of the wood than when rain is frequent and heavy. Those who have the management of Peaches and Vines under glass, but particularly the former, have learnt, from sad experience in the past, of the fallacy of withholding water till the borders were almost dust dry during the ripening of the wood and the fall of the leaf. The results were, that the flower buds dropped in spring without setting fruit, and in some cases even before expansion. We must not forget that such a method of ripening off is artificial and injurious, as trees in the open naturally fare differently. As with Peaches so it must be with Apples, Pears, Plums, and Cherries, which are natives of this and similarly temperate countries. They, as well as all forest trees, are annually subjected to a greater or less heavy rainfall just as they are ripening their wood and shedding their leaves; and who will be so bold as to say this is unnatural, unnecessary, and injurious? The plant food which has been elaborated in the leaves under the influence of air, light, and heat is drafted into the branches and trunk of the tree, there to be stored up or utilised immediately in the extension of the root system. This is cramped and restricted unless the rainfall is sufficient to thoroughly moisten the soil, which had been baked, hardened, and rendered dusty by the drought of summer. Provided the conditions are favourable, trees generally make a considerable amount of root growth during the autumn, and are thereby made more independent of rain in summer, because the root area for collecting the scanty moisture is greater. From this point of view a good autumn rainfall is highly advantageous to all fruit growers.

In the case of dwarf Apple trees on the Paradise and Doucin stocks, and Pears

upon the Quince, the trees are to a great extent independent of an adequate rainfall, because the root system of those stocks is well developed, and runs near the surface while they are mulched, and in some cases watered artificially. It is altogether different with trees on the Crab stock, whose roots search deep and far for the necessary food and moisture. It must not be supposed, however, that rain and sunshine are all that are necessary to produce the best Apples, for there are districts or spots in these islands that are plagued with the former and blessed with the latter to an uncommon extent, yet are by no means famous for their Apples. A proper combination of the two is necessary in conjunction with the geological character of the strata overlain by the cultivated soil. Thus Devon, Hereford, and other central counties noted for their fruit orchards, are upon the red sandstone, while some of the most favoured districts of Kent are upon the chalk. The duration of bright sunshine is always very high at Southampton, the average of ten years being 1,498 hours during the month of September and 1,123 for October. At Bunhill Row, London, there were only 948 hours for September and 605 for October during the same period. Neither of these places is famed for Apples, but those places from whence the good samples come enjoy a much greater amount of sunshine and a heavier rainfall than the London district.

Mr. H. Robb, for the last eighteen months gardener to Major Leith, of Petmathen, Aberdeenshire, has been engaged as gardener to —Dunn, Esq., of Murtle, in the same county.

Lieut.-General Robson Benson, who had seen much service in India, and was formerly manager of the Botanic Gardens at Madras, died at Bath, on the 22nd ult., aged 72.

A Derbyshire Celery Show.—At the Annual Celery Show held at the Ancient Druids' Inn, Cotmanhay, Ilkeston, on the 13th ult., thirty-one pairs of sticks were shown; but while the quality was excellent, the samples did not run so heavy as usual. The weights varied between 7lb. 5oz. and 3lb. 8oz.; but the premier prize and a special went to a pair weighing 7lb. 1oz.

"Malmaison" Margaret Carnations.—We copy the following *verbatim et literatim* from a German circular to hand:—"These Carnations are the imaginably most beautiful, what ever is be cultuvated and you hold for impossible at sight of these charming flowers with hers wonderful splendour of colours, that can be producated from Seeds something still what more excellent!" Any more novelties coming along?

Newcastle Chrysanthemum Show.—The Newcastle Horticultural Society's first Chrysanthemum Show, which, it is hoped, will prove an annual gathering, will be held on November 21st and 22nd, in the Olympia, Northumberland Road. Exhibitors, and particularly those who are late this year, will do well to take note of this addition to the list of coming exhibitions. The secretary is Mr. Jas. J. Gillespie, Junr., Cross House Chambers, Westgate Road, Newcastle-on-Tyne.

Seedsmen at Play.—A grand amateur dramatic performance, to consist of that charming burletta, "The King's Gardener," followed by the late Charles Selby's diverting composition, entitled, "The New Footman," will be given by "Messrs. Daniels Brothers' Dramatic Corps," with songs and orchestral accompaniment, in aid of the Royal National Lifeboat Institution, in the Assembly Room, Agricultural Hall, Norwich, on Thursday, 6th December, 1894.

Messrs. Ed. Webb & Sons' Varieties of Barley.—In the great Malting Barley Competition, held in London last week, there were no less than 204 entries for the Champion Prize, open to the world, and Mr. T. Hayward, of Valley Farm, Sudborne, was declared the winner with a grand sample of Webbs' Golden Grain Barley. The same variety also secured first and second prize medals in class 1, open to the United Kingdom, against 124 competitors. Messrs. Webbs' Barleys also took first prize in class 3; first and third prizes in class 4; first, second, and third prizes in class 5; silver cup in class 6; eleven prize diplomas in class 7; and four silver cups in class 8. Total value of prizes, £101. This is the sixth year the Champion Prize has gone to the credit of Messrs. Webb & Sons.

Death of a Cornish Market Gardener.—Wherever a large business is done in London in market gardening produce from the West, there the name of Mr. Nicholas Jenkin, of Marazion, Cornwall, is known and respected. It is with sincere regret, therefore, we announce his somewhat sudden decease, which took place a few days since. During the whole of his life Mr. Jenkin was devoted to flowers and gardening, doing, as we say, a most extensive trade with Covent Garden salesmen. He was one of the first in the West to speculate in the raising of Potatos, Tomatos, Cucumbers, &c., in glass houses, and he was amply repaid (especially before others followed his example, and competition became severe), for his enterprise and labour.

National Chrysanthemum Society.—At a well attended meeting of the General Committee, held at Anderton's Hotel, on Monday evening, Mr. R. Ballantine presiding, all needful arrangements were made for the carrying out of the great annual exhibition to be held at the Royal Aquarium next week, and which promises to be of an unusually fine character. It was announced that the prize money awarded at the October show had been paid; and on the awards of the Arbitration Committee coming up for confirmation, it was pointed out that a perverted interpretation of the motives which prompted the award of one of the medals had been published by the exhibitor, and in order to leave no loophole for such a case in future it was resolved that it shall be distinctly stated on the show cards for what the medals are awarded. A Schedule Sub-Committee was appointed to draw up the programme for next year, and eighteen new members were elected.

What Next?—Speaking of the artificial colouring of fruits, a Belgian contemporary says that acetate and sulphate of copper have for a long time been employed for colouring plums that are too green; the colour of lemons is "improved" with citronine and naphthol yellow, and the green spots are imitated by means of diamond green, and a pleasing colour is given to strawberries by sprinkling them with sulpho-fuchsine or rhodamine, or sometimes a mixture of rhodamine and azo-red is used. Nothing is easier than to give peaches a beautiful colour. To effect this a mixture of rhodamine, azo-red and citronine is applied by means of a brush and a perforated plate of zinc. Pretty varieties of apples are obtained by means of aniline colours, which attack the flesh as well as the epidermis, and to improve the melon atropeodine or azo-orange is introduced into its interior by means of a tube, a little essence of melon being also added.—*Inventions.*

The Weather in the North of Scotland.—Writing under Monday's date, 29th ult., an Aberdeen correspondent says:—The weather experienced during the past week or two can only be described as wretched. What this means to the poor agriculturists in the uplands of the north of Scotland may be inferred when it is stated that there is a considerable breadth of the grain crops still in the fields. In many cases the crops have been cut for a considerable period; but the weather—sunshine, hail, sleet, and snow alternately—has entirely prevented the securing of even one sheaf. That this state of matters is causing great anxiety to agriculturists can be well understood. The crops are very much bedraggled with rain, and there are instances not a few to be found of the corn sprouting in the sheaf, in some cases as much as two inches of a new plant being visible. Altogether the outlook is dark enough at present, and unless the weather changes for the better soon, great loss must result. To-day has been beautifully fine, following, however, a wild night of wind and heavy rains.

An Essex Right of Way Case.—Judge Paterson and a Jury heard a case at the Braintree County Court, on the 23rd ult., in which William Polley, a seed grower, of Coggeshall, claimed £10 damages from Henry Nunn, a local blacksmith, who has gained considerable reputation by frequently championing public rights in a forcible manner; and in the present instance, believing that a footpath formerly existed across certain fields in the parish, he got up a demonstration and cut a way through a high hedge, erected an iron bridge over a watercourse, and declared the path open to the public for ever. The plaintiff adduced strong evidence to show that no public path ever existed at the place; but the defendant called six old parishioners, who testified that a footpath did exist there in their early days and that they themselves, as well as their fathers before them, had used it. For the past thirty years, however, there had been no path, and all passage was obstructed. The property had changed hands, and notices warning trespassers had been put up. The jury found that a path did formerly exist, and judgment was given for the defendant.

Chionodoxa Bulbs Attacked by Aphis.—At the last meeting of the Scientific Committee, Mr. McLachlan exhibited some bulbs which had a shrivelled appearance. He observed that he had received specimens from two different sources. On examination there proved to be numerous aphides beneath the outer skin of the bulb. It was named A. subterranea, and had not been known before to attack bulbs, though it infests the roots of many plants, to which it does not prove very injurious. The aphis, therefore, had probably got to the bulbs from some other fibrous-rooted plant. He regarded the attacks as being serious, because the aphis was protected by the skin of the bulb from insecticides. He suggested the removal of the skin when the bulb was first lifted, and a thorough examination be made. He thought that perhaps if the ground were treated with bisulphide of carbon it might prove effective. It was also suggested that a trial might be made of putting the bulbs under cover, and submitting them to the fumes of tobacco or where spirits of turpentine could evaporate. Examination should be made to see the bulbs themselves were not injured by the process. Of course, all old skins should be burnt.

Apple, Peasgood's Nonsuch.—At various fruit shows of importance this year the above splendid Apple has appeared to great advantage. Suitable either for culinary or dessert purposes, the large size of the fruits, and their singularly handsome appearance, streaked as they are with red or dark crimson, combine to stamp the variety of first-class quality. It was raised by Mr. Peasgood, of Stamford, and was awarded a first-class certificate by the Fruit Committee of the Royal Horticultural Society on September 18th, 1872.

Royal Gardeners' Orphan Fund.—At the first meeting of the Committee after the recess, held on the 26th ult., Mr. W. Marshall presiding, a cash statement to date was presented by the Honorary Secretary, which was considered highly satisfactory, and it was resolved to at once add £500 to the amount invested in Consols. The special receipts announced were as follows:—J. Bertram, Esq., £5 5s., a thank-offering on his restoration to health after a severe illness; Editor of *The Gardeners' Chronicle*, in small sums, £2 4s.; J. Slater, Esq., £5 5s.; collected at Beddington Flower Show, £2 7s. 6d.; Mr. J. Selway, Dover, £4 10s.; Wakefield Paxton Society, £10; Sandringham Estate Cottage Garden Society, £5; Mr. J. Miles, Southampton, £3; Mr. W. Miller, Underley Hall, £1 17s. 6d.; Bradford Gardeners' Mutual Improvement Society, per Mr. R. Scott, £1 16s.; Mr. T. Turton, Maiden Erleigh, £1; Mr. W. Farr, Isleworth, £1 2s. 8d.; Mr. C. Sutton, Chevening, 11s.; Mr. E. T. Hazelton, Brocklesbury Park, 9s. 6d.; Mr. R. Dean, sale of flowers at the Royal Aquarium, 12s.; Mr. W. G. Head, Crystal Palace, 8s. 7½d.; and Crystal Palace Employés, annual collection, £1 19s. 2d. It was reported that the circumstances of one of the children on the fund having become altered since her election by the marriage of her mother, she was no longer eligible to receive the benefits of the fund. It was decided that there shall be an election at the annual meeting in February next, and that all applications on behalf of the candidates must be made to the Honorary Secretary by the 11th of December. The Committee also learnt with great pleasure that Mr. H. J. Veitch has kindly consented to preside at the next annual summer festival.

CHRYSANTHEMUM NOTES.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the floral committee was held on the 24th ult., when a considerable number of new Chrysanthemums in small exhibits was brought forward. Those which received First-class Certificates are recorded on another page. Several new kinds, including Miss Florence Lunn, Burgess Hill, and Pallanza, the latter a promising golden-yellow variety, were exhibited by Mr. Briscoe-Ironside, Cedar Lodge, Burgess Hill. Mr. W. H. Lees, Trent Park Gardens, Barnet, had Wm. Tricker, and the beautiful sport from it. Messrs. J. R. Pearson & Sons, Chilwell, Notts, had some new varieties, including Sarah Hill. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, exhibited cut flowers of Hairy Wonder, Duchess of York, Alice M. Love—a beautiful, pure white, incurved Japanese sort, but rather small—M. Aug. de Lacvivier, and a group of Ryecroft Glory and E. Rowbottom, both acquisitions for the cut-flower basket. Mr. W. J. Godfrey, Exmouth, Devon, staged large blooms of Miss Ethel Addison, Comtesse de Galbert and Mons. C. Molin. The latter was commended, and others the committee wished to see again. Mons. E. Calvat, Grenoble, France, sent two stands of fine blooms, the best of which were Mrs. H. J. Jones, R. Ballantine, Reine d'Angleterre, and Amiral Avellan. Mr. W. J. Godfrey had also two stands of winter-flowering Carnations, named Miss Mary Godfrey and Reginald Godfrey. Mr. Robert Owen, Castle Hill, Maidenhead, showed seven varieties of Cannas. Mr. W. Wells, Earlswood, Redhill, showed a pea-green Chrysanthemum named Ethel Amsden, a sport from Viviand Morel; he also had new Japanese varieties named Standard, Golden Beauty, and Albini. Messrs. H. Cannell & Sons, Swanley, had a stand of large blooms, including Madame E. Ray, Miss Sturgiss, International, and M. Aug. de Lacvivier; the latter is crimson-red with a yellow edge to the florets, and was commended. Mr. W. Peters, Leatherhead, also showed blooms of Miss Sturgiss. Prefect Robert was shown by Mr. Geo. Stevens, St. John's Nursery, Putney. Mr. E. Beckett, Aldenham House, Elstree, staged some beautiful varieties, including Miss Goschen and Minnie Sireet. Mr. T. L. Turk, Cholmondley Lodge, Highgate, showed fine blooms of Prefect Robert, which were commended.

DEVONHURST, CHISWICK.

Considering the small size of the place, and its suburban situation, a large display of Chrysanthemums is made every year in the garden of E. H. Watts, Esq., Devonhurst, Chiswick. The garden is also opened to the public at a small charge for several days while the Chrysanthemums are at their best, and the proceeds are exclusively devoted to charitable purposes. Our object, however, is simply to make a few notes on the varieties now to be seen. There are 400 plants in three houses, to be arranged presently in such a way that the path will wind in a serpentine fashion through all the three. Some of the earlier blooms have been out for a month, while others are in all stages. Many of the varieties have done well, while others have flowered indifferently, and would seem to be particularly affected with the peculiar and sunless character of the season. The large creamy-white and imposing Primrose League, as well as the favourite and useful Wm. Tricker, have been in bloom for the past three weeks. Viviand Morel, Charles Davis, Florence Davis, and the orange-scarlet Gloire du Rocher have also done well, and show fine flowers in all stages of progress. Wm. Seward is a greater favourite here than John Schrimpton. The crimson-purple flowers of President Borel have a silvery reverse. There is much material in Charles Blick, but it evidently requires more heat than some of them to develop the florets. Violetta, with soft purple flowers, is a good thing in the way of Margot or Etoile de Lyon. Beauty of Exmouth is beautiful though moderate in size, but Puritan is much larger, and white, with the cuter florets pink. W. W. Coles is very difficult to get in good condition, but here the buds are opening beautifully.

The reflexed Japanese Niveous would be difficult to beat in its class for a pure white. The comparatively little known Marchioness B. C. Salvatia is a beautiful white variety, with the florets loosely arranged and twisted in such a way as to give a graceful and charming effect. It is perfectly distinct from Florence Piercy, which is also twisted in a similar but not identical manner. Col. W. B. Smith is a tall grower but flowers well; Lord Brooke is similarly tall, but very late, as it usually is. Thos. Dennis, recently certificated, also grows tall, but produces large purple blooms. Miss Dorothy Shea appears also to be a late variety. Edelweiss, a white Japanese variety, is promising at present. The golden-buff blooms of Madame Darrier belong to the true incurved type, and are very good.

CHELSEA.

Chrysanthemums are more numerous than ever in the nursery of Messrs. J. Veitch & Sons, Chelsea, for the house usually devoted to them is full, and the Amaryllis house largely occupied by them. In the latter house we noted a large number of good kinds that have done well, including Avalanche, Louis Boehmer, Col. W. B. Smith, with buff-yellow flowers, Primrose League, Mrs. C. H. Wheeler, J. Stanborough Dibbens, Madame C. Harman Payne, Miss Dorothy Shea, Wm. Seward, John Schrimpton, and Charles Schrimpton. The latter has crimson more loosely arranged florets than John Schrimpton, and is both good and distinct. From the second crown buds of Charles Davis two bronzy-yellow and two yellow blooms have arisen from the same plant. Other specimens cut down in May are dwarf, and have produced pale bronzy-yellow flowers quite distinct from the rest. Viviand Morel shows an equally striking variation in colour. The first crown bud has given rise to pure white flowers, the second to pale rosy flowers, and those from the terminals are deep rosy-purple; one variety has thus simulated three. La Belle d'Alger is in the style of Madame J. Laing, but the blooms are nearly white tinted with pink. Sherlock Holmes is an American variety with long yellow florets, and promises well. The large buds of Lord Brooke are progressing very satisfactorily. Beautiful and distinct is Silver Cloud, with creamy-white flowers, having a coppery or bronzy centre of peculiar and pleasing aspect. Dr. Masters is a Japanese variety with brilliant crimson flowers. Princess May is a beautiful white one, but it takes a remarkable length of time to develop.

The plants in the Chrysanthemum house are arranged in a broad bank extending the whole length of the structure, and sloping gradually towards the door next the central walk. There is also a narrow side border of them all round the house. Although a number of the flowers are still in the bud stage, the display on the whole is good, and in excellent condition. The blooms of Viviand Morel are of great size, as are those of the incurved Japanese Louise, which opens pink and ultimately changes to a dead ivory-white. It is certainly handsome, and the plants are dwarf. H. Shoesmith is like a straw-coloured Marie Hoste, and very pretty. The last-named may have broader florets, and is in grand trim at present. W. G. Newitt seems a good thing. Madame Cambon, with large and early blooms, is considered an improvement upon Comte de Germiny, being of the same shape and colour. None has been more admired this season than the golden-yellow incurved Japanese variety named Wilfred Marshall.

Mrs. E. G. Hill, Mrs. Falconer Jamieson, and G. C. Schwabe have all done well. Bride of Maidenhead is purer white and more graceful than Avalanche, but otherwise much in the same style. Incurved Japanese varieties are represented in all shades of colour, as the visitor will soon find on examination. Peter Blair, with pale lilac flowers, is an addition to those above named. Mademoiselle Thérèse Ray, as every grower knows, was the best of last year's novelties, for its shining, ivory-white florets are very chaste and charming. The long white florets of Rose Wynne are opening out well, and will form a large bloom when fully expanded. Quite of another style is L'Isere, a Japanese sort, with tubular florets of great length, and white, tipped with yellow. The blooms of James Myers are in the style of W. H. Atkinson, but of crushed Strawberry hue. The semi-globular flowers of George Savage are pure white and slightly bent upon their stalks, so that they face the beholder; they belong to the incurved Japanese type, and are very neat. Mrs. G. B. Darby has rosy-pink blooms and narrow florets. Excelsior grows tall, but produces well-formed and compact deep purple blooms of large size.

Besides the various types belonging to the Japanese section, good varieties of other sections are grown and mixed about amongst the others. Madame Darrier, John Lambert, Alfred Salter, and Robert Cannell all belong to the incurved section, and may be seen in various stages of development. Japanese Anemone varieties have been augmented within the last few years with several large and distinct kinds, such as Sir Walter Raleigh (pink), Queen Elizabeth, John Bunyan, and W. W. Astor, the latter a blush one. The florets of the ray are generally very numerous, and slightly deflexed below the horizontal. One interesting point we might mention is, that sports occur in this as in other collections. A plant of Mademoiselle Lacroix bears two blooms of its ordinary white hue, and three yellow ones like those of the sport named Mr. C. E. Shea, or the yellow Lacroix.

BATTERSEA PARK.

Here the blooms are moderate in size, but very numerous, and the collection has evidently been flowering for some considerable time. A walk runs along the centre from door to door, and the plants form a bank on each side of this, sloping from back to front. Tall plants are trained up the rafters, two varieties being placed together so that their blossoms often intermingle. Between the rafters some shorter plants are placed, and all overhang the plants on the floor, greatly increasing the effect of the whole arrangement. Some of the plants trained upon the roof are grown upon the bush system, with numerous flowers. Amongst the large-flowered types Gloire du Rocher, Viviand Morel, Sunflower, and William Tricker have done well, and are conspicuous at frequent intervals along the bank of bloom. The moderate-sized blooms of Mademoiselle Lacroix and its yellow sport are easily grown, and useful for decorative work of this kind. The same may be said of Elaine, which is even more neglected on the exhibition board. The broad-petalled and pure white Mademoiselle Marie Hoste is another choice thing, though only moderate in size. Others of the older ones, which are now seldom met with in collections that make any pretensions at being up to date, may be seen here, including Mons. Tarin (lilac), Source d'Or, and a number of the small, incurved varieties which used to be so common. Col. W. B. Smith and Florence Davis show off the characteristics of their kinds, the deep buff hue of the former being well brought out. A reflexed Japanese variety named President Hyde is evidently a favourite, judging from the number of specimens of it about. The blooms are moderate in size, but have broad, golden petals, and the plant is easy to grow. Bouquet des Dames is early, as usual, and good, forming a good companion to Avalanche. Albéric Lunden, with its crimson-red florets, is one of the darkest of its kind.

The incurved varieties have hardly yet attained their best or characteristic condition, except in the case of the early flowering ones, particularly the small ones, such as Mrs. G. Rundle and Geo. Glenny. Except for decorative purposes and trained specimens these two hardly ever appear in public now. The more recently obtained Mons. R. Bahuant has large chesnut-red blooms, fading to a much paler hue, and is early. The well-known Jeanne d'Arc is also in full bloom, but Lord Alcester is by no means yet fully developed.

HARDY PERENNIALS.

THERE is no doubt but that hardy Perennials have "caught on," and that they are being most extensively grown. There is an immense variety of them, and they can be had in bloom almost all the year round; indeed, except for a brief period when everything in the garden becomes locked up by severe frost, there is something in bloom. I have had Crocus speciosa, one of the most beautiful of autumn flowers, in rare form this season, and such things as Anemone japonica, Chrysanthemum maximum, Pyrethrum uliginosum, are still well in bloom. The Primrose is already with us, Violas and Pansies are in flower, and others too numerous to mention. A select collection can be made, including, of course, a few bulbous plants which the botanist does not in relation to many of them include as Perennials proper, because they say they are renewed every year by means of newly-formed bulbs. But as they appear year by year without any necessity for replanting, we will not trouble our heads about the little game Nature carries on under ground, and for our purpose include all such as Perennials.

As a rule, hardy Perennials are accommodating as to the matter of soil, and the bulk of them will do in any good garden soil, and they are equally

accommodating in the matter of situation. There are yet some very fine types which will only succeed under conditions more or less fixed. Such conditions have to be created, and sometimes they cannot be created; so, on the whole, it is best to deal at present only with those known to be generally accommodating. In a garden having a dry soil—that is, a soil through which the water passes quickly, and which dries rapidly—any moisture-loving plants should be planted in the shady and moist parts. On the other hand, when the garden soil is moist and holding, those liking a dry position should be planted in the more open and sunny spots. Sand, coco-nut fibre refuse, burnt earth, leaf mould, &c., can be added with advantage.

One great help to lightening a heavy and moist soil is the addition of the fine siftings of old mortar rubbish. I know a pretty and successful piece of rockery filling an odd corner, the soil of which is composed largely of old mortar rubbish and clay, in which quite a collection of plants have established themselves, and are doing well; and they include such things as Saxifrages, Hepaticas, species of Primulas, &c.

As this is the season of the year when perennials are planted, the soil to be planted should be deeply dug; and if it is at all worn out, then it is well to add some refuse potting mould, well decomposed manure, leaf soil, decayed vegetable refuse that is quite decomposed, &c. Sometimes planting has to be done in hot, drying weather, and when that is the case, a good authority recommends that a hole should be made in the ground, water poured into it until the hole is full, then draw up the dry soil about it, press it fairly firmly together, and shade it for a few days. Better still, to plant in a prepared bed in a shady place, or in a cold frame in a light soil, and here the plants will put forth roots freely, and then later on, when the weather is cool and moist, they may be planted in the spots they are to permanently occupy. It is better to plant rather deeply than shallow, so that the roots may be well covered; the holes should also be wide enough to admit of the roots being spread out when necessary, and taking care always, to shade from the sun if the planting is done early enough in the autumn to need it.

What shall I plant? is a question often put. I venture to give a list from which a selection can be made. I commence with Anemones, apennina, fulgens, sylvestris, and some good varieties, double and single, of A. coronaria; and then for autumn flowering, A. japonica and its varieties, Anthericum, Liliastrum major, Aquilegias chrysantha and caerulea, Aster, Amellus bessarabicus, and T. Smith, Aubrietias Violacea and Leichtlini, Campanulas, coronata alba and turbinata, Chionodoxa Lucillae, Coreopsis grandiflora, Doronicum Harpur Crewe, Galanthus (Snowdrop) in variety, Gentiana acaulis, Helianthus multiflorus, Bouquet d'Or, double white Rocket, Iberis correaefolia, Lupinus polyphyllus and its white variety, Montbretias crocosmaeflora and aurea; Narcissus poeticus ornatus and some of the fine varieties of bicolor, Omphalodes verna, Papavers orientale and nudicaule, both in variety, a few Pentstemons, herbaceous Phloxes, and double and single Pyrethrums, Polemonium Richardsoni, Primulas nivalis, rosea and varieties of Sieboldi, the double white and lilac Primroses, Saxifragas Burseriana, granulata flore pleno, and some of the large leaved varieties, because they flower so finely in spring. Tigridias pavonia and conchiflora, Trollius europaeus, and Crocus speciosus to bloom in autumn. This list could be much enlarged, but I have contented myself with a selection of good things which will ensure something in bloom almost all the year round.—*R. D.*

Lanky Chrysanthemums.—Where, owing to lack of under-glass space, the later flowering Chrysanthemums have to be housed in Peach houses or vineries, there is often a complaint that the flower stalk lengthens considerably, while for a time the bud it carries seems to stand almost still. A lanky straggling appearance is thus imparted to the plant, and as a natural result the flower stalk itself becomes too weak to support the weight of the bloom. The lack of light is in a great measure accountable for this; but still something may be done to remedy this evil by paying strict attention to free and abundant ventilation, also by a very careful and discriminating use of stimulants. Too liberal use of these is often a fruitful cause of the drawn appearance of Chrysanthemums so much deplored by all who have anything to do with them, as detracting considerably from their appearance when in bloom.—*G.*

THE CULTIVATION OF DENDROBES.*

(*Concluded from* p. 139.)

We will now turn to that section including some of the species of latest introduction as Phalaenopsis, P. Statterianum, P. Schroderianum, etc. Amongst them are found some splendid varieties, which for the most part are free flowering. But coming from some of the hottest regions of the globe they require when grown under glass the warmest parts of the house. They, moreover, need constant care, particularly when growing. The flowers are produced in sprays rather than racemes, and are of various colours. Though the climate whence they are derived is very hot, yet the nights are long, so that a large amount of moisture falls in the form of dew. It is therefore necessary to keep them well supplied with water during their growing season. But when dormant, considerably less will suffice. At no time should they be subjected to a low temperature or the result will be fatal.

One more group remains to be described, and to this we will assign such species as Nobile and its varieties, Ainsworthii, etc. These, as is well known, occupy a prominent place among Dendrobes, for of the former there are many splendid varieties which when well grown are by no means to be despised, even by those connoisseurs who do not look upon Orchids as we poor "amateurs" do, but study them from a pecuniary point of view. The beauty that is revealed to them is hidden from us ordinary mortals, nevertheless we can admire their charms though in a different manner. What we regard as beautiful might be considered by them only common, and what they most prize might be little esteemed by us. But for a moment or two more let us attend to our subject and see how this group is to be treated. The plants will grow either in pots or baskets, peat and crocks being the only material necessary to put them in, and the less of these the better provided there is sufficient to keep the roots moist. The plants are best increased from the offsets that are produced from the nodes which did not flower the preceding year. To increase their number the plants should not be allowed to rest, but should be kept in a warm moist atmosphere through the winter.

If this plan be adopted the growths will send out offsets in the spring instead of ripening up for flowering. These should be taken off when 3 or 4 in. long with all the roots attached and put into pots or baskets of convenient size, allowing a distance of about 3 in. between them each way. Care must be taken to keep the base of each growth a trifle above the level of the soil, as from these the young shoots will start to furnish the plants with flowering growths for the ensuing season. If these were covered they would in all probability rot off instead of growing. A small stick should be put to each to keep it in position till established. As the young growths progress they should also have supports, but they must not be tied too tightly, for they swell so rapidly that they would soon be cut in two. When growth is completed and become firm the plants may be removed to a cooler and drier place where air can be admitted more freely. While here they should only have sufficient water to keep them fresh, but no drying off should be attempted or they will suffer. When the nodes have swollen so that the flower buds in them are perfect the plants may be introduced into heat in batches. They may be had in flower from Christmas till June, and they may be cut with the growths attached or otherwise as may be required.

It must, however, be borne in mind that when the growths are taken with the flowers on them, it should be only those that bloom to the points, for if others are taken many flowers will be sacrificed. This is one of the things which must be left to the cultivator to decide; but for my part, I find it a great advantage to have the flowers attached to the growths, as they can then be used in a variety of ways. To induce robust growth weak stimulants should be given, such as that obtained from sheep's droppings. The houses may also be damped down with water in which these have been soaked, and the plants may even be syringed with it beneficially. It is not all houses, however, in which this can be done, on account of the unpleasant smell arising therefrom.

Having thus given a brief account of the various species, we will now turn to consider them generally, and in the first place start with the house in which they are to be grown. Many people think that if they have a glass structure they ought to be able to grow everything and anything therein: no greater mistake could possibly be made. Houses ought to be built to grow plants in, not plants made to accommodate themselves to the houses. We will briefly describe the kind of structure best adapted to the growth of this peculiar section of the world's flora, and in doing so, hope that we may not be infringing on the right of those whose business it is to erect them. The aspect, then, should be first considered, and if a range be desired, it should run from N. to S., be of equal span, not lofty, for the flatter the roof the more equable will be the temperature, but there must be sufficient slope to carry the water off freely.

A water tank should run the whole length of the house, and if a pipe pass through this to heat the water, so much the better. This tank should not be enclosed, and if sunk in the ground so that the level of the water is no higher than the path, this will be an advantage, for then the vapour ascending therefrom will be more evenly distributed. The stages should be of slate covered with some kind of loose material to hold moisture, which can be removed in winter when the plants are at rest. Side ventilation is not necessary, as the hot air is sure to ascend, but a means of opening the sashes at the apex should be provided. Piping should have due consideration; it is better to err on the side of having too much than too little, for the greater the heating surface the less will be the degree to which the pipes must be raised.

For a Dendrobe house light iron rods should run close to the rafters, from which baskets or pots containing those species which require more light, may be suspended. Creepers of all kinds should be excluded. Blinds will also be needed, for though the plants in their native habitat will stand the full rays of the sun without the least injury, yet there is a considerable difference between the two temperatures when the plants are grown under glass. The blinds, moreover, prevent evaporation, so that less water is needed.

Having then prepared our houses, we will next consider their inmates. It will be observed on inspection that the young growth on Dendrobes is covered with a kind of film of a glutinous nature, which renders them impervious to moisture. This is one of Nature's protections against the heavy torrents of rain which fall in their native land. If it were not for this covering the plants would, doubtless, rot off ere they had made a start. It was thought by some at one time that the foliage of Dendrobes should not be wetted, but our system of watering is to do it with a rough rosed waterpot over the foliage, so that every particle of the plant may be moistened as in their native home. Water, too, is given in such quantities that during the growing season the soil is thoroughly saturated, but as growth becomes matured, water is gradually lessened till the plants are at rest. At no time, however, should the soil get perfectly dry, or the roots suffer. The flowers, consequently, are neither so large nor of such substance. Herein, then, lies the whole secret of success. Induce the plants to make their growth during the longest and hottest days, gradually ripen them, by exposure to more light and air; keep them free from all insect pests, then there will be little doubt of their growing satisfactorily and flowering freely, giving both pleasure and profit to the cultivator. If not pecuniarily, they will so expand his mind and develop his understanding, that they will cause him to aim at higher things and nobler.

* A paper read by Mr. H. C. Prinsep, Buxted Park, at the last meeting of the Brighton Gardeners' Improvement Society.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Dendrobium Coelogyne, supra p. 134.—By an oversight, during the hurry of preparation for the press last week this was recorded as a new species; but although quite new to me, it was described by Reichenbach in the *Gardeners' Chronicle* so long ago as 1871. It is a native of Burma, where it was originally collected by the Rev. Mr. Parish, of Moulmein. Reichenbach described it as being closely allied to Dendrobium fuscescens of Griffith, but named by Lindley Sarcopodium fuscescens.

Cattleya Bowringiana.—Though the flowers of this species are small compared with those of many others occupying a high place in popular estimation, they are produced in much greater numbers and at a time when they afford variety by contrast with C. labiata, also in the height of its season. Numerous flowering plants may now be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea; but on the central stage of the Cattleya house are some very large pieces, one of which has ten flowering bulbs and dark flowers, but particularly the lip. We were much taken, however, with a pale-flowered specimen, having stems about 18 in. high, six of them being flowering ones. The stems are covered with about eight leafless sheaths terminated by a pair of leathery, dark green leaves. The spathe is double, and each flower scape bears eight to thirteen flowers of large size and warm rosy-purple almost uniform, the lip being unusually pale in this case.

Oncidium Gravesianum.—At present this is graceful and gay with its long panicles of bloom in the nursery of Messrs. J. Veitch & Sons, Chelsea. The scapes vary from 2 ft. to 3 ft. in height, and are much branched. The flowers resemble those of O. praetextum in size, but are brighter and richer in colour, and altogether superior in ornamental effect. They are of a deep cinnamon-brown and glossy, with a central yellow blotch upon the lip and reddish-brown around the crest. This and its allies may be grown upon blocks or in baskets, but the latter method is the more easily managed, as the roots are not so liable to get dried up quickly, nor to be affected by sudden changes of temperature.

THE KITCHEN GARDEN.

French Beans.

These are now getting somewhat scarce in most places, and unless precautions were taken to have a batch sown about the end of August in pits that could be heated, there will soon be a blank; those sown about that time will now be turning in. To keep up a supply through the winter it will be necessary to make frequent sowings, for during the dull months the flowers do not set very freely, so that a greater number will be required to keep up a supply. For winter use we have found none better than Ne Plus Ultra and Osborn's Forcing. When grown in pits without front ventilation great care is needed, for if the lights are only tilted at the back the plants in front do not get sufficient air. Where practicable, sliding ventilators should be fixed in front opposite the hot-water pipes; if these are opened a little way in addition to the top lights being tilted a little at the back, there will be a circulation without a cold draught. Beans will not succeed well unless a proper degree of warmth be maintained, for if the pods are too long growing they will be tough and of but little worth, whereas if grown quickly they will be juicy and tender.

Seakale.

The most forward of this will soon be losing its leaves, particularly if we should have a sharp frost or two. So soon as this happens the roots may be taken up for forcing. There are various modes adopted for this, but all gardeners have not the same convenience. Where a Mushroom house is at command there is little difficulty in keeping up a good supply through the winter; but where other contrivances have to be resorted to, it sometimes happens in severe weather the necessary heat cannot be maintained, so the amount runs short. Too much care cannot be taken to prevent the heat from getting too violent when the roots are forced on a hotbed; better allow the plants a few days extra to make their growth than try to rush them on, as the growth then made would be tough and stringy, for Seakale dislikes a too high temperature. When grown in the Mushroom house the roots must be kept moist, and the plants should be sprinkled with the syringe to induce tender growth. It is absolutely necessary that growth be made in perfect darkness, otherwise it will not be of such a good colour. Lily White is the best kind, as this is not so subject to become discoloured should a little light get to the plants when growing. When lifting, be careful to save all the roots, for these will make good sets to plant another season. We find that if made at once and covered with decayed leaves or litter, they will have formed a callous by the time the ground is in a fit condition for planting them. Sufficient material, however, must be put over them to ward off the frost, otherwise they will be useless. When forced in the open ground, care must be exercised with covering, for if the material should get too hot the crowns will be burnt, so that growth will be spoiled.

Salads.

These will soon be in request as dressed dishes, therefore preparations must be made for getting them properly blanched. Endive will now be good, but on account of so much wet it will not blanch so well in the open, and should be removed to the Mushroom house or dark cellar. It should be lifted when the foliage is dry, and need not be watered overhead after being introduced into heat; but water must be given to the roots, otherwise a quick growth will not take place. Chicory can also be lifted, and after removing the leaves the roots may be taken to the forcing house. It is very essential that the growth of this be made in the dark, otherwise it will be bitter. A too high temperature should be avoided, for the more crisp and juicy the foliage the better will be the flavour. Celery will now be good and will blanch, so that there need be no lack of material for saladings.—*Kitchen Gardener.*

THE FLOWER GARDEN.

We have this year enjoyed for a much longer period than usual the presence of the tenderer section of summer and autumn flowering plants. In many localities large quantities of cut blooms have been obtained from Chrysanthemums grown in the open air, and which have received no protection whatever. This is a matter of very infrequent occurrence, and is of course due to the exceptionally mild weather we have experienced during the past month. The autumn of 1894 has nearly established a record for freedom from frosts, at least during the last few years. All things must, however, have an ending, and the end of the flowering period of the tender summer subjects has at last come.

On all hands we see signs that Nature is once again preparing to take its annual sleep. The beautifully-tinted leaves have pretty well all fallen, much to the joy of the lovers of tidiness, and the grass has well-nigh ceased to grow. Little further use for the scythe and the mowing machine will be needed. Before these are laid by for the season, however, they should be overhauled, and any necessary repairs made. A thorough cleaning and oiling must afterwards be given them, for nothing spoils a mowing machine so much as to leave it rusting throughout the winter in a damp shed, and it may be taken for granted that all unheated places will be more or less damp throughout the winter.

The planting of deciduous trees may be proceeded with as soon as the leaves have fallen, and as we may expect a certain number of heavy gales and winds at this season of the year, it is very necessary that all newly-planted trees should be afforded some support, otherwise they will be sure to sustain considerable damage. A stout stake should be driven well into the ground at a sufficient distance from the tree so as not to injure the large and important roots, and to this the tree should be securely tied. A neatly-twisted wisp of hay should be passed around the stem to prevent the ligature from cutting the tender bark.

Continue the planting of Roses if the weather still keeps mild and open. It is not advisable to plant too late in the season, or the plants will receive considerable damage in the event of a spell of hard, frosty weather taking place immediately after planting. It will be much better to defer planting until spring rather than to take the risks of shifting too late in the autumn.

Beds or borders that have been planted with bulbs for spring flowering should be neatly raked over; whilst ground that it is proposed to let remain empty until the next year should be roughly dug over and left for the frosts of winter to pulverize and sweeten.

Herbaceous borders, from which all dead and useless plants have been cleared, should receive a light forking over if occasion permit. This is, however, an operation that requires a great deal of care or the roots and bulbs left in the ground will sustain serious injury, as from the lack of arrangement that obtains in so many borders of this class we never know exactly where the bulbs lie, with the result that we come across them in positions where perhaps they are least expected.

THE HARDY FRUIT GARDEN.

Attention should be paid to the ventilation of the fruit room, and occasionally, the fruit must be looked over, and the bad ones removed. This may be performed upon wet days when outside work is impossible.

As soon as the leaves have dropped from the trees, planting and removing may be proceeded with upon light soils. Where the soil is of a heavy and retentive character, it is advisable to defer planting until next month. In all cases it is necessary to wait until the trees to be operated on are quite destitute of foliage, for, from the check occasioned by the shifting, the roots will not be able to supply sufficient nutriment to keep pace with the evaporation going on in the leaves, as long as they have any connection with the tree. Trees that have hitherto refused to fruit may often be coaxed into bearing if carefully removed from their present situation, and replanted. This is quite the best time of the year to perform this operation, and, if sufficient care is taken, they will sustain no material injury and good-sized trees may be shifted in this manner without fear of harm.

The pruning of gooseberries and currants may be proceeded with as soon as desirable. In gardens where a great deal of hardy fruit is grown, and where, as a consequence, the pruning knife and saw have to be busily employed during the coming season, these humble, but none the less useful, subjects often receive scant attention, from lack of time. Indeed in one or two cases we have known the so-called pruning of gooseberry bushes to have been performed with a common reaping-hook, with the result that the centre of the tree becomes a mass of twiggy and useless growths that render it a most uncomfortable proceeding to gather any fruit the tree may bear.

In pruning gooseberry bushes it should be borne in mind that it is only the strong, healthy, young wood upon which we have to depend to furnish us with fruit of good quality. The aim should be, therefore, to keep up a moderate and continual supply of such wood. By all means overcrowding must be religiously avoided. Any long branches should be shortened back to keep the tree within proper bounds, for straggling overgrown trees are an abomination, making it, as they do, a matter of extreme difficulty to work anywhere near them.

FRUIT UNDER GLASS.

From the saturated condition of the air during the coming month, as well as from the low mean temperature that usually holds, fire heat will be necessary at intervals to expel the damp from all the houses which contain any ripe fruit. Care should be taken, however, that a sufficient quantity of air is given at the same time, otherwise moisture will be deposited upon the fruit, to its no small detriment. A sharp look-out should be kept upon Grapes, for at the present season it does not take long for the berries to damp. All bad berries should, therefore, be consistently removed.

Steps must now be made for the cleaning of the early vinery, preparatory to shutting it up for forcing. The canes should be pruned, washed twice or thrice with a fairly strong solution of Gishurst compound, and afterwards painted with a mixture of Gishurst and clay, with a little dash of petroleum, the whole being stirred up to the consistency of thick paint. The glass and woodwork should receive a thorough washing. All the loose surface soil should be raked off the inside borders and taken away, a top-dressing of rich loam or good stable manure being afterwards given. When first shut up the night temperature should not be allowed to fall below 45° Fahr., and should rise to 60° by day. A moist atmosphere should be maintained throughout, and the vines should be syringed twice a day to encourage the swelling of the buds.

The later houses must be ventilated as freely as possible on all favourable occasions, and unless filled with plants the exclusion of frost will be all that is necessary. A little fire heat upon damp, dull days will materially assist in the ripening of the wood.

FLORICULTURE.

The Florist Polyanthus.

THERE is a fashion in plants as well as in other things, and the florist Polyanthus is now only grown by a few florists of the old school, and is out of fashion. I was, therefore, pleased to see the remarks of so well-known a specialist as the Rev. F. D. Horner, of Burton-in-Lonsdale, in the last issue of THE GARDENING WORLD. The large high-coloured hybrid border varieties have quite driven their more refined rivals from public estimation from their robustness and adornment of the spring border. The gold-laced Polyanthus has, however, a beauty of its own, and I have often wondered how it has been so much neglected. Lord Lincoln and Kingfisher are extinct, as far as I know. George IV. is scarce, and Exile, William IV., and Lancer are not easily obtained.

I have grown show Polyanthuses for more than forty years, and still raise a few seedlings every year. I entirely agree with Mr. Horner as to the difficulty of raising new varieties. I do not say that it cannot be done; but I do say this, that the Polyanthus is the most unmanageable flower I ever tried, and I have worked in the raising of new things for many years. This should only incite us to further efforts. As there seems a desire to improve the florist Polyanthus, a few hints from an old hand may induce others to enter on the enterprise, and prove acceptable to florists in general.

In raising seedlings, the great point is to get variety in the ground colour of the flower, especially scarlet, as in Kingfisher, and black, as in Lord Lincoln; for the uninitiated say that they can perceive no difference in the varieties. There is some truth in this statement. There is a sameness which must be got over. In raising seedlings, the great point to attend to is to get a good pin-eyed breeder. This is a flower where all the good points as to lacing and circularity, and even-shaped truss, exist. Pin-eye is where the pistil or female organs protrude through the throat of the flower. It requires a thrum-eyed flower to be an exhibition variety; this is where the stamina fill up the throat of the bloom. Having got a good pin-eyed flower well established in a pot and in good bloom, remove it to a frame or even a sunny window, where no insects can interfere. When with the glass or naked eye you can see the round nob or pin-head on the summit of the pistil to be glutinous or sticky, if you can obtain pollen from George IV. or Lancer, apply it with a brush or piece of pointed stick dipped in glycerine; the pollen grains stick to the brush or stick, and are easily applied to the pistil. Sunny weather is indispensable for the operation, and there is no use trying the fertilisation of the flower in any other. In about fourteen days the seed-vessel at the base of the flower will be felt to be swelling, and care must now be observed in maturing the seed, which in general may not be fit to sow till the month of August, when the seed-vessel is brown and open. Beware of birds, which in open-air plants destroy all seeds if not watched.

Sow the seeds at once in pans of sandy loam, and place a piece of glass over them for shade, and to prevent over-watering. The seedlings will appear in less than a month; watch for slugs, and give air and light as the young seedlings require, and there will soon be plenty of plants. In spring, plant out the seedlings in a shady, moist part of the garden. A small proportion will show flower; at all events, they will make good, strong plants, and next spring the raiser will be rewarded. A certain proportion of the seedlings will show that care has been used in their breeding. Some good-shaped and well-coloured flowers will be pin-eyed, and can be reserved as plants to breed from; others having the best florist qualities must be reserved to grow and propagate.

Open air, open ground treatment is what I believe to be sound advice. Many of our best florist flowers are coddled out of existence. The Polyanthus is a hardy plant, and seedlings grown out-of-doors in a moist, cool situation exhibit extraordinary vigour. In the south, I am told that the heat and drought are inimical to their growth, and they get covered with red spider. In our northern regions they thrive splendidly, but require, as already stated, a moist, shady situation.

It is stated that seed from the var. George IV. has never yielded a good seedling. Many things are printed that are not exactly true. In my own experience I never got a seedling from George IV., but pollen from that flower has yielded me seed from which I raised Border Maid, which Mr. Dean, of Ealing, and Mr. Douglas, of Great Gearies, consider a meritorious variety—also many other good show sorts. What we want is new blood; hardy out-of-doors treatment. The old-standard varieties seem worn out in constitution from coddling and long age. A good new race, nearer the seedling, is now much wanted, and I hope in the spring to be able to send the Editor of THE GARDENING WORLD some blooms for inspection, which I hope may display a vigour which is difficult to attain with the old plants of The Florist varieties. I am very glad the Rev. F. D. Horner has brought up the subject, and I hope his remarks will induce some primulaceous enthusiasts to engage in improving a most refined and beautiful spring flower.—*Charles Stuart, M.D., Hillside, Chirnside.*

The Gold-laced Polyanthus.

THE confession of our friend "R. D." with reference to his failures with the Gold-laced Polyanthuses has has been of great advantage to other florists, inasmuch as it has been the means of drawing valuable communications from such eminent authorities, as Mr. Thurstan and the Rev. F. D. Horner. If a few other of the old and experienced growers would give us their experience of successes and failures, we may possibly again see this early gem of the flower border at our spring shows. Of late years it has been pitiable to see the mites of plants placed on the table at the National Auricula Show at the Drill Hall, each year more feeble in strength and fewer in numbers. But the confession has revealed the cause of failure. How can it be possible to grow the Polyanthus successfully in porous thumb pots, and exposed in a dry atmosphere surcharged with London smoke? The plant is an alpine and loves moisture, but if it is necessary to grow the plant in pots, why not try the glazed pots supplied to Mr. Henwood, by Messrs. Collier, of Reading? Mr. Henwood has satisfactorily shown their adaptability for the culture of the show Auricula.

I know that it is an accepted faith among growers generally that porosity is an essential feature in a plant pot, but I dare to doubt it. I have grown the Polyanthus in zinc pots, in wooden boxes pitched inside, and even in earthen mugs, many years ago. Given a good strong retentive loam, with leaf soil and sharp sand in admixture, and perfect drainage, and a porous pot is not a necessity. The best possible situation for the Gold-laced or any other Polyanthus will be found under the shelter of a Gooseberry bush or a thorn hedge, where they will be shaded from the summer's sun, and become partly covered with the fallen leaves in winter. Under such conditions the Gold-laced varieties may regain their constitution, an abundance of foliage, and brilliancy of colour. If divided in May, as Mr. Horner recommends, and planted in good sandy loam they would grow and multiply, and for exhibition purposes it would be easy to lift them with a trowel and drop them into a well-drained pot.

I shall try the glazed pots for the Primula tribe, and possibly for Carnations, but I shall not use soil charged with soot, sulphur, and other abominations. They shall have some good hazel loam and vegetable refuse with spent hops from the brewery placed over the crocks.—*William Wardill, Luton.*

The English "Show" Tulip.

I LEARN with much pleasure that the enterprising seed and bulb grower, Mr. Peter Barr, of King Street, Covent Garden, is determined to give all amateur florists the opportunity of cultivating and exhibiting the old but much neglected "Show" Tulip. Mr. Barr has, as many may know, displayed great efforts and spared no expense during the last two or three years in collecting a most valuable and extensive assortment of this most gorgeous class of florists' show flowers, and which, from the simplicity of their culture, are specially adapted for amateurs who may have the florists' fancies running in their blood! The prices of the show Tulip now are not what they were half a century ago, "five pounds to fifty pounds each bulb," for, according to "Barr's Catalogue," 100 bulbs named are offered at 55s., 75s., and 100s. according to quality, and single bulbs from 1s. each! Surely, then, there is a chance for all amateurs to start with a bed of show Tulips at a comparatively trifling cost.

Mr. Barr appears also to be determined, now that he has possessed himself with about thirty thousand bulbs of the Show Tulip, that they shall not be kept to himself in his own grounds, for I see that he is, in conjunction with the Royal Horticultural Society and Mr. James W. Bentley (Hon. Sec. of the Royal National Tulip Society), arranging for two shows to be held in London next year in May, to suit the growers of the South, and one in June to suit, as far as possible, the Northern and Midland Counties growers, and silver medals will be offered by Messrs. Barr & Son, the Royal Horticultural Society, and by Mr. Bentley. There is thus a favourable opportunity for all Tulip cultivators, and especially new beginners, in the south to put their "shoulders to the wheel" in supporting the great efforts of Mr. Barr, in his anxiety to resuscitate in the neighbourhood and suburbs of London this old and glorious variety of florist's flowers, and which our grandfathers and great-grandfathers cultivated with pride, and abundant love!

There can be no question as to the situation around London being favourable to the cultivation of the Tulip, which the specimens exhibited last May, at the Drill Hall, by Dr. Hogg, Messrs. Barr & Son, and other southern growers fully corroborated. I have been a grower and exhibitor for nearly forty years, but last year was the first London show of Tulips I had ever had the pleasure of witnessing, and never previously had I seen such magnificently grown Tulips as those exhibited by Dr. Hogg and Messrs. Barr & Son, and the refinement in markings of Feathered Talisman, Sir Joseph Paxton, and Doctor Hardy, exhibited by Messrs. Barr, was as near perfection as possible, and had more attention been paid to the blooms in sheltering them from the sun and rain, they would have stood on the exhibition table in a much higher position than they occupied. —*James Thurstan, The Green, Cannock.*

SEAKALE AND ITS CULTURE.

THIS is one of the most useful winter and early spring vegetables we have, and in most establishments the demand for it is usually very great. No great difficulty should, however, be experienced in the meeting of this demand, for Seakale forces very easily, and no elaborate preparations are necessary to obtain it in abundance, as well as of first-class quality. As a rule a supply is looked for in the kitchen about Christmas time and where this is the case, preparations should have been made by this time to meet the demand, if the produce is expected from plants forced in the open ground. Such plants should be cleared of decaying leaves, and Seakale pots placed over them, these latter being well covered with fermenting material, which should consist of a mixture of fresh stable manure and leaves, the heat obtained from this mixture being very uniform, well-sustained, and quite strong enough for all purposes.

Although forcing from plants in the open ground in the manner described finds favour with many, it entails a much greater amount of labour (an important consideration) than when the crowns are lifted, potted five or six in a 10 in. pot, and placed in the Mushroom house. The equable temperature that should obtain there is very suitable for the purpose, and this is perhaps the best plan for obtaining large supplies with the least possible amount of labour.

The potting of the roots for forcing is an extremely simple operation, and may be easily and safely performed by any ordinary garden labourer. A large crock should be placed over the central hole of the pot, next a layer of rough soil, after which the roots may be put in, and the soil (old leaf mould being as good as anything) shaken down well round them. The soil should not be compressed in any way, and no water at all should be given. Generally, a period of six or seven weeks from the time of starting will suffice for the production of Seakale of excellent quality. It may of course be obtained in a less time by means of harder forcing, but it must be borne in mind that the gentler the forcing the better will be the quality of the vegetable produced.

An abundant supply of crowns suitable for forcing may be obtained if the small side roots are cut off in lengths of about 4 in. and inserted in the open ground in spring. Many growers adopt the plan of removing these from the crowns as they are lifted for forcing. These small root cuttings are then tied

up in bundles, kept through the winter in a shed, and planted out in rows outside after the passage of winter. Some cultivators, on the other hand, are of opinion that the removal of these roots from crowns about to be forced seriously affects the size and quality of the produce, and advocate the leaving of them on the crowns until after forcing. It may be urged against this system of propagation that the plants produced from cuttings taken from crowns which have undergone the strain of forcing are never so strong or of such good quality as those which result from cuttings taken before plants have been subjected to this necessarily weakening operation.—*G.*

MARATTIAS.

Here we have a good instance in which the owner of small glasshouses is handicapped with regard to the kind of plants he is enabled to grow. Although Marattias are amongst the most ornamental of stove Ferns, their vigorously growing habit, and the large size they attain, hinder many people from attempting to grow them. A compost of loam and leaf soil with sand and charcoal will suit them very well. The latter ingredient is very necessary to the well-being of the plant, for Marattias are never happy unless their roots are in a continual state of saturation. It is the best plan to stand the pots in water to a depth of 4 in. or 5 in., but if this is not possible, copious supplies of water must be given them twice or thrice a day in summer; for if the allowance of water be in any way limited the plants will very soon suffer. I have known large fine plants to flag down over the pots in a most lamentable manner, only as the result of a single hour's inattention; and plants submitted to such treatment never wholly recover for a very long time the injury sustained even during such a brief period of neglect.

The genus is comparatively a small one with regard to the number of species it contains. There are only about eight distinct species, and they are most of them natives of tropical or sub-tropical regions, where they are usually to be found in marshy districts, often veritable giants in size.

M. attenuata is one of the largest members of the genus, and a good specimen of it in a roomy stove presents an imposing and a truly magnificent appearance. The fronds often attain to enormous sizes, and it is on that account only suitable for growing in large houses. The stout and vigorous stipes are 3 ft. or 4 ft. in length, and of great strength, as indeed they had need to be, having regard to the large spread and great weight of the fronds they have to carry. Native of Australia.

M. fraxinea.—This is a plant of even larger size than the preceding species. The fronds often grow to a length of twelve and occasionally of fifteen feet. Several varieties of it are in cultivation which are by some considered to be distinct species. Thus M. purpurascens will, if grown in an exposed situation, and less generous treatment accorded it, assume a dwarfed and stunted appearance that has caused it to be considered a distinct species by some authorities. Other forms of M. fraxinea often met with are M. f. elegans and M. f. salicifolia. The last-named variety has pinnules very much narrower than those of the other kinds, and they are sharply toothed throughout.

M. Kaulfussii.—This is, without doubt, one of the handsomest ferns of the whole genus: one pretty plant of it is one of the most distinguished members in the Tropical Fernery at Kew—although it has not yet reached a large size—the length of the fronds, stipe included, being certainly not more than three feet; but even in this comparatively small state it presents a very graceful appearance. It hails from the East Indies, and was at one time known as Eupodium Kaulfussii.

M. alata is a much smaller growing subject than the rest of its congeners; it is of a very ornamental character, and although it will grow in a cool Fernery, it requires a stove temperature to develop its full beauty, as indeed do the whole of the forementioned species.—*Filices.*

Nepenthes Burkei excellens.

PITCHER PLANTS AT CHELSEA.

November may not be considered the best time to see Nepenthes at their best, yet we do not remember seeing them better in the nursery of Messrs. J. Veitch & Sons, Chelsea. The number of pitchers on every plant is great, and the colour excellent, so that the effect of the collection as a whole is very striking. A very large proportion of them are suspended from the roof, so that the pitchers have a full play of air about them, and are seen to advantage because they are mostly on a level with the eye. Nepenthes Masteriana is grown in quantity, and is very highly coloured. The dwarf stems, the number of pitchers produced, their size and rich colour, all combine to make this hybrid one of the most popular of Pitcher plants in cultivation. No collection, however small, should be without it. The pitchers of N. Morganiae are moderate in size even at their best, and wholly of a bright crimson-red; they are wide at the base, then suddenly contracted to a narrow neck, and always distinct from everything else. Compared with the latter, N. mixta is a giant, with pitchers 6in. to 12in. long exclusive of the lid; the ground colour is a soft green, variously suffused with red, and marked with long crimson stripes and blotches. The collar is reflexed, wavy, of a glossy, crimson-brown. We noted five of these huge pitchers on a single stem, and other plants bear nine of them. In any case it is a most imposing kind to have in a collection.

Another large pitcher is that of N. Curtisii superba; but here the crimson markings occupy so much of the surface that the pitcher may be described as dark crimson with straw-yellow markings. Here, again, the annulus or collar is crimson-brown, shining, and very conspicuous, and the lid is also heavily spotted. There are four large pitchers on a stem. As a contrast to the last-named, the pitcher of N. Dicksoniana is light green heavily splashed or blotched with soft crimson-red, and attains such a size as to be fit for classing with the biggest of the kinds. N. Burkei is strikingly different in shape from either of the above, the pitcher being much inflated at the base and top, and constricted in the middle, as if it had been tightly tied round with something in the early stages of its growth. The type is not very highly coloured, but there are two grand varieties of it, including N. Burkei superba, the pitcher of which is pale green thinly spotted with red on the lower half, and blotched and splashed with crimson-red on the upper. The other variety is N. Burkei excellens, the finest of the three, as may be seen by reference to the accompanying illustration, for which we are indebted to Messrs. Veitch & Sons. The blotches are distributed all over the pitcher. The wavy and shining crimson-brown collar is here very conspicuous, as may be seen by the figure. N. Northiana is another very fine thing we must not omit to mention. The pitchers are soft red, and thinly blotched with crimson. Crimson-brown bands alternate with yellow ones on the collar, and beneath this, on the inner face, crimson or nearly black blotches almost cover the surface, and a glaucous bloom overspreads the whole of this portion. Other varieties are extremely numerous and fine.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were certificated by the Royal Horticultural Society on the 23rd ult.

SAINTPAULIA IONANTHA.—This has at last received the honour due to it after having been shown several times. The cordate, hairy leaves are arranged in a neat rosette covering the soil in the pots. The flower scapes just rise above them bearing a number of deep blue flowers with a cluster of golden anthers in the centre. First-class Certificate. Ten plants were shown in various sized pots by Sir Trevor Lawrence, Bart. (gardener Mr. W. Bain), Burford Lodge, Dorking.

BEGONIA MARGARITACEA.—This would belong to the B. incarnata type and has large, obliquely cordate, olive-green leaves, but almost covered with red spots and hairy. The under surface is of a uniform deep red. Award of Merit. Exhibited by Messrs. J. Veitch & Sons.

CHRYSANTHEMUM CHARLES MOLIN.—In this we have a reflexed Japanese bloom (5½ in. across), of a similar type to Mrs. F. Jamieson but larger, and having broader florets of a rich, bronzy orange, tinted with crimson. It is certainly handsome. Award of Merit. Exhibited by Mr. J. W. Godfrey, Exmouth, Devon.

CHRYSANTHEMUM PREFECT ROBERT.—In some cases this is a closely incurved Japanese sort of a reddish crimson with a silvery reverse, and 5 in. in diameter. In other cases the blooms are 6 in. across and more spreading, so that a great deal of the reddish crimson is shown. Award of Merit. Exhibited by Mr. W. J. Godfrey, and by Mr. Geo. Stevens, St. John's Nursery, Putney.

CHRYSANTHEMUM LOUISE.—Here again we have a closely incurved Japanese variety, about 5½ in. in diameter with broad and densely packed ivory white and shining petals. Award of Merit. Exhibited by Mr. W. Wells, Earlswood Station, Redhill, and by Messrs. J. Veitch & Sons, Chelsea.

CHRYSANTHEMUM HAIRY WONDER.—The blooms of this singularly curious and beautiful Japanese and plumose variety measure about 6½ in. in diameter. The florets are of a deep buff, and as bristly as a hedgehog, and certainly most distinct and interesting. Award of Merit. Exhibited by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.

CHRYSANTHEMUM MADAME AUG. DE LACVIVIER.—This incurved Japanese variety measures about 6 in. in diameter, and has much material in it. The florets are soft, crimson-red with a yellow edge and a clear, nankin-yellow reverse. Award of Merit. Exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

NEW CHRYSANTHEMUMS.

THE following new varieties of Chrysanthemum and Carnation were awarded First-class Certificates at the meeting of the Floral Committee of the National Chrysanthemum Society on the 24th ult.

AMIRAL AVELLAN.—The florets of this purely Japanese variety are broad, rather pointed, with the inner ones involute at the edges, giving them a narrow appearance, and golden-yellow. The blooms are bold, about 6 in. in diameter, and very full. Mons. E. Calvat, Grenoble, France.

MRS. H. J. JONES.—The broad and shining ivory-white florets spread widely and are incurved towards the tips only. Japanese, rather than incurved Japanese, would seem to be the proper definition of it. The blooms are 6 in. to 6½ in. across. Mons. E. Calvat.

REINE D'ANGLETERRE.—The blooms of this variety are 6 in. to 6½ in. across, and of the Japanese type. The broad, reflexing florets are rosy-purple with a silvery reverse, best shown where they are only expanding. Mons. E. Calvat.

R. BALLANTINE.—In this we have a reflexed Japanese type, 6 in in diameter, and 5 in. in depth. The florets are fairly broad, dark purple, but rather dull in certain lights, and paler beneath. The blooms are neat and of good exhibition size. Mons. E. Calvat.

MISS GOSCHEN.—This is an incurved Japanese variety, with rather loosely arranged florets of moderate breadth, and clear, soft yellow. The bloom measures about 6 in. across. Mr. E. Beckett, The Gardens, Aldenham House, Elstree.

SARAH HILL.—Here again we have an incurved Japanese variety, with fairly broad, blunt florets of a soft yellow colour; the outer ones are tinted with buff. The blooms would average about 5 in. in diameter. Messrs. J. R. Pearson & Sons, Chilwell, Notts.

MISS FLORENCE LUNN.—This is a seedling from Fulgens and belongs to the true Reflexed section. The blooms are 3½ in. across, very full, high in the centre, and of a rich, dark purple, with a silvery reverse, but very little of the latter is shown. H. Briscoe-Ironside, Esq., Cedar Lodge, Burgess Hill.

MRS. G. S. TRAFFORD.—Good blooms of this variety measure 5 in. across. It is a sport from Wm. Tricker, and has the florets of a deep rosy-buff above and nankin on the reverse fading to a more silvery tint on the outer florets. The latter are inclined to be bristly at the very tips. On the whole it is a distinct and attractive variety. Mr. W. H. Lees, Trent Park Gardens, Barnet.

NEW CARNATIONS.

MISS MARY GODFREY.—The blooms of this perpetual or winter flowering variety are fairly large and full, though the petals are in no ways crowded; nor do the pods split. The broad, pure white petals are slightly dentate. Mr. W. J. Godfrey, Exmouth, Devon.

REGINALD GODFREY.—This is also a perpetual flowering variety, with perfectly full flowers of moderate size, and distinctly fragrant like a Clove. The petals are more numerous than in the other case, more deeply notched and salmon-pink. The pods are not liable to split. Mr. W. J. Godfrey.

GARDENERS AND HOLIDAYS.

IT was with much pleasure that I read the remarks in your leading article last week, for, as a gardener, and one who has always advocated a brief holiday each season, to me it is a great pleasure to find that you have taken up the subject so warmly. It is pleasant to be able to look forward after a season of toil to spending a few days with friends in another part of the country, to have a chat with them over the work of the past season, and the prospects of the future. To those who are able to leave all care behind, even for a brief period, this is very refreshing; but there are hundreds of the toiling fraternity to which we belong that are not able, through some cause or other, to sever themselves, even for a short time, from the spade, watering-pot or potting bench. Gardeners' wages are by no means large, their hours are long, and they have many cares and anxieties foreign to other trades or professions.

When most people take their holidays they make their way to the town to see the great sights. Not so, however, with the enthusiastic gardener. He wishes to improve himself by visiting his fellow workers. Sometimes it may be, through his limited resources, he is only able to go a short distance from home, while others can ramble far and wide, their employers being so generous as to assist in their expenses. The few hard-earned shillings that most of us are able to put by for a rainy day are needed, so that the holiday has to be a short one near home. There are many gardeners who might see a great deal if they would but go about it in the right way. I do not mean that they should be selfish and only think of their own pleasures, leaving their wives and families at home while they are enjoying themselves; my motto is, never to go anywhere unless the family can be taken also. I do not mean to say that they could accompany you on your visit to the gardens, though doubtless they would enjoy a chat with Mrs. So-and-so, while you were inspecting the many interesting objects elsewhere—at least I have always found it so.

Being, then, so fond of taking a holiday myself with all the family, it may be interesting to some of your numerous readers to know how it was spent, so I will, with your kind permission, give them a brief sketch of some of the things we saw, though I am afraid if I told them all they would think us very extravagant. As so often happens, after a showery or wet summer, we get a spell of glorious autumn weather, when the days are of sufficient warmth to be enjoyable and the evenings refreshing, though cool. During the latter part of September and early in October such was the case this year. It was on one of these delightful evenings when we set out from London for the west, with a view of spending a few days there, hoping to visit some of the large orchards in that district, and learn how the fruit crop was doing. We had a pleasant time of it, though sorry to find that the Apple crop in nearly all the places we saw was a very short one. We were, however, very mnch astonished to find an orchard near Berkeley, in Gloucestershire, where the trees presented quite a different feature, as there was scarcely a tree in the whole orchard that was not well laden with fruit. Pears were very plentifnl but not of the quality one would wish to see.

While in the district we availed ourselves of the opportunity to pay a visit to Berkeley Castle, the seat of Lord Fitzhardinge. This interesting old place is situated on the banks of the Severn and is of historical note, for it was in one of the rooms there that one of the kings was murdered. The old bed and hangings are still to be seen, though they are fast falling to decay. The place is also interesting from a gardening point of view, as many choice shrubs thrive under the shelter of the old castle walls. In one of the houses are to be found some of the finest plants of the old Daphne indica in the kingdom. They are grown on their own roots and occupy the whole of one side of a house. Hundreds of trusses of bloom may be cut from them in a few weeks. Dendrobium P. Schroederianum was also flowering freely; Mr. Shore, the gardener, seems to understand its management thoroughly.

On leaving Berkeley our journey was through Bath into Dorsetshire. Blandford reached, then we made our way to Bryanston, the seat of Viscount Portman. The park is approached by a drive, which extends from the town for about a mile, and is planted on both sides with trees. Here the Box and Yew seem to be at home, the former having grown to the size of trees. Never have we seen them fruit so freely, for the seed pods hung in clusters along the previous year's shoots. The Horse Chestnut and Beech seem equally happy, and must present a fine sight when in bloom. Here and there is seen the Clematis Vitalba hanging gracefully over the branches of the tall trees, a fine patch of this being seen from the windows of the old house, which is down by the river. A new mansion has, however, just been completed, which stands on the brow of a hill about half-a-mile distant. It is of the Georgian style of architecture, having a frontage of about 365 ft. It is built of red bricks having stone window casings. The inside is replete, having the reputation of being one of the best fitted-up houses in the kingdom. The grounds round the new mansion are extensive, and command fine views to the south, but being newly planted the shrubs have not yet attained sufficient size to show themselves to advantage.

In the old grounds there are some interesting plants which, occupying, as they do, a sheltered position, grow most luxuriantly. The glass-houses in the kitchen garden were undergoing repairs, and new ones being erected at the time of our visit, but sufficient could be seen to show that Mr. Allsopp, the gardener, thoroughly understood his business. The kitchen garden is not large, a new one, however, is in the course of construction, which, when got into working order, will greatly assist in giving supplies for this vast establishment. The electric station is said to be one of the finest in the country, and is fitted with engines of about 300 horse-power. No doubt in the course of time this will become a place of note, but everything at present is quite new.

Down House, the seat of Sir William Marriott, was the next place on our list. In former days Down House was noted for its collection of Orchids, and can even now boast of some rare species and varieties. Mr. Denny, who has for so long presided over these gardens, is well known in the Orchid world as a great hybridiser of these most interesting plants, and some hundreds of seedlings of various sizes may be seen. We noticed a grand batch of Laelia anceps alba and some others. The grounds, too, are most interesting. There are some fine Coniferae on the lawn, and many useful herbaceous plants. A beautiful bit of alpine scenery on one side of the grounds is very pleasing. Here the Myrtle flowers and fruits freely in the open air, and many other choice shrubs too numerous to mention are well cared for, Sir William being a most enthusiastic gardener, and in Mr. Denny he has one who falls in with his views and carries them out. The kitchen garden contains a good collection of fruit trees, and some of the Apples had borne fair crops.—*Viator.*

(*To be continued.*)

A USEFUL DICTIONARY OF BOTANICAL TERMS.

We have been favoured by Mr. A. M. C. Jongkindt Coninck, of Bussum, near Amsterdam, Holland, with a copy of a small handbook or dictionary of botanical terms in six languages, which should prove of great helpfulness to all who have to deal with the nomenclature and descriptions of plants. The different languages are all tabulated in one line across the pages, and the column on the left-hand side of each page contains the Latin and Greek names used in descriptive botany. Then follow the French, English, German, and Dutch equivalents respectively. It may be urged that for nurserymen in this country the English column should have been made the index, but the French, German, and Dutch, arguing on similar lines, would no doubt also claim that their language should form the index. The leading fact in the case, however, is that Latin and Greek terms are most widely known, and, in fact, are universally known to all having a knowledge of botany. Then it follows that Latin is the true and universal index, so that one of any nationality in reading the description of a plant would be furnished therefrom with the words of which he desires to know the meaning. In the case of nurserymen who are only acquainted with their own language, and wish to describe their plants in the other languages, a special edition would be necessary, taking their own language as the index. For such men a special edition might perhaps be made by arrangement with the author, and with someone to rearrange the columns and amplify them if necessary. It is chiefly a question of a sufficient number of persons being interested in the dictionary to make an English edition a financial success.

FRUIT RANCHING IN CALIFORNIA.

A few weeks ago we published a report of a lecture delivered on this subject by Mr. Frank Karslake. In course of his remarks the lecturer touched upon the "pupil system" in vogue in many colonies, and dealt with its advantages and drawbacks, the latter of which are generally considered more certain than the former. To do away with the necessity of placing young men in the care of premium-seeking teachers, some of the more prominent British and American colonists in Placer County, California, have established an "Agricultural College," where intending fruit farmers may reckon on receiving full value for their money, which otherwise might go as "premium" to a private individual with less profitable results. Mr. Karslake has a seat on the Board of Management, and has given us full particulars of the institution he has borne a part in establishing, together with an account of the aims and means for putting them in practice. Before we proceed to speak of the college, perhaps it is well to state that among the various letters from parents to himself, which Mr. Karslake offered for our inspection, we found some from gentlemen with whom personal acquaintance suggested direct reference. Accordingly, we have delayed noticing the college until we received such direct information concerning Mr. Karslake's fitness for the work he has undertaken as parents of his pupils could give us. In reply to our inquiries we have received expressions of complete satisfaction with his capacity, knowledge of the business, and *bona fides*. Under these circumstances we feel confidence in bringing the "Placer County Agricultural Training College" to the notice of parents who contemplate giving sons a start in the fruit-growing regions of California.

St. George's Ranch, upon which the college is situated, is one mile from Penryn Station (on the main line of the Southern Pacific Rail), and is near the English Club, available for meetings and social intercourse. It is planted with the best varieties of fruits. Every part of the building is supplied with electric wires, and water-power for operating is now being brought to Penryn. When this is accomplished the college, the stabling, and approaches will be lighted with electricity. The site is a particularly healthy one, on the crown of a hill, commanding superb views of the picturesque mountain scenery of the district, and allowing of perfect drainage. Game, in the form of hares, rabbits, quail, etc., is abundant in the district. Students can keep their own ponies for the net cost of the feed. Each student has a separate bedroom, which can be used as a sitting-room when desired. The resident director is a married English gentleman. In addition the college has another 110 acre ranch devoted to hay and poultry raising; it has also the management of a fruit ranch immediately opposite. These several ranches must afford young men who wish to learn, exceptional opportunities of becoming acquainted with the methods of managing fruit and grain crops. The subjects of instruction seem to embrace everything necessary, viz., clearing timbered land, staking and laying-out a ranch, how to plant a ranch, pruning, budding, grafting, ploughing and cultivating, spraying, picking and packing for market, and methods of irrigating ranches.

A special recommendation of the locality is that there is a considerable resident English colony at Penryn, the nearest town. By natural results there are cricket, football, and tennis clubs, and many other opportunities for healthy enjoyment. Altogether, the college has made a start in the best place for its purpose and under the most favourable auspices. Mr. Karslake gives many young men who have failed to pass the Sandhurst and Woolwich examinations a good start in life, and we are of opinion that if a lad goes out to the college with the intention of working he will do well. At all events we are satisfied that he will be in absolutely trustworthy and reliable hands. The want the college is designed to meet is so genuine that its success should be assured.—*Land and Water.*

GARDENERS' MUTUAL IMPROVEMENT SOCIETIES

The busy time of the year as far as the transactions of many of our Mutual Improvement Societies go is once more with us. Secretaries of societies of this kind will be hard at work preparing their programmes for the coming season of 1894-95. It is really wonderful how popular these institutions have become of late, and, we might add, well they deserve to be. Some few years ago similar societies were much fewer in number than they are at present, when almost every centre has its own Association.

The good that a young man (or a middle-aged man either, for the matter of that) gets by constant and regular attendance at the meetings of a thoroughly good Mutual Improvement Society, is incalculable. Nor is this to be wondered at when we consider that the life experience of no two of the members can be exactly alike. The old proverb says that all roads leads to London, still some are very much better roads than others. Just so with horticulture, there are perhaps many ways of achieving success in the cultivation of any particular plant, but still some methods are superior to others. It is the work of the Mutual Improvement Society, therefore, to find out the best ways of going to work. The knowledge picked up in this manner has the great recommendation of being the result of practical experience in the profession.

I suppose the methods of procedure do not show a great deal of variation—a settled plan of a paper read on the occasion of each meeting and thrown open afterwards to criticism and discussion, the chairman's speech being the signal that the discussion is closed. The essayist himself having the last shot, it is only fair to him if his paper has been much criticised. This plan of action seems to have been tacitly adopted throughout the length and breadth of the country as the best possible one. Still, I think, it would be a most advantageous proceeding if during the season two or three evenings were set apart for "impromptu discussion."

Bearing in mind the fact that one of the advantages derived by young men from attendance at such meetings is the readiness in public speaking that is coveted by so many, but is in reality possessed by so comparatively few—an evening or two spent in this manner would prove of inestimable value. A good way of working would be for each member to bring on a piece of paper a subject which he considers likely to produce a lively and a profitable discussion—the member upon whom the lot falls to speak first having to draw one of the subjects and to offer a few remarks upon it. This would, at least, tune the members of the society up to concert pitch. Each and all would feel that their turn might come at any moment. Of course, after the introductory remarks of the person to whose lot it would fall to open the discussion the subject would be thrown open to debate, which would be closed when, in the opinion of the chairman, the interest attaching thereto had begun to flag, another subject being brought on the tapis by a different member and treated in a similar manner.

With regard to the time allowed to those who take part in the debates, this should in all cases be governed by the number of members present. Where the meetings are regularly attended and a fair percentage of speaking members present, from five to eight minutes should be the limit of time allowed to each speaker. Where, however, less of the debating element attend, this limit may advantageously be extended to ten or even fifteen minutes. It takes some long-winded gentlemen almost ten minutes to get wound up sufficiently, and then they often have to sit down.

A method of procedure adopted by some good societies, with very good results, is to make a list of the papers to be given during the session, two members being appointed to open the discussion following the reading of the paper. The advantages thus gained are twofold. First, members who are appointed to speak on a particular subject at a specified time have a chance to look up their subjects beforehand, and so the occasion usually finds them more or less prepared. Secondly, less valuable time is wasted. It often happens that immediately after the essayist has finished, unless someone is specially deputed to set the ball rolling, the members will sit and look at each other, none of them liking to be the first to start for fear of being considered to be desirous of exhibiting his oratorical powers. When, however, everyone knows that a certain individual is appointed to take precedence of the rest, this feeling of dissatisfaction is not experienced.

With regard to the subjects upon which are to serve as tests for the essays, the more closely they are allied to horticulture the better, although papers upon matters directly connected with horticulture are, as a rule, interesting and instructive. Moreover, the subjects chosen should be treated in as practical a manner as possible, and as far as it is advisable to do so undue technicalities should be avoided. I am speaking now solely of societies where the practical element is the chief mainstay. The old writer who sagely remarked that the unknown possesses great and peculiar attractions, never spoke a truer word. Certain it is that many practical men will, if asked to give a paper, spend an infinite amount of time and take a tremendous lot of trouble to produce a second-rate scientific one, whereas if they confined their remarks to things with which they have had to deal, that is to say with principles of practice, their efforts would lead to much more satisfactory results.

Speaking of the writing of essays, I must not forget to remark that very often it is not always a question with the would-be essayist of "What good can I do my neighbours?" The writer of one or two papers is inclined to say, "How much good shall I do myself?" He has found out from experience that the benefit accruing to him from the writing of previous essays has been immense, and this often enters largely into his reasons for being so willing to start upon the composition of a fresh one, for he knows he will be likely to gain as much knowledge as he will impart, and therefore, from considerations which are very often purely selfish, he willingly acceeds to the expressed wish of his fellow members without a great deal of pressure being brought to bear upon him.—*G.*

EPACRISES.

Among hard wooded plants suitable for greenhouse culture, there are few which merit wider cultivation than they just now receive than do the Epacrises. They are free flowering, lasting when cut for a longer period than most things, and more easily grown, withstanding rough treatment, than their near neighbours, the Ericas, yet we suppose from some freak of fashion they are at present in the background. Possibly it may be owing to the use of fire heat in excess of their requirements when in flower, which causes partial failure in getting them to expand their blooms properly, for anything approaching forcing them into flower prematurely, is certain to cause the flowers to come small and badly coloured, and militates strongly against the health of the plants. At the same time a little extra warmth after they have done flowering and been cut down is most desirable till they break into fresh growth and make plenty of fresh shoots, when they

should be hardened off, and the more airy and cool they can be kept, the better will they flower.

During the time they are in a warm close place, a daily syringing will benefit them; but after that no syringing is required. Good fibrous peat chopped small with a minimum of earthy matter in it, and made rather sandy with coarse Bedfordshire silver sand is the best compost to grow them in, and particular care should be exercised in the drainage, for they are very impatient of stagnant water; pot firm and avoid filling the pots too full. Allow room for a liberal supply of water when required so that the plants get a thorough soaking each time of watering, and if any doubt arises respecting this, give a second or even a third watering and make sure that it has penetrated through the ball. This is most essential to their well-being, in fact unless careful attention to watering is persisted in failure is certain. At the same time, with proper attention, we hold that there is no class of hard-wooded plant more easily managed, or which gives more satisfactory results for the small amount of attention required.—*W. B. G.*

GARDENING ON A SMALL SCALE FOR PROFIT.

In these days when it is frequently affirmed that only large growers can make a living, and some among them, owing to the low prices which prevail, find it a difficult task to hold their own, to raise the question of making gardening on a small scale pay may appear to some a little out of place, but there are instances to be found of industrious men living near towns with gardens large enough to occupy most of their spare time who manage to make them a source of profit after supplying their families with vegetables. Those who have more ground than enough to supply the requirements of their own household, if they have a sufficient knowledge of the cultivation of hardy flowers, we mean such as are so largely used in the neighbourhood of towns, namely, Wallflowers, Canterbury Bells, Daisies, Pinks, Sweet Williams, Polyanthus, Pansies, etc., which are all readily grown by division, seeds, or cuttings, will do well to devote some of their spare ground to their cultivation, and at the same time cultivate the very best strains procurable. This will cost a little more for stocking the ground at the outset, but will in the end well repay the extra outlay, because when it gets generally known that whatever he has to part with is the best of its kind procurable he will find a readier sale for his plants than his less enterprising neighbours.

In respect to vegetable culture the same plan of growing only the best should be adopted, and it will often be better to depart from the ordinary system of cropping and grow only a few things which experience tells him succeed best, following in this respect the lead of the market-men who generally find it best to concentrate their energies on the production of a few specialities and do them first-rate. This is how a few men often have for a time the command of the market for some special production, selling it at a price above that obtainable by others. Early Potatos on warm soils are still fairly remunerative and can be cleared off in time to plant Broccoli, or, better still, Veitch's Autumn Giant Cauliflower. This would be off the land before Christmas and so allow ample time to get the ground manured, trenched, or ridged up for the ensuing summer's crops. To do this it is most essential that liberal supplies of manure be worked into the ground.

There are in most localities those who know the advantages which fresh gathered vegetables possess over those which have been marketed, and will readily pay the best price for own grown produce when they can get it, so that the small grower will, with a little effort on his part, be able to pocket that which the market-man has to let go into the middle-man's till. French Breakfast Radishes pay well enough early, and can be cleared in ample time for an early crop of Celery. This, to pay, must be done first-rate, if the grower cannot get it quite up to the mark he had better limit his growth of this crop to his own requirements. The difference in the price per stick of medium and first-class stuff is more than one-half. Rhubarb well manured and forwarded by being covered over with litter is a good paying crop; the number of stalks gathered from good productive stools would surprise many. For the earliest crop we prefer Champagne on account of its precocity and its colour. The only drawback we know of is that it bruises so readily, but here the small grower if careful will have an advantage over the green-grocer, whose bunches having been handled several times are almost invariably bruised.

Sea Kale generally finds a ready sale, and if grown on what is called the natural system would cost but little to produce, and we may add that having received as good a price for it grown on this plan quite late in the season as really good forced Kale, we can with every confidence recommend the adoption of this plan to any who have the means of following it out. Cabbages pay well if early, but from the enormous growth of these the difference of a few days will often bring down the price to one-half that at which they started. It will generally happen that Red Cabbage will pay the small grower much better, these being less trouble to dispose of at a paying price than he would have in selling Spring Cabbage, unless he had them in very early; and these to answer his purpose should be off the ground by the end of June and the ground got ready for another crop.

Turnips or Onions, the latter if sown thick and drawn green, command a ready sale. Vegetable Marrows generally pay very well and will often realise a better price than Cucumbers, if extra early. Of Peas we would say to the small man beware, they are comparatively costly to produce, and unless exceptionally early or late seldom pay the small grower. Lettuce on good ground will often pay well as a catch crop between other things. Among herbs Mint, if afforded some protection to get it a little in advance of that grown in the open, finds a ready sale at good prices during the lamb season, and considering the little trouble it entails is one of the best paying things grown.

French Beans and Scarlet Runners will pay well enough in some places, but the latter, owing to its almost universal culture by those having only a tiny garden, is often a bad selling thing, and unless the small grower is tolerably certain of a sale for them, he had better only grow these for himself. The market is sometimes so glutted with them that they can scarcely be given away. With these and other things he should consider what demand there is likely to be and confine his attention mainly to things which he finds do best and sell well in his own locality. In this, as in most other matters, experience is the surest guide. Seed saving to a limited extent may add something to his profits, but let him beware of making attempts at saving seed of any of the Cabbage tribe, because in all probability some neighbours will be having a miscellaneous collection of these flowering at the same time, and his chances of saving anything of the family true are small indeed.

We had almost forgotten Brussels Sprouts, possibly the best paying crop among the Brassicas. Get a good market strain, do them well, and have them early. In our own experience of selling vegetables this, in most seasons, proved the most remunerative crop in the garden. Another good paying crop is Egyptian Beet, but it must be early and be got rid of quickly, and Spinach after severe winters, which sometimes almost annihilate winter greens, will often pay famously well, costing little for seed or preparation of ground.—*W. B. G.*

GARDENING MISCELLANY.

APPLE—LEMON PIPPIN.

This is an Apple which, unlike the varieties of recent introduction, can boast of a history. It has been a well known occupant of our orchards and fruit gardens for many a long year. In season from October to April, it is suitable either for kitchen use, or for appearance upon the dinner table as a dessert fruit of first-class quality. The tree is hardy, of good constitution, and will continue in bearing for a great number of years. It is one of the most easily distinguished Apples known to us, and the name applied to it is really a most appropriate one. In both shape and colour it very closely resembles a Lemon, and the stalk is of a peculiar shape, being very short, and completely covered with the fleshy elongation of the fruit. It is stated that the first instance we have of the name Lemon Pippin being applied to this Apple is in "Ellis's Modern Husbandman," in which it is stated concerning this Apple that "it is esteemed so good an Apple for all uses that many plant this tree in preference to all others." This was as far back as the year 1744, although the fruit must unquestionably have been extensively cultivated some years prior to that date, as we find it mentioned by early writers, such as Rogers and Rea, under the name of the Quince Apple.

A NOVELIST AND FLORIST IN COURT.

In the Queen's Bench Division last week, before Mr. Justice Cave, Mr. David Christie Murray, author, sought to recover damages from Mr. Strudwick, the well-known florist of the Bayswater Road, in respect of personal injuries sustained through the alleged negligence of the defendant's servant. It was stated for the plaintiff that on the 31st of March last he and a young lady were being driven along Bayswater Road in the direction of Bond Street in a hansom, and when the vehicle arrived at a spot near defendant's shop it was struck violently by a ladder which was being carried on a man's shoulder from the defendant's yard into the Bayswater Road. The hansom was overturned, and the driver was thrown off his box and had his thigh broken by a passing trap. Plaintiff and the lady both received injuries, the former having his right hand severely cut. In consequence of his injuries plaintiff was unable to do any work for some time. The defendant admitted that the ladder was his property, but contended that the accident was due to the hansom being negligently driven against the ladder whilst it was being conveyed along the highway, and Mr. Justice Cave held that no case of negligence had been made out. It was clear, he said, that the cabman drove too near the ladder which was being conveyed along the high road, and therefore there would be judgment for the defendant, with costs.

STRAWBERRIES IN POTS.

Steps should be taken without delay to afford protection to those plants in pots which it is intended to force during the coming spring. Whilst frost has no effect upon them at all, the heavy rains that usually visit us at intervals about this time of year are decidedly injurious. Copious and repeated downfalls of rain, such as we have experienced during the past week, must necessarily wash a great part of the nutriment out of the soil; and as this is a consideration of considerable importance, something must be done to protect the plants from the weather. If the pots are plunged in the open, lights may temporarily be placed over them to exclude the rain, and yet at the same time allow free ventilation. It is advisable, however, to plunge them at the commencement of winter in places where preparations for sheltering have been made—either in the protection ground or in any spare frames that may be available. In the latter case, however, the lights must be pulled off as often as the weather permits.—*Fragaria.*

LESSONS FROM FLOWER SHOWS.

I have read with interest the remarks that have appeared in your columns on this subject. I quite agree with some of your correspondents that note-taking is overdone, and as "O" takes objection to some of those remarks, probably he is connected with the "trade" and delights in note-taking as leading to "business." I have visited the Kingston Chrysanthemum Show several seasons in the evening, as I was unable to be there earlier in the day, and I think any of your readers will bear me out that "note-takers" are a veritable nuisance at that time when the Drill Hall is always crowded, such conduct renders it utterly impossible to catch a glimpse of the principal exhibits, especially with the spectators moving either way, which suggested to my mind that the promenade space should be divided by ropes, and the company made to move one way. I hope it is so now. I justly admire a man that takes notes with an aim, but have no sympathy when I see several yokels grouped in front of a prize stand of blooms, lacking the common courtesy to move for anyone; some of them are busy with the "note-book" in hand writing down the name of every variety, which some of their comrades are obliged to spell out for their edification. I have often wondered why such "note-takers" do not peruse the excellent account that is given of the exhibition in the gardening periodicals! Probably

they are in blissful ignorance of their existence! They would thereby save annoyance to many gardeners and others.—*Pathfinder.*

PORTULACCAS.

"THOSE pretty Portulaccas!" That was the expression made use of by a lady a few days since, in my presence, at the seed trial grounds of Messrs. Sutton & Sons at Reading, when looking upon a long line of this gorgeous annual. We owe this charming plant to South America; and, though at one time much grown, is now rarely seen, though it has great claims to recognition. The plants grow to a height of about 9 in., make a remarkably bushy growth, and are very free of bloom. There are several shades of colour in the striking, saucer-shaped flowers, and they vary in colour from white, or almost white, to rose and rich magenta. It is a sun-loving plant, and when seeds are sown, at the end of March or early in April, it should be in the driest and hottest part of the garden, and in light and sandy soil. It is, perhaps, because these conditions are absent in many gardens that the pretty Portulaccas have ceased to be grown as much as they deserve to be, and therefore it is well sometimes to call attention to the claims of old but neglected favourites.—*R. D.*

BEWARE OF FOREIGN PRESERVED PEAS.

Two Chester grocers have recently been fined 20s. each and costs for selling foreign preserved Peas adulterated with sulphate of copper, in one case to the extent of 2½ grains to the pound, and in the other to the extent of 1½ grains. The medical officer of health stated that the quantity of sulphate of copper found in the samples would be injurious to health, and it would be impossible to say how little could be used without being prejudicial to health, copper was so deadly a poison. Mr. Smith pointed out that the retailers of these Peas could protect themselves from prosecution by procuring a written warranty from the manufacturer that the Peas were pure. Surely it would be better for retail tradesmen to buy their Peas from an English firm from whom they could get a warranty, and then they would have their proper remedy, as French manufacturers could not be got at. The Chairman: That would be contrary to public policy, would it not? All the tendency nowadays is to buy everything foreign and nothing English. One of the defendants stated that he wrote to the firm from whom he made the purchase asking for a written warranty. They replied that they could not give a warranty, as a certain amount of sulphate of copper had to be added to the Peas to give them a colour.

QUESTIONS AND ANSWERS.

PLANTS FOR A TOWN GARDEN.—*Thomas Finch*: Seeing that your garden is so much surrounded and shaded, you might grow hardy British Ferns in the more shady positions. Good varieties are just as easy to grow as bad ones, and are more pretty and interesting. The Crested Male Fern (Aspidium Filix-mas cristata) and numerous crested varieties of the Lady Fern, and forms of Aspidium angulare, would suit you admirably. The common forms are also more or less handsome. Various kinds of Pansies and Violas would grow best raised from seed; or, if you have a frame to keep them through the winter, sow the seeds in boxes in September and plant out about the end of March. You could take cuttings and insert them in boxes, and protect with a frame till spring. Seedlings usually thrive best in confined places. Sweet Peas do well with us sown in March. Other annuals that generally do well in town gardens are Eschscholtzia californica, Collinsia bicolor, Clarkia pulchella, Calendula officinalis, Dimorphotheca pluvialis, varieties of Mimulus, Chrysanthemum carinatum, Corn Blue Bottle (Centaurea Cyanus), Erysimum Perofskianum, annual Sunflowers, Limnanthes Douglasii, Shirley Poppies, varieties of Scabiosa atropurpurea, French and African Marigolds, and others. We could give you a list of perennials if desired.

CLIMBER FOR WALL OF A HOUSE.—*Thomas Finch*: The most suitable and the prettiest for your purpose is the Japan Ivy, best known in this country as Ampelopsis Veitchi. It is common, and easily obtained. It is allied to the Virginian Creeper, but much neater, and not an Ivy; the foliage assumes a beautiful bronzy tint in autumn. Should you prefer them, there are many beautiful forms of the true Ivy, both green and variegated. The common white Jasmine (Jasminum officinale), Honeysuckle, and the Dutchman's Pipe (Aristolochia Sipho), are also excellent in their way. The first named should be nailed to the wall at first, but it will afterwards cling of its own accord.

TOWN GARDEN.—*Thomas Finch*: We quite understand the difficulty of the situation in dealing with a garden so much surrounded with houses as the one you describe. Shelter is all very well in its way, but when houses and tall fences come too close to a small garden they shut out the daylight in part, and also deprive the plants of necessary ventilation; for a certain play of wind upon the plants is beneficial and essential to their health, as it is to human beings. Under those conditions, all you can do is to make the best of existing circumstances. Your soil is doubtless very rich in decaying vegetable matter, and we believe that a good sprinkling of lime every second year would do it good. We believe greatly in trenching old garden soil every year, or every second year. Provided the good soil is deep enough, we should trench is to the depth of 2 ft., placing the top spit in the bottom. Previous to this loosen up the bottom with a fork, as it allows the water to drain away more quickly, and enables the plants in summer to obtain moisture more easily. Deep trenching buries the eggs and pupae of insects and other creatures, such as slugs, snails, centipedes, &c., so deeply that they are unable to get to the surface the following summer. If, however, your neighbours' gardens are weedy and badly tended, you cannot help getting some of their insect and other pests. There are various ways of getting rid of ants, but some of the remedies are highly poisonous, and would hardly be safe to use in a small garden so near the house. Digging up their nests in winter is a good plan, as the ants and their pupae, popularly termed eggs, may then be easily destroyed. In spring search for their nests, and lay on bits of slate a mixture of one part of calomel to ten parts of powdered sugar. They will eat this and die. Carbolic acid diluted in twelve times its bulk of water and sprinkled about their nests will kill or drive them away. It must not be put on soil where plants are growing. The same applies to paraffin, otherwise very useful. Whatever remedy you undertake, persist in it for some time, and the ants will be killed or leave your garden. Harass them incessantly by hoeing and raking about their nests and runs.

PLANT FROM THE ALEUTIAN ISLANDS.—*M. M.*: The leaf you sent was that of a Bramble closely allied to the Japanese Wine-berry (Rubus phoenicolasius) but apparently not quite identical. The Brambles are so numerous, and many of them so closely similar, that they require a good supply of material with which to determine it. If it is of the same habit as R. phoenicolasius, you will have no difficulty of growing and fruiting it in a greenhouse or conservatory with plenty of head room. Flowers, leaves, and a piece of the current year's stem not bearing flowers, would be necessary to determine what it is.

FUNGUS ON RUDBECKIA.—*M. M.*: The piece of stem sent was perfectly dried up, but any fungus that might be attached to it was probably on the outside, all the rest being healthy enough. In all probability it was only the common mould which attacks dead matter, and does not kill plants like true parasites. Shelter, moisture, and decaying leaves about the base of the plants you mentioned, must be held accountable for the presence of the mould, and in all likelihood you will see no more of the fungus.

NAMES OF PLANTS.—*John Young*: 1, If dwarf, bushy, and the young fronds not red, it is Adiantum Victoriae; if red, then it is A. rhodophyllum; 2, Phyllanthus nivosus; 3, Muehlenbeckia platyclada. The two latter would grow in an intermediate house, and possibly in a greenhouse, but we should keep the best plants in a stove, at least in winter.—*A. S. D.*: 1, Dendrobium bigibbum; 2, Coelogyne speciosa; 3, Oncidium Forbesii; 4, Maxillaria punctata.—*G. S.*: 1, Rhus glabra laciniata; 2, Retinospora obtusa; 3, Abies Nordmanniana.

EVERGREENS FOR WINDOW BOXES.—*W. Brown*: We should have supposed that a smaller number than two dozen would have sufficed, unless you have many windows to fill and would like variety. The following are amongst the best:—Cupressus Lawsoniana erecta viridis, C. L. Allumi, C. L. Fraseri, Retinospora plumosa, R. p. aurea, R. squarrosa, R. obtusa, R. leptoclada, Irish Yew, Golden Irish Yew, Juniperus virginiana, Veronica Traversii, V. pinquifolia, Green and Golden Box, Aucuba japonica, Bambusa Fortunei variegata, variegated Hollies, Olearia Haastii, Osmanthus ilicifolius and varieties, Pieris floribunda, Pernettyas in berry, Skimmias in berry, small flowering plants of Laurustinus, and Wallflowers or, if you prefer it, Thuya orientalis elegantissima; and any of the Euonymuses.

FRUIT NAMED.—*J. R. M.*: Peach, Late Admirable; Apple, New or Winter Hawthornden; Pears, 1, Louis Bonne of Jersey; 2, not recognised, probably a local variety; 3, Beurré Diel; 4, Marie Louise; 5, Catillac; 6, Catillac; 7, Doyenné du Comice; 8, Winter Nelis. A box received last week (letter mislaid), contained Pears:—2, Colmar Van Mons; 3, Verulam; 4, Beurre Sterckmans; 6, Ne Plus Meuris; 7, Comte de Flandres.

BOOKS WANTED.—*A. Rixon*: "Botany for Beginners," by Dr. M. T. Masters, published by Bradbury, Agnew & Co., price 3s. 6d.; "Plant Life on the Farm," by the same author and publishers, price 2s. 6d.; "Primer of Botany," by Sir J. D. Hooker, published at 1s. by Macmillan & Co.; "Epitome of Gardening," by T. Moore and M. T. Masters, published at 6s. 6d. by A. & C. Black; "Cassell's Popular Gardening," published by Cassell & Co., in two volumes, is sold, we believe, for 14s. Please inform us what book on agriculture you mean, or who is the author of it? There are so many books on the subject that we require some guide as to your wants.

COMMUNICATIONS RECEIVED.—H. J. V.—J. & R. I.—J. O. L.—R. O.—C. G. P.—W. B. G.—S.—A. W. G. W.—R. D.

TRADE CATALOGUES RECEIVED.

DAMMANN & Co., San Giovanni a Teduccio, Naples, Italy.—Price List of Seeds.

JAMES COCKER & SONS, Morningfield, Aberdeen.—Roses, Forest and Ornamental Trees, &c.

H. GUSMUS, Klagenfurt-Lund, Oesterreich, Germany.—Garden and House Plants.

FREDERICK ROEMER, Quedlinburg, Germany.—Novelties in Flower Seeds.

LONDON SEED TRADE.

October 30th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate enquiry for Alsike. Red Clover is higher owning to a Continental demand. White Clover in short supply and higher. Rye grasses steady.

COVENT GARDEN MARKET.

October 31st, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d
Apples.....per bushel	3 0	9 0	Peaches & Nectarines, per doz.	2 0	10 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	22 6	25 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0
Melons .....each	1 0	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 6	1 0	Lettuces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 6	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Heliotrope...per doz.	3 0	6 0
—specimen plants, each	5 0	15 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz	6 0	0 0
Chrysanthemums, per doz.	4 0	15 0	Palms in variety, each	2 6	10 0
Dracaena term., doz.	18 0	36 0	Palms, Specimen ...	15 0	63 0
Dracaena viridis, doz.	9 0	18 0	Pelargoniums, scarlet per doz...	3 0	6 0
Evergreens, in var. doz	6 0	24 0	Primulas, per doz. ...	4 0	6 0
Ferns, in var., per doz.	3 0	8 0	Solanums, per doz. pots	10 0	12 0
Ferns, small, per 100	3 0	6 0			
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Arum Lilies, 12 blms.	3 0	5 0	Marguerites, 12 bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	1 0	3 0
Carnations...per doz.	1 0	2 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Carnation, doz. bchs.	9 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Chrysanthemums, doz. blooms	2 0	6 0	Pink Roses...per doz.	2 0	4 0
,, doz. bunches	3 0	9 0	Pyrethrum doz. bun.	2 0	4 0
Eucharis ...per doz.	2 6	4 0	Primula, double, bun.	0 6	0 9
Gardenias 12 blooms	2 0	4 0	Roses .....doz. bchs.	6 0	12 0
Hellotropes, 12 sprays	0 6	0 9	Roses, yellow, dozen	2 0	4 0
Lilium Harrisii, doz. blooms	6 0	9 0	— Red..... doz. blms.	1 0	1 6
Lilium lancilollum, white.....doz. blms.	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Scarlet Geraniums, doz. bchs.	4 0	6 0
			Tuberoses, per doz	0 4	0 6

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The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

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FLOWER SHOW FIXTURES, 1894.

NOVEMBER.

8, 9, 10.—Stratford Chrysanthemum Show.
9.—Gloucester Root Show.
9.—Reigate Chrysanthemum Show.
9.—Hitchin Chrysanthemum Show.
9.—Dalkey Chrysanthemum Show.
9.—Exeter Chrysanthemum Show.
9, 10.—Nottingham and Notts. Chrysanthemum Show.
9, 10.—Wellingborough Chrysanthemum Show.
9, 10.—Leicester Chrysanthemum Show,
9, 10.—Balham Chrysanthemum Show.
10.—Derby Chrysanthemum Show
10.—Bacup Chrysanthemum Show.
10.—Utley Chrysanthemum Show.
10.—Crewe Chrysanthemum Show.
13.—Yeovil Chrysanthemum Show.
13. 14.—Loughton Chrysanthemum Show.
13, 14.—Horsham Chrysanthemum Show.
13, 14.—Southampton Chrysanthemum Show.
13, 14.—Ipswich Chrysanthemum Show.
13, 14.—Clevedon Chrysanthemum Show.
13, 14.—Ulster Society's Chrysanthemum Show at Belfast.
13, 14.—Great Yarmouth Chrysanthemum Show.
13, 14.—Kingston Chrysanthemum Show.
13, 14.—Plymouth Chrysanthemum Show.
13, 27.—R.H.S., Drill Hall.
14.—Windsor Chrysanthemum Show.
14.—Reading Chrysanthemum Show.
14.—Banbury Chrysanthemum Show.
14, 15.—Wimbledon Chrysanthemum Show.
14, 15.—Cheltenham Chrysanthemum Show.
14, 15.—Reading Chrysanthemum Show.
14, 15.—Lewes Chrysanthemum Show.
14, 15.—Barnsley Chrysanthemum Show.
14, 15.—Hartlepool Chrysanthemum Show.
14, 15.—East Finchley Chrysanthemum Show.
14, 15.—Cardiff Chrysanthemum Show.
14, 15.—Castletown Chrysanthemum Show.
14, 15.—Jersey Chrysanthemum Show.
14, 15.—Dartford Chrysanthemum Show.
14, 15.—Tonbridge Chrysanthemum Show.
14, 15.—Southgate Chrysanthemum Show.
14, 15.—Worthing Chrysanthemum Show.
14, 15.—Canterbury Chrysanthemum Show.
14, 15.—Hereford Fruit and Chrysanthemum Show.
14, 15.—Rugby Chrysanthemum Show.
14, 15.—South Shields Chrysanthemum Show.
14, 15.—R.H S. of Ireland Chrysanthemum Show.
14, 15.—Stoke Newington Chrysanthemum Show.
14, 15.—Tamworth Chrysanthemum Show.
14, 15.—Aylesbury Chrysanthemum Show.
14, 15.—Birmingham Chrysanthemum Show.
14, 15.—Bristol Chrysanthemum Show.
14, 15.—Hull and East Riding Chrysanthemum Show.
14,15.—Tunbridge Wells Chrysanthemum Show.
14, 15, 16.—Faversham Chrysanthemum Show.
14, 15, 16.—Society of York Florists' Chrysanthemum Show.
15.—Tiverton Chrysanthemum Show.
15.—Crediton Chrysanthemum Show.
15.—Kilmarnock Chrysanthemum Show.
15.—Birkenhead and Wirral Chrysanthemum Show.
15,—Newton Abbot Chrysanthemum Show.
15.—Southport and Birkdale Chrysanthemum Show.
15, 16.—Lincoln Chrysanthemum Show.
15, 16.—Melton Mowbray Chrysanthemum Show.
15, 16, 17.—Edinburgh Chrysanthemum Show
15, 16.—Tottenham Chrysanthemum Show.
15, 16.—Swansea Chrysanthemum Show.
15, 16.—Winchester Chrysanthemum Show.
15, 16.—Wokingham Chrysanthemum Show.
15, 16, 17.—Norwich Chrysanthemum Show.
16.—Waterford Chrysanthemum Show.
16.—Whitehaven Chrysanthemum Show.
16, 17.—Hinckley Chrysanthemum Show.
16, 17.—Chorley Chrysanthemum Show.
16, 17.—Bolton Chrysanthemum Show.
16, 17.—Bradford Chrysanthemum Show.
16, 17.—Stockport Chrysanthemum Show.
16, 17.—Sheffield Chrysanthemum Show.
16, 17.—Chesterfield Chrysanthemum Show.
16, 17.—Eccles, Patricroft, Pendleton, and District Chrysanthemum Show.
17.—Batley Chrysanthemum Show.
20.—Helensburgh Chrysanthemum Show.
20, 21.—Hanley Chrysanthemum Show.
20, 21.—Chester Paxton Society's Show of Chrysanthemums and Fruit.
20, 21.—Ripon Chrysanthemum and Fruit Show.
21.—Ayr Chrysanthemum Show.
21, 22.—Southwell Chrysanthemum Show.
21, 22.—Lichfield Chrysanthemum Show.
21, 22.—Newcastle-on-Tyne Chrysanthemum Show.
21, 22, 23.—Glasgow Chrysanthemum Show.
22.—Thame Chrysanthemum Show.
22.—Neath Chrysanthemum Show.
23, 24.—Chrysanthemum Show in the Town Hall, Manchester.
23, 24.—Stockport Chrysanthemum Show.
24.—Birstall Chrysanthemum Show.
24.—Dundee Chrysanthemum Show.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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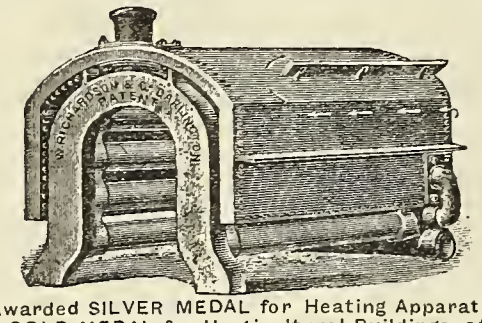

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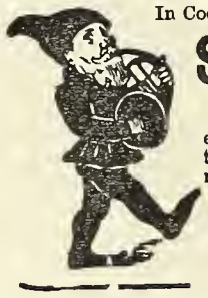

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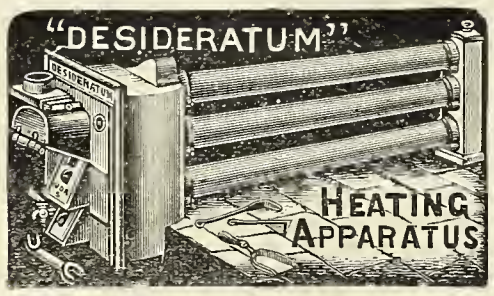

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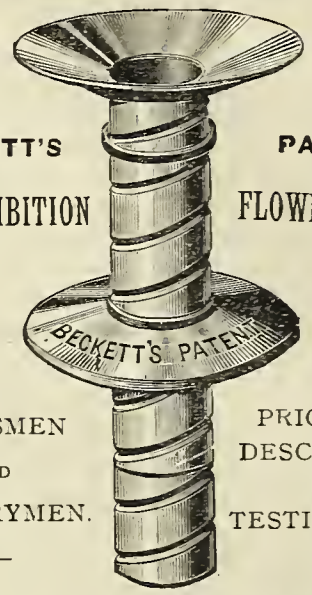

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For Index to Contents see page 174.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 12th.—Bulb Sale at Protheroe & Morris Rooms, and every day in the week.

TUESDAY, Nov. 13th.—Chrysanthemum Shows at Farnham, Yeovil, Loughton, Horsham, Southampton, Ipswich, Clevedon, Belfast, Great Yarmouth, Kingston, Plymouth.
Royal Horticultural Society: meeting of Committees at 12 o'clock.
Sale of Mexican Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, Nov. 14th.—Chrysanthemum Shows at Windsor, Reading, Banbury, Wimbledon, Cheltenham, Reading, Lewes, Barnsley, Hartlepool, East Finchley, Cardiff, Castletown, Jersey, Dartford, Tonbridge, Southgate, Worthing, Canterbury, Hereford, Rugby, South Shields, R.H.S. of Ireland, Stoke Newington, Tamworth, Aylesbury, Birmingham, Bristol, Hull, Tunbridge Wells, Faversham, York.
Sale of Lily Bulbs, Plants, &c., at Protheroe & Morris' Rooms.

THURSDAY, Nov. 15th.—Chrysanthemum Shows at Tiverton, Crediton, Kilmarnock, Birkenhead, Newton Abbott, Southport, Lincoln, Melton Mowbray, Edinburgh, Tottenham, Swansea, Winchester, Wokingham, Norwich.
Sale of Plants, Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, Nov. 16th.—Chrysanthemum Shows at Waterford, Whitehaven, Hinckley, Chorley, Bolton, Bradford, Stockport, Sheffield, Chesterfield, Eccles.
Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Nov. 17th.—Chrysanthemum Show at Batley.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 10th, 1894.

MODERN PHASES IN CHRYSANTHEMUM GROWING.—Taking a general view of the development of the Chrysanthemum, it has every appearance of being still young; and this becomes more evident when we compare it with other florists' flowers which in many cases seem to be at a standstill. It practically took a new lease of life on the introduction of the ragged looking Japanese varieties at a time when the incurved type had about reached its zenith and was unable to give rise to any further appreciable variation. In the case of Auriculas, Pinks, Picotees, Polyanthus, show Dahlias and others, the finer named types have been kept alive for many years by the close attention and care of specialists, who hand them down from the one to the other. It is altogether different with Japanese Chrysanthemums, the best and most popular of which, during the last ten years, have been superseded by newer acquisitions and improvements. This is undoubtedly due in a large measure to the great enthusiasm of relatively a few specialists who are both raisers, introducers and cultivators in most cases. Thanks are also due to the same and to florists at large for not adopting a standard as to shape, or foolish and restricted rules about ideals or paragons of perfection; for all such lead in a few years to a plethora of varieties all modelled upon the same plan, and bewildering to the general public in their apparent utter lack of appreciable variation. The eye soon becomes satiated when a hundred or perhaps two hundred varieties of anything are most conspicuous by one half being undistinguishable from the other. To the free scope allowed the Chrysanthemum, its popularity is undoubtedly due.

As in the case of every class or race of plants taken in hand and rendered popular, so in Chrysanthemum culture a set of technicalities has grown up as it were spontaneously amongst the growers and without any guidance from science, The technical terms are known only to cultivators and to the initiated. According to the botanist, the inflorescence is indefinite and while the florets of each head are centripetal the heads themselves are centrifugal. The flowers are terminal in all cases where they are situated at the end of a stem or branch and lateral if they arise at the sides. Those who grow Chrysanthemums for large blooms are not interested in any buds except those which terminate the stem or the few leading branches which they permit to grow, and to these they give different names. The first bud which arises and will develope into a bloom they term the crown bud; but if that should fail to develop or is intentionally pinched out, the buds that come on the side branches are described as terminals. In either case the botanist would consider them terminal.

Some growers speak of the June or July bud as if it was something entirely different. The fact is, that as new varieties arise, some of them are found to cease growing, and terminate in a bud at almost any time of the year, and some of them weaken themselves by attempts at precocious blooming, and it is with difficulty that they can be restrained from setting buds and made to delay flowering till November, which is popularly regarded as the proper season. In such cases the growers find it convenient to speak of the first crown bud, the second crown bud, and the terminals. The early produced buds seldom come to anything during the summer months if left to their own resources, because the plant, being still in the full vigour of growth, it throws out lateral branches, which rob the terminal bud of sustenance and soon overtop it. This is good evidence that the Chrysanthemum is naturally an autumn bloomer. The first bud stops the growth of the primary axis, but the plant increases in height by the production of secondary, and even tertiary axes. It is, therefore, natural for the stems to become branched and bushy. To get large blooms the grower is obliged to reduce the number of branches by severe, constant, and timely disbudding.

The other labours of the grower consist in unremitting attention to watering, feeding, staking, and the destruction of insect pests. The increase of the food of the latter generally results in their becoming a great plague and a nuisance. The comparative immunity which the Chrysanthemum enjoys must be due in a large measure to the plants being daily under the scrutinising eye of the cultivator, so that he is continually waging war against caterpillars, plant bugs, frog-hoppers, brown and green

aphides. A small moth of the Tineina class seems the most difficult enemy to battle with, but according to our experience it is chiefly troublesome during dry summers only, as in last year. It penetrates the flower stalks just beneath the bud, and thus prevents it from any further development. Were Chrysanthemums presently to get into disfavour, and be neglected by allowing them to stand or grow in places overgrown with weeds, they would soon get ruined with insect pests. At present, however, there is not the slightest sign of such neglect or misfortune. During the present and next week the queen of autumn flowers has and will be reviewed and commented upon by all classes of people, traders, gardeners, amateur growers, and the British public generally. It is remarkable with what enthusiasm amateurs will rehearse their successes with certain varieties, and curious to note the firmness of their decision to discard others as worthless, although they have given them only one trial during the present unfavourable season. There is such a wealth of variety to select from that no despondence is exhibited at failure with certain sorts. We are surprised, however, that some growers should place W. H. Lincoln, Val d'Andorre, and J. S. Dibbins in the category of varieties that fail to give satisfaction.

The leading Chrysanthemum show for London, or, indeed, for Britain, has again been carried to a successful issue, and the thousands of visitors who attended it were more charmed than ever with the gorgeous display of bloom. Even connoisseurs who are well versed in all that pertains to the glorious autumn flower admitted that their expectations were more than realised after such a lengthened and sunless season as the past. The incurved varieties were hardly up to the standard in size and finish; and the general opinion was that they were lacking in rich colouring and variety. The bad season has been more prejudicial to them than to their redoubtable rivals of the Japanese section. The fact is that the latter are more pliable, and continue to improve by the introduction of newer and larger blooms that more readily respond to the art of the cultivator, and so keep up their reputation and public interest in spite of the adverse and fickle British climate. The public interest they created more than made up for the deficiency of the incurved varieties. Competitive groups were conspicuous by their absence, much to the disappointment of many. Table decorations gained considerably in interest and effectiveness on this occasion, and the American style of exhibiting blooms cut with long stems and artistically arranged in vases was much admired by an appreciative public. On the whole, Chrysanthemum culture is still full of life and healthy vigour, and seems likely to go on prospering for many years to come.

Royal Horticultural Society.—At the next meeting of this Society, which takes place in the Drill Hall, Westminster, on Tuesday next, a lecture on Chrysanthemums will be given by Mr. C. E. Shea, at 3 p.m.

The South Shields Chrysanthemum Show, not previously included in our list, is fixed to be held on the 14th and 15th inst., and promises to be better than ever.

Death of Mr. Henry Sibray of Sheffield.—We regret to hear of the death on the 24th. ult., at his residence, The Hollies, Handsworth, of Mr. Henry Sibray, of the old established, and much respected firm of Messrs. Fisher, Son, and Sibray, of the Handsworth Nurseries. The deceased, who was fifty-seven years of age, when only a lad joined the firm of Messrs. Fisher, Holmes, and Co., and devoted much painstaking attention to the interests of the firm. A few year later he married the eldest daughter of the late Mr. Edward Holmes, and subsequently when his father-in-law retired from business, took his place as a partner in the concern. The deceased gentleman devoted himself almost entirely to his business, and took very little part in public affairs. He leaves one son, Mr. E. E. Sibray.

Fruit Growing for Profit!—Mark Twain relates that when he was editing an agricultural paper in America he made the unfortunate announcement to his readers that the best way to gather turnips was to shake them from the tree. Amateur fruit growers, it seems, says the *Worcester Journal*, do almost equally funny things. A gentleman from Chester, who read a paper on fruit culture at the Worcester Conference last week, told a story of having been called in by a would-be grower to see why his young trees did not grow. The expert found that some of the trees had been planted three feet deep. Questioned as to the reason for this, the grower replied that he had bought a lot of the trees at a sale, and had planted some of them deep "to make all the tops level!"

The advantages of Tree Culture.—Tree Culture, says a writer on British Forestry in *Blackwood's Magazine*, increases the fertility of the soil. It does this in more ways than one. Reference has already been made to the protection which the woods provide to the soil from the effects of extreme heat and extreme cold, as also to the shelter from the blasting influence of dry arid winds. Woods, moreover, prevent the waste of soil by washing in times of heavy rainfall. But the influence of woods on the soil is not merely negative. They break up and loosen the lower layers by the operations of the tree roots. They add largely to the fertility of the surface soil by the great mass of vegetable matter which drops upon it from the leaves, and there decomposes and turns into humus. The tendency of all this is to raise the temperature of the soil, and to render it capable of maintaining higher forms of vegetable life than it produced before it grew a crop of trees. Examples of the truth of this may be found in many parts of the country.

Noble Market Gardeners.—Discussing the question of Railway Rates and Charges in connection with the subject of fruit growing as a panacea for agricultural depression, a correspondent of the *Mark Lane Express* remarks that "Small holders of land might make money from choice fruit and vegetable growing were it not that the price of these is, probably in every county in England, kept down by the fact that, say, eight out of ten of the 'nobility and gentry' have become market gardeners. About this, I am told, there is a bitter feeling in some districts. It cannot be called fair competition, for perhaps thousands of pounds have been spent on some of their gardens (without regard to whether it would pay or not). If every expense were reckoned, from first to last, I doubt not, much of this gentleman's garden produce is sold at less than half what it has cost to grow it."

National Chrysanthemum Society's Catalogue.—With the hundreds of new Chrysanthemums that are appearing every year it is impossible to remember the half of those that are accorded certificates, letting alone those that get no recognition at all. The latter are generally of small importance to the general public and of no value practically to those who grow entirely for exhibition, so that we are not surprised that the National Chrysanthemum or any other Society should decline to catalogue them. When they are honoured with certificates it is good evidence that they are worthy of cultivation and fit for exhibition. A large number of the others must die out or be discarded every year. The Society in question has just published a second supplement to the Centenary Edition of the catalogue, and this includes only the very best of the varieties that have appeared since the centenary edition was published in 1890. One supplementary list it may be noticed was bound up with that edition. A supplement appeared in 1892, and the present makes really a third, though described as the second. All the three are, however, included in this second supplement, so that the Official Catalogue of the Society as it now stands consists of the Centenary Edition and the present supplement. All previous supplements are therefore surpressed by it, and exhibitors and judges are to be guided by the catalogue in its present form. This will be a great convenience to all who have to make frequent reference to the list, and we hope it will still further be simplified next time it is overhauled by the whole being included in one volume, as is suggested by the Catalogue Committee.

Fruit and Flower Growing in Jersey versus Cornwall.—It is with no little concern that flower and fruit growers in the Scilly Islands and in Cornwall learn that Jersey growers are becoming large if not serious competitors. All, however, is fair in trade as "in love and war." The news that is widespread in Cornwall is that the Channel Islands are about to excel the Scilly Islands with spring flowers. Wages are heavier there than at Scilly, and this will take the gilt from the ginger-bread. The head gardener in Jersey gets 25s., whilst labour is considerably under this at Scilly, but on the other hand carriage of goods to London is cheaper from Jersey. Jersey glass houses cost about £1 a foot to erect. An acre of garden ground with two or three medium-sized glass houses costs from £1,000 to £1,500. There the very early Grapes grow best. The crop must be cut before Strawberries come in. After Grapes come Tomatos, but the price of these has considerably fallen of late. Fortunes certainly have been made out of fruit farming in the Channel Islands, but that was before the days of cheap fruit and universal competition. At the present time resources of the land there are being taxed to their utmost, and everyone who can buy, or rent, literally a few feet of ground are said to be able to raise good fruit for the English market.

GARDENERS' MUTUAL IMPROVEMENT SOCIETIES.

The progress of Mutual Improvement Societies and the intellectual activity consequent thereon, has not only affected all classes of the community with more or less intensity, but has penetrated even into the domain of gardening. That this should be so is not at all surprising to those who are acquainted with the rising generation of gardeners, whom, to their credit be it said, are more and more desirous to obtain an insight into those practices and principles which go to make up that very comprehensive term, "horticulture." As to the methods of procedure best calculated to attain those ends, *i. e.*, the advancement of knowledge, there will always be matter for debate, although your correspondent "G." in your last issue puts the subject very clearly, with, perhaps one exception, as to the motives which sometimes prevail with the writers of papers.

Now it may be perfectly true that individual members of these useful organisations do sometimes place too much importance—from a selfish point of view—upon their own productions. But if this be granted, I do not see how it can possibly operate to the disadvantage of the other members. Selfishness is not necessarily antagonistic to others interests; it is merely the pursuit of personal pleasure. The writing of essays, as "G" points out, is immensely to the benefit of the writers, therefore the more essays that are written the more correct should be the style and subject matter. If this be also granted, I think it follows that the "selfish" interest is more than compensated for by the enlarged ideas and riper knowledge which the author is able to lay before his hearers. That such a one, however, does not require much "pressure" to induce him to act is, I think, a little ungenerous, as I know that some secretaries would be glad to be able to put their hands on such men in making up their annual programmes.

But, perhaps, this is only an "illustration" after all, and that "G." did not intend to generalise from isolated instances. Anyhow, the writing of papers is to be highly commended, as it entails not only a large amount of labour, but an education which cannot be obtained in any other way.

As to the question of impromptu speaking, I must admit that I am not quite at one with "G." in this matter, because I believe no good can result from discussing something which one knows little or nothing about. The aim and object of these societies is to supply a demand—accurate information—and this can only be assured by much thought and consideration. A far better plan is the one adopted by a society with which I am connected, namely, the asking of questions at one meeting to be discussed at another, or on a particular evening set apart in the programme for that form of entertainment. I say entertainment, because that method of eliciting information has proved highly successful. It is less stereotyped and sometimes more interesting than the formal delivery of an abstruse essay, for it not only enables the members to compare practice with practice, but it acts as an incentive to everyone to look up the subject. In my own case I can honestly say that I have been much benefited by this form of interrogation; and, moreover, with a view to minimise, as far as possible, that inherent selfishness, and to impart better information than I possess, I do not hesitate to ply my professional friends.—*C. B. G., Acton, W.*

BYSTOCK, EXMOUTH.

When visiting Bystock recently I was pleased to find in flower a quantity of seedling Cypripediums of the C. Leeanum, C. radiosum, and C. Pitcherianum types, and others distinct and beautiful which make a most interesting display in the Orchid house. There are altogether some 500 seedlings, Mr. Swan having raised a quantity since he entered on his present service. Besides Cypripediums I noticed some seedling Dendrobes, Phaius, and Calanthes in various stages of development.

In one of the divisions I also observed a batch of Gardenias planted out and yielding a quantity of blooms of delicious fragrance. Hanging over them were some flowering plants of Dendrobium Phalaenopsis, while the other side of the house was almost entirely taken up with Dendrobium nobile, the growths of which are remarkably stout and firm. No shade is given to this house with the exception of a sprinkling of lime once in the season. The night blooming Cereus was also growing freely.

In a warm house there was also a fine batch of fruiting Tomatos. The plants were raised in spring, potted, and plunged outside, where they grew freely and set a few fruits; but about the end of August Mr. Swan lifted them and plunged them again in a spent tan bed in a stove, and although only in 7 in. pots they have set a fine crop of fruits, which are now ripening well. Bananas and Granadillas are well grown at Bystock, some hundreds of fruits of the latter having ripened again this season, and they are much in request as a dessert fruit.—*Rover.*

PATENT GLAZING.

When Mr. H. Parke, C.C., of Withnell, Chorley, commenced to put up some glass in his garden, about three years ago, he was induced to give the method of glazing with lead strips a trial. Those who have had experience with this kind of glazing are aware that at all times there is drip in the house, and under certain atmospheric conditions a perfect shower of drops ensues. During hard frost I have seen a late vinery in December with masses of ice all along the purlins, which melted during the day, drenching the bunches of Grapes and saturating the floors, and I have seen the same occur in plant stoves with much higher temperature than a late vinery.

Mr. Parke's stove is a spacious house, and the drip was intolerable until steps were taken to rectify matters. This has been done by fixing neat copper troughs under all the purlins that conduct the water into mains, which may empty themselves into a drain or on the ground at the back of the pipes, just as it may be convenient. Very few employers, however, would care to incur this second expense, and to save any trouble or friction gardeners should not have these kind of structures erected with their consent, but if they are forced upon them by their employers they can only make the best of them. I noticed a remarkable lot of healthy, well-grown plants in the house at Withnell, such as Crotons, Dracaenas, Caladiums, and the usual run of stove plants, with which Mr. Drinkwater, the gardener, has more than once taken first honours in the group classes at the leading local shows. At one end there was a fine cluster of Bananas on a plant growing in a 15-in. pot, and covering part of the roof was Aristolochia Sipho in full flower.

At the time of my visit Messrs. Halliday, of Middleton, near Manchester, had just completed the erection of a number of neat well-built houses for Grapes, Peaches, Tomatos, Orchids, and other plants; and Mr. Drinkwater must have followed closely on their heels, for all, except the fruit houses, were respectably furnished. One span-roofed house contained well-grown plants of good strains of Begonias and Gloxinias, and the Orchids which had been quartered in some old houses as they had been got together had just been staged in their new home. Other houses were occupied by a promising lot of Tomatos. Orchids are represented by Cypripediums in variety, Epidendrums, Vandas, Phalaenopsis, Laelias, Cattleyas, Coelogynes, and Odontoglossums.—*W. P. R.*

CENTROPOGON LUCYANUS.

High up among the list of indispensable subjects for late autumn and winter flowering comes the name of this beautiful plant. It is of hybrid origin and was raised by M. Desponds, of Marseilles, in the year 1856, as the result of a cross between Centropogon fastuosus and C. Siphocamphylus betulaefolius. Propagation may be readily and expeditiously effected by means of cuttings taken in spring, inserted in small pots in light sandy soil, and given a place in a propagating box, or underneath a bell glass, with a temperature of not less than from 65° to 70° Fahr.

They should be potted off singly into small pots in light soil as soon as they have made sufficient roots. Subsequent pottings should be conducted as required, the soil in all cases being light and rich in character. Efficient drainage too is an important item in their successful cultivation, for while, like many other things, they like abundance of water during the growing period, they detest a sour and overwet soil, which must inevitably be the result if the water is not allowed free egress. Stove treatment must be accorded them right through the summer, liberal syringings being given them regularly.

Towards the end of the summer, however, more air may be given with advantage, as this serves to harden and mature the growths, which, owing to their rapid production, cannot fail to be of a very tender and succulent character. The rosy-carmine flowers are profusely produced after such treatment, and the touch of colour they impart to the all too sombre appearance of our plant houses during the dullest months of the year render them useful as well as conspicuous objects. If desired, the old plants after being cut down when the flowering season is past, may be grown on again the second year. They bloom just as freely as do the young plants, and larger specimens may be obtained in this way.—*A. S. G.*

BASKET FERNS.

I do not know whether you will consider it advisable to insert anything further in the Gardening World concerning the Basket Ferns about which I sent you a few remarks recently, to which "Filices" replied in your issue of Oct. 20th. However, I would like to say there can be no question as to the Ferns known as Adiantum caudatum and Adiantum ciliatum being quite distinct.

The one which has been in cultivation so long as Adiantum caudatum is well known to Fern growers. Its fronds are usually rather erect though of arching habit, the colour is a distinct grey-green. "Filices" says they are about a foot long; this is correct, but they sometimes grow rather longer. The Fern now in commerce as A. ciliatum was sent out some years ago by Messrs. Backhouse & Son. Compared with A. caudatum, the fronds are longer, much more pendent, far more proliferous; the pinnules are further apart, larger, more deeply cut, the lower edge is nearly straight while those of caudatum are more curved, the colour is a more decided green.

Almost every frond produces at its tip a bud; this invariably produces three fronds, which in their turn produce a bud at each tip from each of which three fronds are produced and so on. It is not at all an uncommon sight to see a parent plant with three generations of progeny hanging two feet or more below it. I send you fronds of caudatum and ciliatum, the later 2 ft. long, being much longer than I ever saw caudatum. I still think I am justified in maintaining there is quite as much difference between these as there is between A. cuneatum and A. gracillimum.

I apologize to "Filices" for saying Asplenium foeniculaceum is not a variety of Asplenium fragrans. There is certainly a variety of A. fragrans called foeniculaceum. In my note to you on the subject I ought to have said "the Asplenium foeniculaceum which is in commerce is not a variety of A. fragrans." There is a great difference between the two. I have never come across Asplenium fragrans var. foeniculaceum in a nursery, and probably very few Fern growers know it. On the other hand, the Asplenium foeniculaceum of commerce is grown in thousands, sometimes under this name and at others under the name of A. fabianum. So far as can be gathered from authorities A. fragrans var. foeniculaceum grows only about a foot long and is much like an enlarged British Asplenium Adiantum-nigrum. Smith in his *British and Foreign Ferns* classes it in the Asplenium A.-nigrum section; *Synopsis Filicum* and *Species Filicum* also class it along with A. A.-nigrum. On the other hand Asplenium foeniculaceum of gardens according to Moore in *Index Filicum* and Smith in *Ferns, British and Foreign* is synonymous with A. fabianum, and appears to be a form of A. bulbiferum. This is a very handsome Fern, its large fronds 24 in. to 30 in. in length, with long narrow pinnae heavily loaded with countless young plants growing from bulbils produced on their upper surface have a remarkably elegant appearance. It is well suited for baskets and makes a very beautiful object. This, however, is not a variety of A. fragrans and this was the one I had in mind when writing before.

Davallia parvula no doubt grows well in a basket suspended, but in view of its minute fronds, 1 in. to 1½ in. only in length (oftener under than over the inch) I should not myself recommend it as a basket Fern. According to *European Ferns*, Woodwardia radicans grows 8 ft. to 10 ft. in length of frond. Should "Filices" be in the neighbourhood of Sale, I should have much pleasure in taking him to see several specimens of this Fern which some time ago had, and I still believe have, fronds 10 ft. in length. —*J. Birkenhead, Sale.*

[The specimens sent by our correspondent agree admirably with the description he gives of them, and no observant man, whether cultivator or otherwise would be in doubt as to their varietal distinctness if the specimens to be seen in cultivation were always so markedly distinct; but unfortunately such is not the case. The plants we have frequently seen under the names of A. ciliatum and A. Edgeworthii showed no appreciable difference from A. caudatum, by which they could be distinguished. The question is whether the one varies into the other, that is, whether A, ciliatum reverts to A. caudatum, or whether many cultivators have received the latter under the two names This is a point concerning which there should be no difficulty in coming to an agreement by a frank confession of facts on the part of those who know. That there is as much distinction between the specimens sent us of A. caudatum and A. ciliatum, as there is between A. cuneatum and A. gracillimum or between A. tenerum and A. Farleyense we have no doubt, and hope that the differences are as constant. Asplenium fragrans foeniculaceum may be seen in some of the London nurseries, although not particularly common.—*Ed.*]

STORING OF VEGETABLES.

At no season of the year is storing space more valuable or so much in request as it is at present. Crops of Carrots, Beet, Onions, etc., all call for room, and the gardener is often at his wits' end with regard to the most economical plan of working. In the majority of gardens the want of sufficient space is severely felt. Where the dried stems of Onions are long enough and strong enough the bulbs may be roped, the ropes being hung upon the walls or roof of the storehouse. Carrots, Beetroot, etc., must be neatly stacked, a layer of dry soil or sand being placed upon each layer of roots. The bulk of the Parsnips may be left in the ground all the winter, a sufficient quantity for use in frosty weather only being lifted, for as a rule they keep in a much sweeter and fresher condition outside until March, after which as a rule they are no longer needed.

Potatos should be spread upon the shelves as thinly as space will permit, in such a way that they can be frequently looked over, and diseased tubers promptly removed. Needless to say, the light should be excluded. For this purpose the windows of the storeroom should be furnished with close-fitting wooden shutters, which will help to exclude the frost as well as the light. With regard to temperature, the storeroom should be kept as cool as possible, frost only being excluded, for if kept too warm the quality of the roots must inevitably suffer.

During wet or snowy days the contents may be looked over. Nothing, I conceive, gives greater pleasure to a gardener than to look round a well filled storeroom in which everything is in good order, where everything is in its place, and an air of consistent tidyness prevails. Where such is the case, it is astonishing to see the quantity of matter a comparatively small room will contain. There can be no doubt at all that tidiness in this department is the essence of economy with regard to space.—*G.*

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

CRYSTAL PALACE CHRYSANTHEMUM SHOW.

The Crystal Palace show on this occasion was not a very large one, yet some very fine exhibits, particularly of the Japanese section of Chrysanthemums, were staged. Doubtless many of the exhibitors were not quite ready owing to the backward nature of the season; and in some cases what should have been good blooms were spoiled apparently by hurrying them on too quickly by artificial heat. Trained plants were by no means in good form owing to the lack of sunshine all the season. The premier award for forty-eight blooms was taken by Mr. N. Molyneux, gardener to J. Carpenter Garnier, Esq., Rookesbury Park, Wickham, Hants, who had fine blooms of Chas. Davis, Madame Chas. Molin, Madame C. H. Payne, Col. W. B. Smith, Etoile de Lyon, Viviand Morel, Mons. Panckoucke, Louise, Mademoiselle Marie Hoste, and Souvenir de Petite Amie. His incurved blooms were small but very neat and included good blooms of Baron Hirsch, Lucy Kendal, Princess of Wales, Robert Petfield, Mons. R. Bahuant, Queen of England, Madame Darrier, Novelty, Lord Alcester, and others. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, took the second place with some grand blooms, while others were a little past their best or out of character. His incurved varieties were larger if anything, but not so neat as those of the first prize lot. The third prize went to Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, whose incurved varieties were relatively better in our opinion than his Japanese ones, although there were exceptions even amongst the latter. The blooms in the class for eighteen incurved varieties were smaller than in the previous one, but neat. The first prize was taken by Mr. Thos. Robinson, gardener to W. Lawrence, Esq., Elsfield House, Hollingbourne. His finer blooms were John Lambert, Lord Alcester, and Mrs. Heale. Mr. Jupp, gardener to G. Boulton, Esq., Torfield, Upperton, Eastbourne, was second, and Mr. W. H. Lees took the third place. The blooms were much larger in the class for twelve incurved varieties, and Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, led the way with good blooms of Miss M. A. Haggis, Violet Tomlin, Lord Alcester, Queen of England, and John Doughty. Mr. Alfred Jones, gardener to Miss Wyburn, Hadley Manor, Barnet, took the second award. Mr. Jupp had the best six incurved of one variety in Jeanne d'Arc. Mr. M. E. Mills, gardener to F. Lloyd, Esq., Coombe House, Croydon, was second with Baron Hirsch. Mr. W. Collins had the best eighteen Japanese varieties, and Mr. W. H. Lees was second. Mr. Geo. Smith, gardener to W. R. Inglis, Esq., Craigendown, Reigate Hill, took the leading award for twelve Japanese blooms. Mr. W. Slowgrove, gardener to Mrs. Crawford, Gatton, Reigate, had the best six of that class. Mr. C. J. Salter had no difficulty in taking the first place for eighteen reflexed and Japanese reflexed varieties. Amongst others he had a fine new crimson one named James Lynch, Mr. W. Jupp was second. Mr. John Justice, gardener to Sir Richard Temple, Bart., M.P., The Nash, Kempsey, Worcester, had the best eighteen Anemone and Japanese Anemone varieties. Mr. C. J. Salter had the best exhibits of Pompon and Pompon Anemone varieties. Japanese Anemone kinds were plentifully exhibited and the first award was taken by Mr. R. C. Notcut, Broughton Road Nursery, Ipswich. Some showy single kinds were exhibited by Mr. G. Carpenter, gardener to Major Collis Browne, Broad Oaks, Byfleet, Surrey, taking the first prize. In the class for a group arranged for effect on a space of 100 square feet, Mr. W. Wells, Earlswood Nurseries, Redhill, took the premier award with a somewhat novel arrangement. His plants were very dwarf and the blooms unusually large, especially Chas. Davis, and the green-flowered Ethel Amsden was prominent and rather striking. Messrs. J. Carter & Co., High Holborn, took the second award with a group in the ordinary style, and plenty of flowers. Messrs. J. Mobsby & Son, Moffalt Road, Thornton Heath, were third. For a group half the size, Mr. H. Baker, gardener to C. J. W. Rabbits, Esq., J.P., Westwood House, Sydenham, took the leading award with a closely massed group. Mr. C. Twinn, gardener to G. W. Bird, Esq., The Manor House, West Wickham, had larger blooms, but the plants thinly arranged and was second. Mr. T. W. Wilks, gardener to C. Ralphy, Esq., Cranbrook Villa, Upper Norwood, was third. Mr. G. H. Cooper, Sydenham Road, Croydon, had the first award for twelve standard trained specimens. Mr. W. D. Aspland, Florist, Crystal Palace, took the first prize for an effective arrangement of cut Chrysanthemums and autumn tinted leaves.

In the miscellaneous class Messrs. J. Laing & Sons, Forest Hill, had a large table of Chrysanthemums set up with Palms and edged with Cattleyas, Ferns, Dracaenas, Bertolonias, and other fine foliaged subjects as well as greenhouse flowering plants. They also had a small table of stove and greenhouse plants and Apple trees with fruit on them. Messrs. H. Cannell & Sons, Swanley, had a table of Chrysanthemum blooms including new varieties named John Machar, Guirlande, Commandant Blussett, and Globe d'Or.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Laelia pumila praestans.—This is generally regarded as the best of the forms of Laelia pumila, and when in good condition it is certainly very choice. It was originally described by Reichenbach in 1857 as a distinct species; and at the present day most cultivators regard it as such. The sepals and overlapping petals are of a rich purple, while the side and middle lobes are crimson-purple. The distinctive features of the variety are, that the lip is funnel shaped, not straight, and the sides of such firm texture that they cannot be spread out without splitting when fresh. The lines so conspicuous on the disc of L. pumila and L. p. Dayana, are in this case nearly obsolete. It succeeds best when grown in pans or baskets with a very moderate amount of material about the roots, and suspended near the glass where it can get a maximum of light. Plenty of water is also required during the growing season, and the roots must not be allowed to get dry even in winter. Hitherto, it has been comparatively a scarce plant in cultivation; it flowered recently, however, in the collection of F. Wigan, Esq., Clare Lawn. East Sheen.

Two Orchids from Liberton.—Specimens of Cattleya Dowiana aurea and Miltonia spectabilis Moreliana have been sent us by Mr. David Rymer, The Gardens, Gracemount, Liberton, Edinburgh. The lip of the Cattleya was rather injured and faded before it arrived, apparently through some injury while passing through the post, so that we can only guess at what it was like when fresh. The golden or orange lines were, however, very plentiful all over the lip, except at the very apex, so that we fancy it must have been fine. The sepals and petals were remarkable for their stiff texture, and the evident tendency of the former to be suffused with pink along the back. The petals were also finely and beautifully netted with pink towards the margins, but had the fault of not being flat, a peculiarity possibly due to their great texture. The Miltonia was identical in colour, though the flowers were not quite so large as those of the plant that received an Award of Merit from the Royal Horticultural Society on the 9th October. This was M. spectabilis Moreliana atropurpurea, so that our correspondent would be quite justified in adopting that name for the plant of which he sent us a specimen. The smaller size of the flower might be due to culture or to the condition of the plant for the time being.

Odontoglossum crispum ocellatum.—The colouring of this beautiful variety is arranged somewhat after the same plan as that of O. c. Ruckerianum; indeed, it is difficult to draw the line sometimes, for the one seems to run into the other by insensible gradations by the introduction of many new varieties. There is a figure of it in the *Lindenia*, pl. 429. The sepals and petals are white, with a rosy band on either side near the margin, and freely marked all over, except in the centre, with small, bright red spots. The varieties of the universally popular O. crispum are so numerous, and so many have received separate names that it is difficult to remember or recognise the half of them. That under notice belongs to a type that is by no means common, the distinguishing features being that the spots are clear red, not brown. It appeared in the collection of W. Thompson, Esq., of Walton Grange, Stone.

THE PLANT HOUSES.

The Stove.

The fine open weather and comparative freedom from fogs that we have hitherto enjoyed have been all in the gardener's favour, and have shortened the dull season of the year to a very considerable extent. Still, it is never safe to prophesy with regard to the probable state of the weather, and it will be very strange, indeed, if we do not get a reminder within the course of the next few weeks that it is November. In the event of a spell of cold or frosty weather it will not be possible to maintain such high temperatures as hitherto, neither would it be desirable, for too hard firing is very detrimental to the health and vigour of the plants. A slightly lowered temperature, in accordance with the decrease of light outside, should therefore obtain in this department for the next two months or so. A minimum night temperature of 60° Fahr., with a substantial rise during the day in bright weather, will be amply sufficient.

Gardenias.—Plants that have set their buds may with advantage be accorded occasional doses of liquid manure to assist them to swell their buds. If any of the leaves are dirty they should be sponged before the buds get much larger, for the process of cleaning will be attended with considerable risk of knocking off the buds if the operation be delayed too long.

Ferns.—These may be kept rather drier at the root than they have been during the summer, and as it would be injurious to them to unduly excite root action the supplies of manure water so beneficial to them through the growing period must be totally discontinued. Shabby fronds may be cut off, but this operation should be gradually performed, and under no consideration must the whole of the fronds be removed from the plant at one and the same time or the crowns will be very much weakened. Many Ferns, Adiantums particularly, are subject to the attacks of brown scale. These little pests adhere closely to the stipes of the fronds, so near to the base that it is well nigh impossible to dislodge them while the plant is in full vigour of growth without injury to many of the fronds. Advantage should, therefore, be taken of the present favourable season of the year to examine the plants and cleanse them of the pests referred to should they be present.

The Greenhouse.

Continue to air as freely as possible on all favourable occasions, employing fire heat when necessary to expel the superfluous moisture that would otherwise do a deal of harm.

Chrysanthemums.—The earlier plants of these from which the flowers have been cut should be cut down and removed, others being brought in to fill their places. The cut down plants may be placed in any cool pit or frame where access to them may be easily had. Manure water must be given at intervals to plants which are developing their buds.

Tacsonias.—The growths of these beautiful climbers usually become very dense by the autumn, with the result that a great deal of the all-important light is excluded from any plants that may be beneath them. The long pendulous growths may therefore be thinned out pretty severely, cutting them right back to within an eye or two of the base of this year's growth. No fear need be entertained as to next year's supply of bloom, for the flowers are always produced by the young wood.

Epacrises.—These are amongst the most beautiful and useful of winter-flowering subjects of the hard wooded section. Weak doses of liquid manure should be given them to assist them in the work of flowering. A like attention should be paid to plants of Primula sinensis and its many varieties, also P. obconica, a most useful plant at this time of year.

Pits and Frames.

If a supply of the requisite furnishing material for the greenhouse and conservatory is to be kept up preparations must be made for the forcing of Lilacs, Azaleas, Staphyleas, Deutzias, Spiraeas, etc. A hot bed should be made up of leaves or other fermenting material in a suitable pit which should be filled up to within 2 to 3 ft. of the glass and firmly trodden. This will afford suitable conveniences for the plunging of such plants as are to be forced. A light syringing should be given the plants occasionally to encourage and stimulate growth.

CAMELLIAS.—These will now be fast swelling their buds, and great care will be necessary with regard to the efficiency of the water supply, for if stinted the buds will infallibly drop. Soot-water applied in a weak state once or twice a weak will prove of the utmost service.

LILIUMS.—No time should be lost in potting these if the bulbs have come to hand. A compost of two parts of good turfy loam to one of well dried manure with plenty of sharp sand will be found to answer the purpose admirably. In potting, place the bulbs well down in the pot and do not fill the pots full of soil. When Liliums start into vigorous growth a quantity of thick fleshy roots are always emitted from the base of the stem, which necessitates a top-dressing of rich soil and manure. Bearing this in mind, space must now be allowed for this top-dressing. After potting, the bulbs may be stood in a cold frame or pit to root, no water at all being given them until growth has commenced—that contained in the soil being quite sufficient for the present.

CINERARIAS.—Keep a sharp look-out for the appearance of green fly. Should it appear, a light fumigation must be given before it gets a foothold. Attention must be paid to the thinning out of the plants as growth proceeds. This is a necessary precaution if bushy, healthy specimens are required, for if overcrowding is permitted, drawn, weakly plants will inevitably be the consequence.—*A. S. G.*

THE ORCHID HOUSES.

CATTLEYA ACLANDIAE.—This is one of those little gems that is rather difficult to keep in good condition for long together, and, generally speaking, is rather shy flowering, but when in bloom it is a charming plant. We find it does best grown in baskets with very little material about its roots, but this of the very best. When growing and until it flowers it should be given a copious supply of water at the roots, and at no time must it be allowed to shrivel. There is no better place for it when growing than the stove or East India house, but when at rest the Cattleya House is the most suitable place. Ours were very late in flowering this year, in fact, they are only just over.

EPIDENDRUM WALLISII.—This is a fine autumn and winter flowering Orchid, and is one that does well with ordinary care. A compost of peat, sphagnum moss, and finely broken up potsherds is best for them, and during summer weak manure water helps them greatly, but must be discontinued now.

E. PRISMATOCARPUM.—If the compost these are growing in is at all sour I would recommend a top dressing for the new roots, which are just pushing from the base of the newly made up bulbs to root into. It is too late in the season to repot unless they are in a very bad state. They grow well with us on the north side of the Cattleya house during the summer months, but in winter they should be brought more to the light or they will fail to flower freely. Water carefully during the dull winter months or the foliage will become spotted and the new bulbs become diseased.

LAELIA DAYANA.—What a grand little Orchid this is, and how variable from dark purple to nearly or quite white. What interest there is in watching the flowers develop the first time it blooms, especially if it looks like being a white one. They are of easy culture and take up but very little room. We have grown them in baskets and in small pans, and in both cases they did well, but when it came to repotting them those in the pans were the easiest to manage, as by breaking the pan carefully very few roots were damaged.

ODONTOGLOSSUM ROSSII MAJUS.—These do well grown suspended close to the roof over the Odontoglossum crispum during summer, but in winter they should be stood down on the stages, for if left hanging the tips of the foliage may become injured during very severe weather.

TEMPERATURES.—Whilst it keeps so mild it will be easy to keep the night temperature up to 68° in the East India house, 58° in the Cattleya house. and cool house 50°, with a rise of 10° by day.—*C.*

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, GARDENING WORLD, 1, Clements Inn, Strand, W.C.

THE VEGETABLE GARDEN.

Early Peas.

IT is the practice with a great many gardeners to make a sowing of Peas in the autumn. On light soils and where there is no convenience for raising them under glass this is a very good plan, for if the season be mild, pods from such sowings may be gathered very early, in which case they are always serviceable. If the winter should be severe so that they are killed, there is still time for sowing in spring. The date on which these autumn sowings are made must vary according to the locality and soil. If sown too early on warm soils in the southern counties, the chances are the plants will get very forward should the winter be mild, in which case they would not be able to withstand the cutting March winds. In exposed situations, and on cold heavy land, it is almost a waste of time to attempt to sow at this time of the year. Most walled-in gardens that have been for some time under cultivation should have the ground sufficiently workable to admit of the seed being put in during the present month with every chance of success. In the more northern counties the seed may be sown from the fifteenth to the twentieth of the present month, while further south, particularly in sheltered situations, from the latter date to the beginning of December will be soon enough.

For these autumn sowings nothing is better than Exonian, it is quite as hardy as the round seeded kinds, is equally as early, and is an excellent cropper. Chelsea Gem is also a good kind, particularly for a border, for, owing to its dwarf habit, it can be sown closer together, which is a great advantage, for if sticks be put to them as soon as they are fairly through the soil they will shelter them wonderfully from the cold winds. Those who have a liking for the round seeded kinds may sow such as Sutton's Ringleader, William I., or Dickson's First and Best. There is far more art in sowing these early lots than most people imagine. For instance, if the ground is dug and lies two or three days before being sown it often happens that a quantity of rain falls, which renders it unworkable before the seed can be put in, and often remains in this state till we have frost, which then makes it pasty. At this time of the year it is far better to dig and sow as the work proceeds, as by so doing there is little fear of being hindered should rainy weather set in. We have found it a good plan to lay boards about 6 or 8 in. wide along the rows as soon as sown, these act as a harbour for slugs and snails, if these are examined every two or three days it will be found there are hundreds which can easily be destroyed. A plank, however, should be used to stand on while looking over the rows, otherwise the soil would get carried on to the path with the shoes.

Broad Beans.

AUTUMN sowings of these are also often made of such varieties as Early Magazan or Long pods. The latter are, however, preferable, as they produce better crops. Instead of sowing, as recommended for early Peas, we prefer dibbing the Beans on a warm border about 3 in. apart each way. By so doing strong plants are to be had by about the middle of February. If these are taken up and planted in rows across the garden about that time they will give an early supply, in fact, earlier than if sown in boxes and transplanted in March. We have adopted this plan for years and find it to answer admirably.

Store House.

WITH so much wet there will be opportunities of looking over all roots stored away, so that every available opportunity should be taken advantage of to remove any that are decayed. Early Potatos intended for forcing should be stood on their ends in a light airy situation in order to induce them to make stout shoots. Any Onions that are going decayed or starting into growth should be removed, as these will cause others to decay. Shallots ought to be looked over in order that all sound bulbs may be kept separated from those that have a tendency to rot.—*Kitchen Gardener.*

Brussels Sprouts, Veitch's Paragon.

THOSE who require a good variety of this esteemed vegetable for general use cannot do better than give Veitch's Paragon a trial. It is of medium size and robust constitution, and will do well on almost any soil. The Sprouts are not particularly large, but they are very solid and closely set, while they withstand sharp frosts exceedingly well, and last in season for a long time. On wet, clayey soils we have proved Veitch's Paragon to be a really good and reliable variety, and as such deem it worthy of extensive cultivation.—*G.*

Gleanings from the World of Science.

The Cabbage Fly.—There are several flies to which this name might readily be given, including closely allied insects as well as aphides, but it is most correctly applied to Anthomyia Brassicae, a two-winged hairy fly of a gray colour with some black stripes along the back, and the male is even darker in hue. It is one of the numerous insects which attacks the Cabbage or any other of the members of that tribe. In some gardens along the Thames Valley it sometimes increases to such an extent as to play havoc with Cauliflowers and other members of the tribe. The difficulty of exterminating it lies in the fact that it can live on the roots of other Crucifers in a wild state. For instance it may be found upon the roots of the Wild Turnip (Brassca campestris Rapa) and upon those of Rape or Coleseed (B. C. Napa) on the banks of the Thames by Runnymede and Egham. Below London again it may be found upon the roots of the wild Radish (Raphanus Raphanistrum) in the fields about Eltham, in Kent, and doubtless also at other places where wild Crucifers with thick and somewhat fleshy roots occur. From those it of course spreads to the cultivated members of the Brassica tribe.

Its Form and Methods of Feeding.—The fly itself is liable to be overlooked amongst the multitudes of other flies on the wing during mild weather. The grub or maggot is white, legless, cut short at the tail end where it is furnished with a few tooth-like points, and two curious black knobs on the flattened end, while it tapers to a pointed head which is equally curious in its way. This grub feeds sometimes in large numbers upon the surface of the fleshy roots slightly below the surface of the ground, or just at the collar of the main root where it enters the soil. The root gets gnawed away or eroded away into hollows in which the grubs ply their work of destruction, thus checking the growth of the plants or entirely killing them. The roots being thus weakened at a dangerous part, the wind sometimes completes the work of destruction by snapping the stems across at the base or eaten part. Sometimes whole plantations and even fields are ruined in this way, and the evil is greatly aggravated by wet weather rotting the injured roots or stems. The grubs, when full fed, change to a reddish brown pupa in the soil, and the pupa develops into the perfect fly in the course of a fortnight. There are several broods in the course of the season till November, when the pupae developed about that time, hibernate in the soil till spring.

Other Pests to be Distinguished.—There is another closely allied insect known as the Root-eating Fly (Anthomyia radicum) which bores into the fleshy root of Radishes and other Crucifers, making passages in the same. The habit is therefore somewhat different, while the grub is pale yellowish, and the pupa of a pale ochreous colour. The Cabbage Gall Weevil (Centhorhyncus sulcicollis) or its work may readily be distinguished by the small excrescences, generally few, or only one formed upon the main roots of Cabbages. Each gall or nodosity contains only one grub of the beetle, unless two galls should happen to be formed in close proximity. From the Cabbage Fly it can at once be distinguished by the grub being inside the swelling or gall. The true clubbing of Cabbages is due to the work of a fungus and not to insects, although both may be present on the same roots.

Detection and Remedies.—The presence of something at the roots may be detected by the stunted appearance of Cabbages, Cauliflowers, and related subjects, as well as by the leaves turning yellow, or by flagging when the sun is shining brightly. Remove a little of the soil, and if the evil is due to the Cabbage Fly, the grubs can be seen by the naked eye. If the crop is not a very valuable one every root should be carefully dug up with all the grubs upon them and burnt. It often happens, however, that the plants are badly attacked as they are becoming fit for use in early summer. Cultivators at that time are loth to lose the crop, so that means should be devised for destroying the grubs by removing the soil from the collar of the plants and crushing the grubs. Those still undetected would be killed or kept in check by a soaking of limewater after it has stood till it becomes clear.

NEW CHRYSANTHEMUMS.

THE undermentioned varieties received First-class Certificates at the Crystal Palace on the 3nd inst.:—

CLARA JEAL.—This belongs to the reflexed section and produces blooms 4½ in. or more in diameter according to cultural treatment. The florets are relatively broad, pure white, with pale yellow teeth at the tips as a rule, closely and evenly reflexed and imbricate. It is a great acquisition to a section in which white varieties are not at all common. There was a crimson reflexed variety in the same exhibit, quite distinct from everything else, and named James Lynch, which should have been honoured with a similar recognition. Exhibited by Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate.

MISS FLORENCE LUNN.—This reflexed variety has the same form as the Christine type, and having previously been honoured with a certificate is described on p. 154. Exhibited by Henry Briscoe-Ironside, Esq., Cedar Lodge, Burgess Hill.

JOHN MACHAR.—In this we have an incurved Japanese variety of a bright golden yellow. The florets are moderately broad and loosely incurved, and the bloom measures about 6 in. in diameter. Exhibited by Messrs. H. Cannell & Sons, Swanley, Kent.

GLOBE D'OR.—This belongs to the incurved section, and bears blooms 4½ in. to 5 in. in diameter, possibly larger in more favourable seasons. The florets are broad and yellow, while all the outer ones are tinted with bronzy-chestnut, and in that respect very distinct and pretty. The blooms were taken from the crown buds on stems 5 ft. high. Exhibited by Messrs. H. Cannell & Sons.

CHRYSANTHEMUMS IN COTTAGE GARDENS.

To judge from the enthusiasm exhibited over this flower during the present season, its popularity, if anything, seems to be on the increase. Even the cottager is not happy unless his little garden contains a few specimens planted out, which, however, owing to the visitations of early frosts, seldom have a favourable opportunity of flowering. The introduction of the early blooming varieties like Madame Desgrange and George Wermig was a step in the right direction, for, from the earliness of their flowering season, plenty of cut bloom could be obtained from outdoor plants without the need for any protection whatever, unless in very exceptional cases.

The present season has almost established a record for mildness, for although in many localities vegetation has been cut down, still in several instances tender subjects are even now growing luxuriantly. In the valley of the Thames, close to Reading, Dahlias may still be seen blooming away, apparently undaunted at the advancing season. The Cactus varieties are particularly noticeable in this respect. Sorts like Juarezi and Glare of the Garden are even now producing some fine flowers for the time of year. Zonal Pelargoniums are still looking perfectly at home, and even the comparatively tender variegated varieties like the pretty old-fashioned Happy Thought are doing well. Indeed, on the railway embankments between Twyford and West Drayton, on the Great Western main line, the common Broom, Cytisus Scoparius, is in full flower as if it were early summer instead of November.

This is, of course, due to the abnormal mildness of the season. In autumns like the present it is really surprising what a quantity of useful bloom for cutting purposes will be furnished by a few plants of Chrysanthemums grown in the open air. On Saturday, November 3rd, I saw several cottage gardens in the vicinity of the quaint old village of Sonning, which looked quite gay with Chrysanthemums. The white pompon Cedo Nulli and its yellow form seemed especial favourites. The pretty little Julia Lagravere was also flowering profusely, and its dark red flowers afforded a very pretty effect indeed. I met with the beautiful sweet-scented Progne also in one or two places. The violet-like perfume possessed by its flowers constitutes its chief charm, and certainly stamps it as one of the most distinct varieties we have. Possibly its straggling habit is not a point in its favour—this might, however, be overcome by careful cultivation.

It is advisable when utilising Chrysanthemums as subjects for the flower garden to plant them in as sheltered situations as possible, or at least in positions where protection can be quickly and easily afforded them should occasion require it. A part of the garden sheltered by a hedge, a fence, or a wall will answer admirably. The flowers obtained from plants thus treated, although small and perhaps not so brightly coloured as those accorded under-glass shelter, are produced in great abundance and are of inestimable value for cutting. In parts of the country, where severe frost is not often experienced, there is no reason at all why the Chrysanthemum should not be largely grown in this way, as little attention is needed by the plants during summer with regard to the water supply—always an important item in the pot culture of the Queen of Autumn. A plan that used at one time to be extensively practised by some growers for market was to grow the plants in the open ground during summer and as ar into the autumn as the weather would allow, lifting and potting them off when frost threatened. Plenty of cut bloom can easily be obtained in this way. Care must be taken, however, that the plants are lifted with good balls of earth, and that shade is given them from direct sunlight, otherwise the leaves will flag and many of them ultimately fall, of course in a great measure reducing the flowering capabilities of the plant.—*G.*

PROPAGATING SEAKALE.

WHEN I first procured a stock of the Lily White Seakale I departed somewhat from my general practice, and the course of treatment then pursued may be followed with advantage by anyone who may have a limited stock of roots to make a start with during the coming season. The old roots having their crowns cut off were cut into 3-in. lengths, which were again cut into threes and fours, according to their relative strength, by being split down. Those with the ordinary root cuttings after being allowed to dry a little were inserted thickly into boxes of light soil, the tops of the cuttings just showing above the surface. These boxes we kept in cold pits till the spring, secure from frost, and let them come along gradually, so that they were not much in advance of the roots growing outside.

When growths of about 2 in. were made they were planted out on an open piece of well-prepared soil, in rows 20 in. apart and 10 in. from plant to plant, the growths at the top of the cuttings being reduced at the same time to one. This saved all further trouble, and is more expeditiously done than if left till after planting. Unless the ground is very moist and the weather showery, a good soaking of water is required when planting these started cuttings. The hoe was kept well at work among them, and by the autumn many of these somewhat unpromising-looking morsels produced good forcing crowns, and I was well on the road to have an almost unlimited supply of thongs for the next season's cuttings.—*W. B. G.*

HOLME PARK, BERKS.

THIS establishment, which is the property of the Rev. H. Golding-Palmer, is one of the features of the old-world village of Sonning, distant about two or three miles from the town of Reading. Boasting of such great beauty as the village does, it is small wonder that so many of the inhabitants of Reading direct their steps thither during their leisure hours. The mansion itself is illustrative of a mixed style of architecture, both the Norman and the Gothic styles being represented. The idea in view when it was built was evidently to secure a comfortable rather than a mere ornamental structure. The conservatory attached to the house is at present filled with Palms, Greenhouse Ferns, &c., Chrysanthemums, as may be expected, forming a principal part of the flowering element. A well-grown, clean and vigorous specimen of Tacsonia hangs its long pendulous growths from the roof, giving a finishing touch to a really pretty little house.

The garden is of no great size, and the amount of glass is small, and, of course, as might well be expected, taxed to the utmost to fulfil all the demands made upon its space. The grounds, however, are of a truly delightful character, the same quaint old-fashioned air pervading the whole, as obtains in the village itself. At intervals when wandering through the winding woodland paths in the grounds one comes across fragments of ancient statuary turning slowly to dust that would make an antiquarian turn green with envy.

A splendid view of the lovely valley of the Thames with the grand old stream winding through it, the town of Reading being distinctly to be seen in the back ground, may be obtained from the windows of the house. At the particular time of my visit the usually quiet valley presented a strange and unwonted appearance. Owing to the frequency and heaviness of the recent rains the Thames has overflowed its banks to a considerable extent, and on this occasion a wide and swirling mass of waters that seemed from where I stood to encompass the whole of the valley met my gaze. The spectacle was indeed a magnificent one from the artist's point of view, but one scarcely calculated to strike joy to the heart of the matter of fact agriculturist. Huge wide spreading trees standing here and there out of the waste of waters waved their arms defiantly at the encroaching flood, whilst here and there a patch of grass appeared, which, standing upon a higher level than the rest, had escaped the visitation of the waters.

One of the prettiest nooks in the pleasure grounds is turned into a hardy fernery where these moisture and shade-loving plants may revel at will. Taking it altogether, Holme Park possesses very many natural advantages with regard to position, scenery, &c., which are often denied to larger and more pretentious establishments.—*A. S. G.*

THE CLAREMONT NURSERY, EXMOUTH.

IT was with great expectations that I wended my way to Exmouth a few days ago. I had heard much of the grand display of Chrysanthemums which Mr. W. J. Godfrey had to show his visitors, and also of the fine new house which he has just erected for the housing of the plants. I was well repaid. I hoped for much, and my eyes were feasted with a full share of novelty and beauty. The new house is a fine structure 153 ft. long, 27 ft. wide, and 17 ft. high, well glazed on the new principle with zinc strips, no putty being used on the roof, and there is a sufficiency of hot-water pipes, which are even now occasionally in use to dispel damp and mist. This precaution is absolutely necessary here, as for the past fortnight there has been a constant succession of storms and driving winds, atmospheric conditions which are most conducive to damping off, and though but little can at present be said of this, there would have been sad havoc had not some means been at hand to dry the atmosphere when heavily ladeu with sea mist.

Mr. Godfrey has devoted much time and thought to the raising of new varieties from seed. He has now just 1,000 plants produced in this way, 800 of which are from seed of his own saving. Altogether some 7,000 plants are grown this year for testing purposes. Continental, American, as well as many English raised forms, find their way here, and if not up to the standard are discarded and other fresh seedlings put on for trial. The best of last year's seedlings is Mrs. W. J. Godfrey, perhaps the most beautiful Chrysanthemum in the collection, of the purest white, and bearing fine broad petals—an advance on Mrs. Alpheus Hardy, both as regards size, vigour, freeness and solidity.

Of the current year's seedlings many of apparent merit have already been selected. The largest is Pride of Exmouth, somewhat in the style of Col. Smith as regards form, but this handsome flower is white, with a slight shade of mauve. The Countess of Drogheda has smooth petals of the colour of rich old gold flushed with pink. Should it retain its present elegant form and colour it will certainly be much sought after. Wilfred H. Godfrey is a very distinct form, having nicely curled florets of a clear yellow, the edges of which exhibit a shade somewhat lighter—a large and attractive flower. Mrs. Forbes is a splendid deep built flower in the style of Puritan, and of the purest white. This will doubtless prove a most desirable variety. Other seedlings are opening flowers full of promise, which I may refer to again.

Amongst the American novelties Mrs. E. G. Hill is most beautiful in form and lovely in colour, being a clear blush pink. Some plants are now carrying five blooms, all of which are fit for exhibition, though the plants were only received in the spring, and then in poor condition. Sir C. T. Smith has developed some fine flowers of a rich yellow. Inter-Ocean, which was sent from the raiser of Mrs. E. G.

Hill, is, as promised, of the same form as Viviand Morel; colour white with a tinge of mauve. Miss Ethel Addison is one of the largest flowers in the whole collection, and the petals are of great substance: colour similar to Mrs. Harman Payne. Sarah Hill is something in the build of Lord Brooke, and the colour is light yellow flushed with bronze. Pitcher & Manda is expanding some fine blooms, the colour being a clear yellow with a lighter centre; florets quilled. This variety is very peculiar, but at present does not seem likely to be of much service to the exhibitor.

Amongst those of Continental origin I noticed Mons. Georges Biron, having an appearance similar in form to Viviand Morel, quite as large in size, of even better substance; colour rich chestnut, with buff reverse. Mons. C. Molin is a beautiful shaped flower recurving and drooping in a graceful manner, of a rich gold colour shaded with a warm tinge of red; one of the best. Mdlle. M. A. de Galbert is a large white with drooping petals of great length; very chaste and elegant. The famous Madame Carnot is expanding some flowers, but the petals are much narrower than Mdlle. Thérèse Rey, and seem to be much more flimsy than those of that variety. President Armand is in the way of E. Molyneux, but the colouring is duller, florets much narrower, and the bloom of a looser build.

Other varieties proving well are Soeur de Madame Bullier, this is certainly the richest crimson in the house, being of a deep blood red, and the petals of rare substance. Richard Dean (Owen) is a large bloom, light crimson with a lighter reverse. Wilfred Marshall from the same raiser is a yellow which will doubtless remain; the blooms being large of good form and substance. Mons. Panckoucke is another very fine yellow. Among the hirsute section, Hairy Wonder is the most striking, but another that must not be overlooked, as in all probability this is the most peculiar of all up to now, is Esau. As mentioned already a number of others are just opening, some of which may be shown ere this is in print. Of older sorts the best are Miss Dorothy Shea, Mdlle Thérèse Rey, Van den Heede, Beauty of Exmouth, Mutual Friend and Duke of York. One other American variety is Beau Ideal, a pure white, and small plants imported last spring already give promise of large and handsome flowers.

Besides Chrysanthemums, Mr. Godfrey grows the cream of English and continental zonal Pelargoniums and at the present time fine banks of flower of these make the houses gay. Some 4,000 Carnations of Miss Mary Godfrey, pure white, large and full, and Reginald Godfrey, of a salmon-pink colour, will give some idea of the estimation in which these two are held, and the rapid manner in which they are being disposed of is evidence of their worth in the opinion of growers; a thousand other seedlings are on trial, the best so far being Wilfred Godfrey, of a deep orange shaded with pink; this has not been offered to the public yet.

In the vineries a fine lot of Black Hamburgh's have been cut; Black Alicantes are now being used, while Gros Guillaume hanging on the vines have some bunches that will doubtless turn the scale at 8 lbs.

Tomatos are grown in quantities and find a ready sale; and of all the best herbaceous plants for border, display and cutting purposes, I noticed an immense stock. A large piece of ground has lately been purchased some short distance from the town, and here, a quantity of fruit trees, evergreen shrubs, Conifers, are already planted and will doubtless soon be in demand, as a quantity of fine villas have been and still are being built in the immediate neighbourhood.—*S.*

Begonia, Winter Gem.

WINTER-FLOWERING BEGONIAS.

As the summer-flowering tuberous Begonias go out of bloom the winter-flowering species, varieties, and hybrids, become more appreciated. But though the kinds that flower in winter are very numerous, it is onr intention here to refer only to the tuberous kinds, mostly hybrids, and of comparatively recent acquisition. Begonia socotrana and those of which it is one of the parents had commenced flowering about a fortnight ago in the nursery of Messrs. J. Veitch & Sons, Chelsea. Generally the first to expand its graceful blossoms is John Heal, a hybrid obtained from B. socotrana crossed with the pollen of Viscountess Doneraile, one of the summer-flowering race. The plants are very dwarf, with slender stems, developing in succession a large number of moderate sized, rich, rosy-carmine flowers. The clear and open weather has been beneficial in developing the rich colouring. The obliquely, heart-shaped leaves are of a light green and intermediate between the parents.

Some cultivators prefer Adonis because a stronger grower, producing larger flowers of a deep rose, but almost scarlet while in bud. As the flower stems lengthen so flowers continue to be developed in succession in a one-sided cymose fashion from the primary forking of the stalk. The leaves are obliquely and roundly cordate, and of a rich dark green colour. It was obtained by crossing one of the summer-flowering race with the pollen of John Heal. Neither of them produce female flowers, and are very anomalous in that respect.

A third hybrid is equally interesting, namely, Winter Gem, which is dwarfer, richer in colour, and flowers later than either. In fact, it will not come into bloom till about Christmas, and is therefore useful to form a succession to others of this race. It was acquired by crossing B. socotrana with the pollen of a fine scarlet variety of the summer-flowering race. The leaves are orbicular, with a cordate base, and light green, resembling in that respect the seed parent. The flowers are of a fair average size, and of a glowing crimson-scarlet. The accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, will show the habit and general character of the plant. Its seed parent commenced flowering some time ago.

Both John Heal and Adonis are readily propagated from cuttings, and experience has shown that this is the most expedient and best method of increasing them. B. socotrana, as is now well known, must be propagated from the bulb-like processes developed at the base of the stem and in the axils of the lower leaves. Winter Gem, being closely akin to it in habit and other respects, must be propagated in the same way. All of them constitute an interesting and showy class of plants for the adornment of the stove or rather intermediate house or warm conservatory during the winter months. They also give much more satisfaction in rural districts, where they are more beyond the reach of smoky fogs, than in town.

THE NATIONAL CHRYSANTHEMUM SOCIETY.

The great event of the year for this Society is again a thing of the past. The opening day was splendid as far as weather was concerned, and a very large crowd of visitors attended during the day and evening. Judging from the behaviour of Chrysanthemums in many private collections, and the unfavourable season, it was evidently the opinion of many that there would be a falling off from the show this year, but in that everybody was agreeably surprised, for the exhibition on the whole was a splendid success. The incurved section was perhaps a little below the standard, but this was more than counterbalanced by the fineness of the Japanese varieties. Table and other decorations were a great feature of the show and seem to be expanding in interest. Competitive groups of Chrysanthemums were entirely wanting, and the general public was very much disappointed at this deficiency. Prizes were offered only to gardeners, but no entries were forthcoming.

The National Competition of Chrysanthemum Societies brought out some magnificent exhibits, and the Challenge Trophy for forty-eight blooms was taken by the Bromley Chrysanthemum Society, Bromley, Kent. Nine names of the actual growers were upon the exhibition card. The twenty-four Japanese blooms were in many cases simply grand, and included Viviand Morel, Sunflower, Florence Davis, Charles Davis, Etoile de Lyon, Duke of York, Mrs. C. H. Payne, John Shrimpton, Mademoiselle Marie Hoste, Louise Boehmer, Mademoiselle Thérèse Rey, Col. W. B. Smith, Gloire de Rocher, Princess May, E. Molyneux, Ada Prass, Avalanche, Miss Minnie Scott, pale yellow with a bronzy-red centre and handsome, Standard White, Mrs. Falconer Jameson, Kentish Yellow, Mons. Panchouke, Boule d'Or, and G. C. Schwabe. The incurved varieties were not up to the same standard, but included good blooms of Empress of India, Princess of Wales, Brookleigh Gem, M. P. Martignat, Lord Alcester, Violet Tomlin, Lord Wolseley, Madame Darrier, Bella Wilson, John Doughty, Mons. R. Bahuant, Alfred Lyne, Mrs. Coleman, Queen of England, and others. Several of them were not very full in the centre. This is the first year the Bromley Society has been affiliated with the National Chrysanthemum Society, and has entered the competition. The second award was taken by the Havant Chrysanthemum Society, five growers having contributed to the exhibit. Some of the best Japanese blooms in this case were Etoile de Lyon, Mrs. C. H. Payne, Col. W. B. Smith, Princess May, Sunflower, Mademoiselle Marie Hoste, and Incendrie. The blooms in many cases were weaker than those of the first prize exhibit. Amongst the incurved varieties, Golden Empress, John Doughty, Alfred Salter, White Empress, Lord Alcester, and Princess of Wales were good. The third award went to the St. Neot's Amateur and Cottage Horticultural Society, which had fine blooms in Mrs. E. W. Clarke, Mrs. C. H. Payne, Viscountess Hambleden, Charles Davis, W. H. Lincoln, and C. Shrimpton. The incurved varieties were small but neat in many cases. There were five entries in this class.

The premier award, the Holmes Memorial Challenge Cup for thirty-six incurved varieties, was taken by Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead. Many of his blooms were of large size, including Golden Empress, John Lambert, Robert Petfield, Violet Tomlin, Jeanne d'Arc, Mons. R. Bahuant, Noel Pragnell. Alfred Salter, Ami Hoste, Mrs. Heale, J. Kearn, Empress of India, Queen of England, and Empress Eugenie, all of which were very neat. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, took the second place with considerably smaller blooms, though generally very fresh and neat. Mr. J. Meyers, gardener to the Earl of Sandwich, Hinchingbroke, Huntingdon, took the third award with even, but sometimes very small flowers. The Holmes Memorial Challenge Cup for forty-eight Japanese varieties and the other prizes brought out eleven exhibits of great merit. The cup was awarded to Mr. W. H. Lees, who had magnificent blooms of Miss Dorothy Shea, Viscountess Hambleden, Primrose League, H. L. Sunderbruch, Charles Davis, M. E. A. Carriere, Madame Chas. Capitante, Mr. E. G. Whittle, Niveus, Madame Ad. Chatin, Mrs. E. W. Clarke, Sunflower, Mrs. C. H. Payne, John Shrimpton, and others too numerous to mention. Mr. W. Mease had also a grand exhibit, and specially noticeable were Vicountess Hambleden, Charles Davis, Dorothy Shea, Etoile de Lyon, Sunflower, Mrs. F. Jameson, and others. The third place was taken by W. H. Fowler, Esq., Claremont, Taunton, the bulk of whose blooms were very evenly proportional in size and quality. The fourth place was accorded to Mr. Wm. Wells, Earlswood Nurseries, Redhill, Surrey. Many of his blooms were highly coloured.

The leading award for twenty-four incurved varieties was accorded to Mr. G. Ring, gardener to M. Jenks, Esq., Canons Park, Edgware, Middlesex. He had some large blooms, but not very high in the centre. The second prize went to Mr. Thos. Robinson, gardener to W. Lawrence, Esq., J.P., Elsfield House, Hollingbourne, near Maidstone, who had small but neat and pretty flowers. Messrs. Hobday & Son, nurserymen, Cambridge, were third. The best exhibit of twelve incurved blooms was that exhibited by Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, who had grand blooms of Queen of England, John Lambert, Baron Hirsch, and others. Mr. B. Calvert, gardener to Archer Houblon, Esq., Hallingbury Place, Bishops Stortford, was a very good second with large and neat blooms. Mr. H. A. Page, gardener to F. Crisp, Esq., White House, New Southgate, N., took the third place; and Mr. A. Jones, gardener to Miss Weyburn, Hadley Manor, Barnet, came in fourth. The first prize for six blooms of one sort was taken by Mr. W. Collins, gardener to J. W. Calile, Esq., Ponsbourne Park, Hertford, with Queen of England. Mr. B. Calvert was second with Miss M. A. Haggas; and Mr. A. Jones took the third place.

The special prize offered by Mr. H. J. Jones, Lewisham, for twelve Japanese blooms brought out some fine exhibits, the best of which was that shown by Mr. W. Messenger, gardener to C. H. Berners, Esq., Wolverstone Park, Ipswich; his blooms of Viviand Morel, Etoile de Lyon, and Waban were of enormous size. Mr. A. Sturt, gardener to N. L. Cohen, Esq., Englefield Green, Surrey, was a very good second, his flowers being highly coloured. Mr. B. Calvert was third; and Mr. A. J. Driver, gardener to Mrs. Davies, Bridgend House, Stonehaven, took the fourth award. All four were splendid exhibits. For six white Japanese blooms of one variety Mr. J. Sandford, gardener to G. W. Wright-Ingle, Esq., Wood House, North Finchley, took the first prize with Avalanche. Mr. Calvert took the second place with Stanstead White; and Mr. R. Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick, took the third place with fine blooms of Mademoiselle Thérèse Rey. Mr. J. Sandford had the best six Japanese blooms other than white in finely coloured specimens of Charles Davis. Mr, Mease followed with grand blooms of Sunflower, and the third place was taken by Mr. Chas. Cox, gardener to John Trotter, Esq., Brickinden Grange, Hertford. For six incurved Japanese varieties Mr. A. J. Driver took the leading place with fine blooms, including Lord Brooke. Mr. B. Calvert was second, and Mr. H. Lodge, gardener to the Rev. J. Menet, Bishops Stortford, was third. Mr. Philip Plumb, gardener to G. J. Beer, Esq., Biskra, Langley Park, Watford, Herts, was the only exhibitor of six hairy petaled varieties, showing Mrs. Trelease, Hairy Wonder, and other well-known varieties, and received the first prize. The Silver Cup offered by Major A. Collis Browne, and other prizes brought some fine exhibits of twenty-four Japanese varieties. The leading honours were taken by Mr. W. H. Lees, whose exhibit was again very superior. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, took the second award with two fine stands, Mr. W. Higgs was a good third, and the fourth prize was taken by Mr. W. Collins, who had the best reflexed blooms with Cullingfordi, Dr. Sharp, and several varieties of the Christina type. Mr. W. Skeggs, gardener to A. Moseley, Esq., West Lodge, Barnet, Herts, had the best twelve Japanese Anemone blooms, showing fine samples of M. Dupanloup, Jeanne Marty, Nelson, M. Panckoucke, and others. Mr. R. C. Northcuff took the second place, and Mr. J. Milner, gardener to Mrs. W. A. Higgs, Willenhall Park, Barnet, came in third. The class for twenty-four large flowered Anemone blooms brought out many fine entries. Mr. W. Skeggs took the leading award with fine blooms of Mademoiselle Nathalie Brun, Delaware, Queen Elizabeth, M. Dupanloup, and others. Mr. J. Milner took the second place. Mr. A. Ives, gardener to E. C. Jukes, Esq., Hadley Lodge, Barnet, had the best Anemone blooms in the class from which Japanese Anemone blooms were excluded, and was followed by Mr. W. Skeggs. The first award for twelve Anemone Pompons was taken by Mr. J. Meyers, whose blooms were large and of good form. He was followed by Mr. W. Aldridge, gardener to J. Lacey, Esq., Springfield, Palmers Green, N. Mr. Chas. Brown, gardener to R. Henty, Esq., Langley House, Abbots Langley, Herts, had the best Pompons grown without disbudding, and very artistic they were. Mr. T. L. Turk, gardener to W. T. Boney, Esq., Cholmeley Lodge, Highgate, was second. Mr. T. Caryer, gardener to A. G. Meissener, Esq., Weybridge, took the leading award for twelve Pompons, three blooms of each; his blooms were very large. Mr. T. L. Turk was a good second. Mr. G. Petfield, gardener to A. J. Thornhill, Esq., had the best six incurved blooms of 1892 or 1893. He was followed by Mr. J. Agate, Havant.

The amateurs' classes were well represented, and the tea service offered by Mr. J. A. Restall for twenty-four Japanese blooms was taken by Mr. John Horril, The Workhouse, Havants, Hants., whose blooms were of good average and equal size. He was followed by Mr. Henry Love, 1, Melville Terrace, Sandown, Isle of Wight, with a very respectable lot. Mr. Alfred Holmes, Fort Grange, Gosport, was third. Mr. F. Durrant, 4, New Road, Ware, had the best six incurved blooms. Mr. Alfred Holmes was the only exhibitor of twelve incurved blooms in this division. Mr. Henry Love had the best twelve Japanese blooms, showing well-grown even specimens. Arthur Stammers, Esq., Knowles, Maldon, Essex, took the second place. G. E. Piddington, Esq., Orchard House, Leigh, Essex, had the best six showing several grand specimens. Mr. H. Lee, 3, Toronto Place, Morland Road, Gosport, was a good second. For six blooms of one variety, Mr. Henry Love took the first place with Sunflower. Mr. J. Stredwick, Silverhill, St. Leonards-on-Sea, was second with Avalanche. In the class for single-handed gardeners and amateurs, Mr. T. L. Turk had the best twelve incurved blooms. Mr. E. Tickner, gardener to J. Watney, Esq., Shermanbury House, Reigate, was second. Mr. T. L. Turk again came to the front for six incurved blooms. The twelve Japanese blooms shown by Edwin Smith, Esq., Ingleside, Chatham, were particularly fine, taking the first prize. Mr. E. Tickner was second, but came to the front with six blooms. Edward Mawley, Esq., Rosebank, Berkhamstead, was first in this case. In the Metropolitan classes Mr. F. Bingham, Stoke Newington, had the best six incurved blooms. The first prize for twelve Japanese varieties went to Mr. W. Davis, gardener to W. F. Darnell, Esq., Devonshire House, Stamford Hill, N., whose blooms were of good average merit. Mr. F. Bingham was second. Mr. W. Beech, gardener to L. Seligman, Esq., Hertford House, South Kensington, had the best six blooms.

The greenhouse offered by Messrs. Sam Deards & Co., in the amateurs' classes, for twelve incurved varieties was taken by Mr. John Horril. Some prizes were offered in four classes by Mr. H. J. Jones and friends; and the first award for twelve Japanese varieties went to Mr. C. F. Yeomans, Avenue Villa, Hounslow. Mr. W. Amies, South Ashford, Kent, was second. Mr. A. E. Botwright, 45, Margravine Gardens, West Kensington, had the best six blooms; and Mr. R. E. Wilson, 32, Margravine Gardens, was second.

Trained specimens were not very numerous, but the six plants shown by Mr. D. Donald, gardener to J. G. Barclay, Esq., Leyton, demonstrated what can be done by an euthusiast, even in an unfavourable season. His plants were semi-globular masses of bloom, the varieties shown being Chinaman, Wm. Tricker, Margott, White Cristine, Florence Piercy, and Pink Cristine, all of which elicited much admiration from the public. The same exhibitor was awarded the first prizes for four standard trained specimens, and six trained Pompons, all of which were wonderful examples of skill and assiduous industry. The first prize for six plants of single Chrysanthemums was awarded to Mr. W. Wells, Rose Pink, Miss Rose, and Mary Anderson being fine. Mr. Davey, gardener to C. C. Paine, Esq., Cedar House, Stamford Hill, had the best pyramidally-trained specimen, the best four trained

specimens, and the best six standard specimens. Mr. E. Easey, gardener to C. Mills, Esq., 23, Highbury New Park, took the second award for six standard trained plants and for six trained specimens.

In another division for special prizes, Mr. H. J. Jones offered a Sliver Medal for six blooms sent out in 1893 or 1894. Mr. W. Wells took the medal with grand blooms, five of which were superior to any shown by Mr. J. Agate, who was second. Mr. W. J. Godfrey offered prizes for certain named varieties, and the first award went to Mr. J. Agate. Messrs. Wm. Cutbush & Son, Highgate, offered prizes for certain new varieties, and Mr. J. Sandford took the leading award, Mr. H. A. Page, gardener to F. Crisp, Esq., White House, New Southgate, being second. Mr. John Smith, Windsor, offered prizes for Royal Windsor, cut with long stems, and Mr. J. Agate secured the first.

The table decorations and other arrangements of that class were all staged together in one of the galleries not hitherto occupied with Chrysanthemums, and constituted a great and popular feature of the show. A valuable piece of plate, offered by Sir Edwin Saunders, President of the Society, for a table of exhibition cut blooms of Chrysanthemums, shown with plants or foliage, brought three exhibits. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, carried off the leading award with a very imposing arrangement of flowers in tall vases and other stands of elegant pattern. The blooms on long stems were elegantly and loosely arranged with Asparagus, tinted foliage of Ampelopsis Veitchi, and others. Mr. Norman Davis, Lilford Road, Camberwell, took the second award with another bold and striking arrangement on a similar pattern, but with fewer vases. Mr. W. J. Godfrey, Exmouth, Devon, took the third place. He had the largest and best blooms, but the arrangement was heavy for want of long stems to raise the blooms and plants to mix with them. The first prize for a table of bouquets, wreaths, sprays, etc., was taken by Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, with a very charming and elegant arrangement, that would take a large amount of space to describe. Messrs. Perkins & Sons, Coventry, were second with an elaborate, but somewhat heavy table of devices. Mr. A. Larke, 14, Kensington High Street, W., was third. In the class for twenty-four specimen blooms arranged with long stalks, Mr. D. M. Hayler, gardener to W. Hannaford, Esq., J.P., Tenterden Hall, Hendon, took the first place, with a neat arrangement; Mr. W. H. Lees came in second; and Mr. W. Davis was third. The prizes offered by Mr. John Wills, 16, Onslow Crescent, S.W., brought keen competition, and Mr. J. R. Chard carried off the first award with an elegant exhibit. Mr. F. Seale, Sevenoaks, secured the second award; and Mrs. Walter Mole, 22, High Street, Hemel Hempstead, was third; Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, had the best three epergnes; Mr. F. W. Seale was second, and Mr. J. R. Chard came in third. The first prize for a vase of six blooms with other foliage went to Mr. W. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common; Mr. S. J. Cook was second. Mr. A. Meridew, The Gardens, Camberwell House, Camberwell, had the two best vases of Pompon Chrysanthemums; Mr. T. L. Turk was second. In the gardeners' and amateurs' class for two bouquets. Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn. Wimbledon, had the best exhibit; Mr. Arthur Pentney, gardener to A. J. Howard, Esq., Worton Hall, Isleworth, was second. In the class for amateurs only, Mr. E. Jones, Hornsey, N., had the best vase of six Japanese blooms, one variety. Mr. W. Smith, Como Street, Romford, had the best hand basket of autumn foliage in a very tasteful arrangement.

Although the exhibits of fruit were less numerous than usual, some thoroughly good material was shown. In a class for six dishes of dessert Pears, Mr. W. Allen, gardener to Lord Suffield, Gunton Park, Norwich, took first prize. He had exceedingly fine samples of such varieties as Marie Louise D'Uccle, Pitmaston Duchess, Durondeau, and Emile D'Heyst. Mr. R. Potter, gardener to Sir Mark Collet, Bart., St. Clere, Kemsing, Sevenoaks, took second place, and Mr. H. Liney, gardener to W. M. Low, Esq., Wellesbourne House, Warwick, third. Mr. R. Potter had the best six dishes of dessert Apples, and than his samples of sorts like Cox's Orange Pippin and King of the Pippins nothing finer could be desired. Mr. Richard Dean, Ranelagh Road, Ealing, won the second prize. Mr. A. Asell, gardener to G. H. Dean, Esq., Whitehall, Sittingbourne, carried off first honours for six dishes of Culinary Apples, distinct, showing splendid fruits of Peasgood's Nonsuch, Warner's King, Emperor Alexander, and Lane's Prince Albert. The second prize in this class fell to Mr. R. Dean, Peasgood's Nonsuch, Bismarck, and Mere de Ménage appearing to advantage.

Some fine bunches of Grapes were shown, and in many cases the competition was very keen. For three bunches of white Grapes Mr. J. Bury, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, distanced all other competitors with fine bunches of Muscat of Alexandria, Mr. W. Heasman, gardener to the Earl of Denbigh, Newnham Paddox, Luttermouth, coming second. Mr. C. Griffin, gardener to T. Astley, Esq., Coombe Bank, Kingston-on-Thames, had the best three bunches of any black Grape (excepting Gros Colman). The three bunches of Alicante exhibited by him were exceedingly well-coloured, and the berries were of good size and shape. Mr. J. Bury came second, he also having Alicante in fine condition. Mr. W. J. Godfrey, Exmouth, Devon, exhibited large bunches of Gros Guillaume, but the berries lacked colour. Mr. J. Bury had the best three bunches of Gros Colman, the second award for the same going to Mr. W. Chuck, gardener to Peter Thelluson, Esq., Brodsworth Hall, Doncaster. Although the berries of the Grapes shown by Mr. Chuck were smaller than those of the first prize takers, they were of much better colour.

Vegetables were very well represented both in quantity and quality. In a class for a collection of vegetables, comprising not less than nine distinct kinds, for prizes given by Messrs. Sutton & Sons, Mr. C. Waite, gardener to Col. the Hon. W. P. Talbot, Glenhurst, Esher, carried off first prize. The material shown here was all of first-class quality, Carrots, Turnips, and Parsnips being large and cleanly grown, Onion Ailsa Craig also being in very fine order. Mr. Thos. Wilkins, gardener to Lady Theodora Guest, Henstridge, near Blandford, deservedly obtained the second award; and Mr. R. Lye, gardener to Mrs. Kingmill, Sydmonton Court, Newbury, the third place.

Mr. R. Lye carried off first honours for a collection of vegetables in competition for prizes offered by Messrs. Cannel & Sons, of Swanley, This collection was of sterling merit, and than the samples of Beetroot Leeks, Carrots, &c., nothing better could be desired, In the open classes for Potatos, Mr. C. White had the best six dishes, distinct, showing fine specimens of Sutton's Supreme, Sutton's Satisfaction, and Windsor Castle. Mr. Charles Ross, gardener to Colonel Archer Houblow, Welford Park, Newbury, received a first award for twelve dishes of Potatos, distinct. He had very good samples of Sutton's Windsor Castle, Fidler's Colossal and Genuine.

The miscellaneous exhibits were of a very extensive character, and greatly augmented the interest attaching to the show. Messrs. Cannell & Sons staged a superb collection of bunches of cut blooms of Zonal Pelargonium, both single and double flowered sections being exceedingly well represented. Relieved as they were by fronds of Adiantum, and a suitable edging formed by Ferns in pots, together with the pretty little Echeveria farinosa, the group literally blazed with colour and excited a great deal of admiration. Eucharis, Beauty of Kent, Owen Thomas, Albion, Eleanor, Radha, and H. Cannell, Jun., may be mentioned as some of the best varieties represented (Silver-gilt Medal). A Gold Medal was awarded to Messrs. J. Veitch & Sons for a magnificent group of Chrysanthemums in pots. Sorts like Viviand Morel, Etoile de Lyon, J. Stanborough Dibbens, and Marie Van Hoste, were in fine order, and the whole group presented a grand and imposing appearance. An appropriate edging was furnished by Ferns like Pteris tremula, P. cretica cristata, P. umbrosa, and Adiantum cuneatum, also in pots. A Silver-gilt Medal was awarded to Messrs. B. S. Williams & Son, of Upper Holloway, for a fine exhibit of stove and greenhouse plants and Orchids. The Crotons exhibited were very well coloured, and formed a good back-ground for the splendidly floriferous specimens of Ericas, Cyclamens, etc., which were conspicuous in the front. Owing to lack of space the exhibit occupied three tables, each a few feet distant from the others. Splendid blooms of Cattleya labiata, Odontoglossum Alexandrae, and Cypripediums grande and Osbornei, were very noticeable among the Orchids, a fine piece of Sarracenia Mitchelliana also being well worthy of mention.

Messrs. Wm. Cutbush & Son, Highgate, staged a number of foliage and flowering plants, including Orchids, together with some fine dishes of Apples and Pears. The foliage plants were not of large size, but were well grown, and sturdy specimens of their class. Among the Orchids some well-flowered healthy pieces of Cypripedium insigne were very noticeable. A dish of a new Tomato, Polegate Seedling, occupied a corner of the table, the samples exhibited being of good size, shape, and colour, and particularly weighty (Silver Medal).

A fine collection of Apples and Pears, exhibited by Messrs. J. Cheal & Sons of Crawley, Sussex, met with appropriate recognition in the way of a Silver Medal, such Apples as The New Hawthornden, Blenheim Orange, Peasgood's Nonsuch, Golden Spire, Frogmore Prolific, and Emperor Alexander, were in splendid condition. Pears like Catillac, Beurré Diel, Beurré Alexander Lucas, and Pitmaston Duchess were also worthy of mention. Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill House, Ampthill, Bucks, received a Bronze Medal for a meritorious display of carrots in first-class condition. A very interesting and meritorious collection of disease-resisting potatos, exhibited by Messrs. Sutton & Sons, reached a very high standard of excellence, especially when we take into consideration the past unfavourable season. After a long series of experiments, this enterprising firm has given to the horticultural world a number of sorts that resist the much-to-be-dreaded disease remarkably well. The samples shown were of medium size but weighty, and of good shape. One variety in particular, Sutton's A.1. is said to be the earliest potato in cultivation, coming in before the early Ashleaf. If it turns out to be as good as the sample shown, it should prove of the greatest service to the grower. Sutton's Supreme, another novelty, said to be a second early, is thoroughly deserving a trial. Unlike many other varieties in cultivation it does not produce a great deal of haulm—an important consideration for the occupier of small gardens. Another variety spoken exceedingly well of is Sutton's Windsor Castle a mid-season sort, also of sterling merit. Messrs. Sutton & Sons deservedly received a Silver Gilt Medal at the hands of the committee for their fine display of the much esteemed tuber.

GARDENERS AND HOLIDAYS.

(*Continued from page 170.*)

Iwerne, Lord Wolverton's Dorset seat, was the next on the list. The drive from Blandford was most charming. In one place we passed banks covered with the Iris foetidissima, with their thousands of gaping seed pods just showing their coral berries. In another the Hypericum calycinum covered the banks along the hedges. The scenery was lovely, particularly when the sun was setting, for then the foliage on the trees, which was just changing colour, told to advantage. There are many interesting things at Iwerne, amongst these we may make particular mention of the Coniferae, which have been so lavishly planted. There is also a museum containing a collection of various wild animals that have been shot and brought home by his lordship. Mr. Davidson, the gardener, was from home, so that we had not the pleasure of making his acquaintance. The kitchen garden is not large, but was well stocked. The houses, too, contained some good plants and fruits.

Crichel House, Lord Alington's place, near Wimborne, was reached after a drive of about nine miles. The road for the greater part of the distance was uninteresting, but we were well repaid for the journey on our arrival, for Mr. Beck, who has presided over the gardens here for the last thirty years, had many good things to show us. Herbaceous plants are well grown, being planted in fine bold clumps, such things as Lobelia cardinalis and

some of the late flowering Helianthuses telling up well. We noticed a couple of beds of a fine crimson-flowered Begonia with extra large flowers. A peculiar feature in this place was a fine Holly hedge covered with yellow berries; the Cedar trees are also very fine. In the houses were some fine Carnations and other plants, amongst them being a fine well-flowered piece of Rhodochiton volubile. Violets are extensively and well grown here, Mr. Beck being famed for the size which he is able to produce flowers.

Milton Abbey, about nine miles from Blandford, is built in a valley surrounded by hills on all sides, which are clothed with fine Beech and other trees. The scenery is grand, and our guide, Mr. Perkins, the able gardener, took great pains to point out to us all that was worthy of note. There is a very interesting and curious old church close to the Abbey, with which, doubtless, at one time it was connected, for it stands only a few yards away. At the end of one of the aisles in the church is seen a tablet let into the wall bearing the following inscription:—"In memory of J. Tregonwell, who fell from the tower and was not killed." There are several more interesting monuments in the place, but space forbids us to mention them here. All who have an opportunity should not fail to visit this place. We were shown through the Abbey by Mr. Perkins, and were much interested in the fine carved old oak and other curiosities. A stone on the lawn marks the spot where once a market was held, but the only signs that a village was ever there are two thatched cottages hidden from view by overgrown trees. Here the Bamboos seem to be at home, and many other choice shrubs adorn the grounds. To show the mildness of the climate we may mention that Clianthus puniceous had flowered and ripened its seed pods. The kitchen garden is some distance from the Abbey, and is well tended by Mr. Perkins, who takes a great delight in making the most of everything. May he long be spared to preside over this interesting and delightful old place. No person visiting here should fail to have a peep from Bulbarrow, for this being one of the highest points in the county extensive views on all sides may be had.

Wimborne was our next place to visit, and as we were desirous of seeing all we could we left Blandford by an early train. After a good look over the old Minster—which is very interesting, for it contains many old curiosities, including the peculiar old clock and collection of chained Bibles—Canford Manor, close by, the seat of Lord Wimborne's, must of course be visited, and Mr. Ward kindly showed us over the grounds. As so very much has been written from time to time about this place, it will not be necessary to dwell at any considerable length. We may, however, mention that the grounds are extensive and well kept, containing some fine specimen Coniferae and other trees. A curious place is the Acacia garden, the trees reminding one of so many mops stuck in the ground. The Magnolia grandiflora, which covers a considerable space of a wall is the finest it has been our lot to see. There is a good kitchen garden, the walls of which are well furnished with fruit trees. Carnations are extensively grown, both under glass and in the open borders. There are many others things worthy of mention but we must pass on, as we were desirous of seeing Bournemouth before dark, so we took train at Wimborne and soon found ourselves in that fashionable watering-place.

It is astonishing how well some plants grow so close to the sea. Here the Arbutus unedo seems to be at home, for it flowers profusely and ripens its fruit. At the time of our visit the bushes were one mass of bloom. Rhododendrons and azaleas grow most profusely, especially on the East Cliff. We also paid a visit to Christ Church for the purpose of inspecting that ancient edifice, being one of the oldest in the country that has weathered the storms of ages, without much alteration. There are too many curiosities in this old place to mention here, so would advise all who have an opportunity to see the place themselves as it is well worthy of a visit.

(To be continued.)

The National Chrysanthemum Society's Catalogue.—Centenary Edition. Containing 1,000 new varieties. All the novelties. A history and complete bibliography of the Chrysanthemum, by Mr. C. Harman Payne. Price, 1s.; post free, 1s. 1½. Publisher, GARDENING WORLD, 1, Clement's Inn Strand, London, W.C.

EXMOUTH CHRYSANTHEMUM SHOW.

THE ninth Annual Exhibition was held in the western town of Exmouth, on Wednesday, October 31st, when a capital display of Chrysanthemums, fruits, and vegetables, was brought together to compete for prizes in over seventy classes; though the date may seem early, and some feared the blooms could not be shown in good form, there were, nevertheless, a sufficiency in all classes to make up a good show. For thirty-six Japanese in not less than eighteen varieties, Miss Fripp (gardener, Mr. Styles) was first, having fine blooms all through; his notable flowers being Viviand Morel, Mrs. C. H. Payne, Stanstead White, Alberic, Luydon, Excelsior, Florence Davies, C. Davies and G. C. Schwabe: Mr. G. W. Drake, Nurseryman, Cardiff, was second, showing well his Duke of York, Mrs. F. Jamieson, Col. Smith, E. Molyneux, Dorothea Shea, and Louisa being fine and solid flowers. Mr. W. Cross, Sidmouth, was third. In the class for twelve Japanese, distinct, Mr. Cross was first, Miss Fripp second, M. Farrant, Esq. (Mr. J. Prothera, gardener), third. Twelve incurved was secured by Mr. Drake, Cardiff, having amongst other good bloom fine flowers of Lord Alcester, Golden Empress, Lord Wolseley, and Prince Arthur; Miss Fripp was second, and M. Farrant, Esq., third.

In classes four and five for groups in circles of 8 ft. diameter a singular feat was accomplished. Dr. Hodgson was awarded first in Class 4, and the Rev. Drayton first in Class 5, and as each competitor only employs a man three days a week, the same grower won both prizes. Mrs. Cresswell, Mrs. Forbes, Mrs. Goldney, and Colonel Birch were also winners in these classes. Another surprise took place in the class for groups of semicircular form. Here Colonel Birch had a lot of tall plants 6 ft. high, mostly with large blooms, but the arrangement was most ineffective, and side view revealed an amount of sticks and stem not very engaging, this was awarded only second, the first prize falling to Sir John Phear (gardener, Mr. W. Kelland), whose group of plants, the highest of which was not more than 3 ft. 6 in. at the back sloping down to 15 and 18 in. of naturally grown plants full of medium-sized flowers at once arrested attention and gave much pleasure. Rev. H. Clarke (gardener Mr. R. Pike) took premier honours for a couple each of Beauty of Exmouth, E. Molyneux, and Avalanche. Mons. Bernard and Etoile de Lyon, also for three plants, any type. For six plants, any type, Dr. Shier was first, and for six others, any type, Mrs. Cresswell gained first.

The fruit was moderate in quality, not extensive in the number of exhibits, but each class was fairly filled. Rev. H. Clark was successful with three bunches of Alicante, and also for three bunches of any other variety. He took first also for Peasgood's Nonsuch Apple and Cox Orange Pippin. Mrs. Forbes, E. C. Pine-Coffin, Esq., Miss Pinckney, Mrs. Goldney, R. Ley, Esq., and Sir John Phear, were also among successful competitors with Apples, Pears, and Tomatos. Vegetables, eight dishes, were shown by Mrs. Cresswell, E. Payne, Esq., and Miss Pinckney.

For the best arranged basket of Chrysanthemums with Ferns, &c., the first prize fell to Mrs. Hodgson; with a very pretty arrangement, Mrs. Drayton taking second. Table decorations consisting of centre piece and not less than four vases of any kind of flowers and foliage and to occupy not more than 3 ft. square, was well contested, the first prize falling to Miss C. Goldney, whose arrangement was light, cheerful, and bright, the cloth having smilax and selaginella neatly intertwined amongst the five vases; Mrs. Hodgson was second, using mostly white Chrysanthemums, Adiantums and Ampelopsis Veitchii; The Hon. Mark Rolle, Bicton, contributed a fine bank of decorative plants; Grapes, Apples, and Pears, neatly arranged by Mr. W. Mayne; and Mr. W. J. Godfrey also contributed a large quantity of Beauty of Exmouth and other Chrysanthemums beside bright clumps of Zonal Pelargoniums and a quantity of the two Carnations, Miss May Godfrey and Reginald Godfrey; there were also flowers in this group of a splendid new white Chrysanthemum likely to be heard more of next year—Mrs. W. J. Godfrey. Though the day was very wet and appearances most dispiriting, the attendance was as numerous as on any previous occasion, and the financial aspect better than ever.

THE HORTICULTURAL OUTLOOK.

WHEN recently addressing the members of the Galashiels Horticultural Society on the subject of the Horticultural outlook, Mr. John Thomson of the Tweed Vineyards, Clovenfords, said that the horticulturists of the present day had many advantages which were denied to his predecessor. Their plant structures were much superior in ventilation and heating, and this had greatly improved the produce. Great strides had been made in the methods of culture of all kinds of fruits, flowers and vegetables, and the varieties had been greatly increased. He thought this was overdone, and it might be of advantage to restrict the range by selecting those varieties known to be most disease-resisting and earliest in ripening. With regard to potatos, for example, we generally had frosts in September which blackened the shaws, and varieties should be chosen which were pretty well matured at their tops by the middle or end of September. There were plenty of varieties that would do this, and which would also keep well. Having referred to the tomato, now grown at home and imported in enormous quantities, as a valuable and wholesome article of diet, Mr. Thomson remarked that the range of vegetables for food was now very wide, and health was better preserved by a judicious use of vegetables and fruits along with animal food than by the use of medicine. But to ensure this, vegetables and fruit must be fresh, for when stale they lost their good qualities and became absolutely dangerous. Horticultural Exhibitions, and Gardeners' Improvement Societies had now become common, and at their meetings much valuable information was usually given and circulated in the gardening journals, so that it was accessible to all interested in it. A prominent feature in the horticultural outlook was the depreciation of income from land. The nobleman and landowner had to see how far he could retrench, and generally the garden suffered first. Many fine gardens owing to this were reduced to the lowest possible outlay, or let as market gardens, and he was afraid there was little hope of rents rising again. To some extent the rich manufacturer or merchant rented the estates of the impoverished landowner, but if continued strikes in the coal and iron industries prevailed, in the future many who were now taking the places of our nobility and gentry would have themselves to economise. Horticulture in all its branches depended greatly on the general prosperity of the country, and it should be the aim of all who desired to see horticulture flourishing to discourage everything that tended to set class against class, and especially to discourage appeals to passion instead of to reason. No one class could afford to be independent of the other, and if those who attempted to teach the doctrine of antagonism were not made to see that the general sense of the country was against them, horticulture, as well as other branches of industry, would suffer immensely.

Having referred to the planting of Coffee and Tea in India and Ceylon as a pursuit for horticulturists from this country, Mr. Thomson said in regard to strictly commercial horticulture over-production was looming in the immediate future. Prices obtained by the grower for many things produced were at present simply absurd, and there was little prospect of any improvement in regard to this, and the time seemed to be coming when it would be necessary to place some restriction on foreign imports. Much of the foreign fruit that was sent to us did not arrive in the best condition, and all such should be condemned. Remarking on the enormous quantity of fruits, flowers, and vegetables, home grown and imported, which now reached the London and other great markets, he said the prices paid to producers were very low, but if the retailer's profits were shared with them it would give the producer greater encouragement. The French were before us in the use and preparation of vegetables for the table, and we should not be above learning from them. As a business, as a relaxation, and as a luxury, horticulture bulked largely in our daily life, and all who were watchful of "the signs of the times" would be glad to see the outlook improve, and would trust that the present depression was only temporary.

Touching on the relations which existed between gardeners and their employers, and offering some suggestions to gardeners on the subject. Mr. Thomson said the Galashiels Society had held good

exhibitions, which could not fail to have good results on the horticulture of the neighbourhood. The desire to shine in such competitions was commendable, and ought to be encouraged. The prizes given by Provost Brown and himself for "the best cropped and kept gardens" had been well competed for. On one occasion he had the pleasure of going round three of the gardens, and they were all worth a visit, showing the enormous amount of produce that could be obtained from a small piece of ground. The allotment system was developing slowly, but there should be allotments connected with every town for those who had no garden attached to their dwellings. Their cultivation would be a profitable relaxation, and it should be the aim of those in power to provide them. A man was generally much refreshed in body, mind, and spirit who had been able, after the ordinary toils of the day, to engage in some favourite pursuit, and gardening was at once the most interesting and engaging of pursuits in which business worries and troubles were forgotten for the time.

Discussing the production of Grapes for market, he said that often the public were supplied with Grapes that had few of the qualities that should pertain to that noble fruit. Some could grow heavy crops, but they were as different as night is to day to Grapes well grown and properly handled, before being offered to the public. The Muscat of Alexandria, when well grown and thoroughly ripened, was a Grape fit to set before a king. The Duke of Buccleuch was another excellent Grape. Neither were grown very much for the market, but anyone who had not tasted these in prime condition could have little idea of what a splendid fruit the Grape is. The Black Alicantes and Gros Colmans, sent to market by the hundred ton, were no more like a fine Muscat or Duke of Buccleuch than chalk is like to cheese. The two former could be greatly improved by proper culture. What he had said of Grapes applied to other fruits, and it should always be the aim of cultivators to see that quality was maintained along with increased production. One adverse circumstance against producers in this country was that foreign produce was carried to London at lower rates than home produce. For example, a writer in the *Scotsman* of 29th September last stated "that Grapes are now sent direct from Antwerp to London at 1s. a basket. While the rate for English Apples from Folkestone to London is 24s. per ton, French Apples are brought from Boulogne to London for 15s. 8d. per ton." This favouring of foreign competitors by railway companies should not be, and it seemed unpatriotic in the railway companies to do it. All horticultural societies should petition the railway companies on this matter, and if Government interference could be invoked in any way, he would recommend petitioning the Government. The Solicitor-General of Scotland would do all he could in the matter, and the societies in the Border Burghs should appeal to him. The foreign importations yearly increased, and were likely to increase.

Gardeners' Improvement Association.

Exeter, *October 31st.*—At the monthly meeting held on this date, Mr. Bartlett presiding, Mr. Samuel Radley, of the Royal Nursery, Exeter, read a paper on the cultivation of bulbs. Dealing first with the Hyacinth, which he thought the most important of bulbous plants grown for exhibition, Mr. Radley contested the widespread opinion that exhibition bulbs were expensive, Mr. Radley said that many people thought that the largest bulbs were always the best. He was sure that there was nothing better than medium-sized plump bulbs. From those you were sure to get a good spike of flower. The best time to pot the Hyacinths, if they were to flower in March, was about the middle of October. The compost should be rich, and mixed a month or more before it is used. He had found the following an excellent mixture:—One half good fibrous loam, one quarter well rotted cow dung, the remaining quarter to consist of silver sand or road grit, with a sprinkling of soot and a little leaf mould. Six-inch pots were the best. One good stopper and a few smaller crocks at the bottom were quite sufficient, covered with a little of the rougher compost. The soil must be kept very loose under the bulb. The soil should be pressed round the bulb, so that only the point showed. If that were not manipulated the bulb would gradually lift itself out of the soil. One of the most important points was to keep the bulbs in the dark, so that they rooted well before they sent up their flower spikes. He was sure a good many gardeners failed from neglect of that. If the bulb got the light too soon, the spike grew and not the roots. He advised that the pots should be placed out of-doors and covered with empty 4-in. pots, upside down. They should then be covered with old rotten tan or old ashes—new ashes should never be used. Under this covering the pots should stay until the end of December. In January the pots should be put in a frame, close to the glass, the empty pots remaining on for a week or two. The bulbs needed plenty of air, day and night. At first not much water should be given. A little soot-water should be adminstered occasionally. All side shoots should be cut off. He had found that one of the very best manures for hastening on a bulb was Veitch's Horticultural.

A few of the best Hyacinths for exhibition were:—(Single whites) Grandeur a Merveille, La Grandesse, Lady Derby, Madame Van der Hoop, Mont Blanc, and Nectar; (single reds) General Pellissier, Gigantia, King of the Reds, Lord Macaulay, Von Schiller and Vuurbaak; (single blues), King of the Blues, Grand Maitre, Lord Derby, the Sultan, Queen of the Blues, Grand Lilas and King of the blacks. The best single yellows were King of the Yellows and Marchioness of Lorne. Doubles could not be depended on, but among the best were Koh-i-noor and Princess Louise, red; Florence Nightingale and Van Hoboken, white; Duke of Edinburgh and Garrick, blue; and Minerva, yellow. Hyacinths in glasses were not much trouble. Just a little charcoal in the water to keep it fresh, and the dark cupboard till the root had grown. The lecturer treated next of Tulips, which, he said, should be potted in the same way as Hyacinths. The bulbs should not be pressed into the soil. After potting the Tulips should be plunged in rotten tan or old ashes six inches deep, as frost cripples them. When removed from the ashes the earlier sorts should be put in an airy frame, the late varieties in a warm house. They should be close to the glass and well watered, root water being given occasionally, and Veitch's Horticultural Manure should be used to assist the development of the blooms. A few of the best exhibition sorts were:—(Singles) Belle Albanie, Cardinal's Hat, Cottage Maid, Crimson King, Duc van Thol, Chrysolora, Gold of Ophir, Pottebakker, White Queen, Proserpine and Joost von Vondel; (doubles) Velvet Gem, Yellow Rose, Tournesol, Rubra Maxima, Murillo and Marriage de ma Fille.

Daffodils, Mr. Radley said, should be potted at the end of September. There should not be so much manure in the soil as recommended for the Hyacinth, and a little more leaf mould. Three bulbs should be put in a six-inch pot. The pots should be plunged for a few weeks in ashes and afterwards placed in a cool frame. No stimulant should be given until the bud was nearly open. The most showy sorts of Daffodils were Horsfieldii, Empress, Golden Spur, Emperor, Maximus, Princess, Old Double, Ard Righ, Cernuus, Rugilobus, Queen Bess, Aurantius Plenus, Sulphureus Plenus, Albus Plenus, Sir Watkin, and Stella. The Polyanthus Narcissus would grow in any soil. Five or six crocuses should be put in a five-inch pot. Plenty of manure water should be given after the resurection from the ashes, and then there would be no lack of flowers. Chionodoxa required sandy soil. Five or six bulbs in a six-inch pot, and ordinary treatment. Scillas were very showy and grew well in pots. Ordinary soil and treatment. Freesias should be potted in the middle of September. Seven or eight bulbs in a five-inch pot. Soil should be of equal parts of loam and and well rotted manure. Lilium Harrisii required a six-inch pot to itself. The soil recommended for Hyacinths would do for Gladioli, early October was the time for potting. Frost should be avoided by plunging. As soon as the bulbs had started they should be placed in moderate heat. Plenty of water should be supplied to the roots, and the bulbs should be exposed to the sun. An interesting discussion followed after which a hearty vote of thanks was accorded to Mr. Radley for his excellent paper.

Birmingham.—*October 22nd.* At the usual meeting of the members of this association, Mr. W. B. Latham presiding, a paper was read by Mr. W. B. Child, Acock's Green, on the "Aster, or Michaelmas Daisy." Mr. Child treated the subject in a very interesting manner, dwelling on the immense variety of seedling garden forms, and explaining the best modes of propagation. An instructive discussion followed. Specimens were exhibited by Messrs. T. S. Ware (Tottenham), R. Smith & Co. (Worcester), Dicksons (Chester), and Child (Acock's Green), Messrs. Pope (King's Norton) exhibited a bouquet of autumn leaves and berries, interspersed with a few asters. Messrs. Cannell (Swanley) sent a small spike of Canna Queen Charlotte, and Messrs. Thomson (Sparkhill) two very fine seedling carnation blooms.

MUSHROOM.

An idea that seems to have become pretty firmly fixed in the minds of the general public is that it takes a great deal of trouble and involves a lot of expense to grow Mushrooms; and while all, or nearly all, are agreed in declaring them to be of great value, very many are frightened from trying to grow this coveted esculent for themselves on account of the elaborate preparations considered necessary. Many growers, too, are apt to blame the seedsman or nurseryman from whom they obtain the spawn, for supplying them with a bad article, when, in reality, it is they themselves who are at fault, or rather the methods of culture they adopt. It does not matter much what house they are grown in as long as it has a moist, equable temperature of about 55° F. As good Mushrooms can be obtained from a box filled with suitable compost and placed in a cellar or basement, as from the regular Mushroom house fitted with every convenience.

The great consideration is the procuring of suitable material. If plenty of fresh horse droppings can be obtained from the stable, the battle is half won. These should be brought direct from the stables each morning, and thrown up together to heat. The heap must be frequently turned over so that the new material may be well incorporated with the old, as well as to liberate the strong and noxious gases which are always generated by the fermenting of material of this sort.

As soon as a sufficient quantity has been obtained for the forming of one bed, it should be made up. The heated horse droppings, to which, if it is thought advisable, a few leaves may be added, should be rammed as tightly in the bed as possible, filling the compartment up to within a couple of inches of the top. As soon as the heat of the bed has declined to 85° F., it may be spawned. It is not advisable to spawn at a higher temperature than this, and if the bed is allowed to decline too much in temperature the spawn will not run at all. Pieces of spawn about the size of a pigeon's egg should be inserted at intervals of about 4 in. apart each way all over the surface of the bed. This done, the surface of the bed may be levelled and a layer of one and a half to two inches of fine loam spread evenly over the whole. As a rule Mushrooms should begin to appear within five to six weeks from the date of the insertion of the spawn. All will depend, however, as to whether the temperature maintained is the correct one. The heat of the beds will, of course, decline gradually; the atmospheric temperature should, however, not fall below 55° F.

Plenty of moisture in the air, too, is a consideration of vital importance. Sheets of brown paper, or a layer of hay, spread over the surface of the bed, will assist greatly in keeping the heat in for a much longer period than would be the case were no covering at all given. Should the beds at any time show signs of getting dry, a light watering should be given with tepid water. Beds that are going out of bearing may often be encouraged to throw up another crop by judicious watering with salt and warm water. Care should be taken, however, that this is not used too strong, or harm instead of good will result.

With regard to the kind of house most suitable for Mushroom growing, an ordinary shed, the floor of which is sunk a couple of feet below the level of the ground, will answer admirably. No windows at all will be needed, for the house must be kept as dark as possible. A path through the middle about two feet six inches to three feet in width will be required, and on either side of this the tiers of compartments one on the top of the other. Wood is as suitable a material as anything for the making of these, as it is not so cold as slate or iron, and the Mushrooms seem to take to it in a much more kindly fashion. A couple of rows of 4 in. pipes running the whole length of the house will be sufficient to supply all the artificial heat required, if the house is well built. A house of this kind is well nigh a necessity in a garden, for besides the growing of Mushrooms it will prove of the utmost service for the forcing of Rhubarb and Seakale.—*Agaricus.*

GARDENING MISCELLANY.

PEAR, THE CONFERENCE.

THE unfavourable season does not seem to have prejudiced the flavour of this excellent November Pear. "Beauty is only skin deep" as the old proverb says and it may be that the lack of colour in Pears this year, due to the deficiency of sunlight, bears little correspondence to the quality when the fruits come to complete maturity. Possibly those varieties which have to mature in fruit rooms, are less affected in this respect than those which become fit for use while still hanging upon the trees. At all events the comparatively new variety named The Conference, seems quite up to its usual standard, judging from a box of fruits sent us by the raisers, Messrs. Thomas Rivers & Sons, Sawbridgeworth. Many of the fruits seem shorter and less tapered than we have seen them on former occasions, but they are very thick and doubtless quite up to the normal size. The skin is thinly suffused with russet or densely spotted with that hue, and showing greenish yellow patches, while the exposed side is more or less suffused or splashed with red. The finely gritty flesh is of a pale amber or nearly white, very tender, crisp, juicy, and richly sugared, although devoid of any special aroma. Even amongst November Pears it must be considered an acquisition for the dessert table on account of its excellent quality and delicate melting character. Fruits alone give no evidence of actual fertility, but we believe the trees have given good satisfaction in that respect. Although not particularly favoured with regard to colour yet the fruits are decidedly handsome.

TUBEROUS BEGONIAS.

THESE are excellent subjects for bedding out even in the North. Looking into the neatly-kept garden of H. Parke, Esq., at Withnell, near Chorley, I saw this season some beautiful beds, and as the situation is a bleak one and the summer anything but favourable, I was surprised to see them in such excellent condition; indeed, no one could desire anything better. Pelargoniums were a poor show in the past summer as compared with the Begonias, for no sooner did a few trusses expand than they were spoilt by the rain up to September, when the season was partly over. I have seen boxes planted with these Begonias outside the windows of some of the houses in Preston, and they looked very well indeed.—*W. P. R.*

STRANDMILLIS BELFAST.

WHEN visiting the Emerald Isle several weeks ago, I had the pleasure of looking through the well-kept grounds and gardens belonging to W. H. Wilson, Esq., where the gardening operations are conducted by Mr. Lindsay, with all the enthusiasm and vigour of youth. In passing through the various departments, it was easily seen that the same master hand had been at work throughout the entire establishment. There is a very extensive range of glass at Strandmillis, greenhouse, stove, Peach houses, vineries, fernery, Melon and Cucumber houses, numerous forcing pits, besides some splendid Orchid houses. The forcing of fruit, flowers, and vegetables, is carried on throughout the entire year. It is scarcely necessary to single out any particular plant or department for special description, because each and all are thoroughly well done, reflecting great credit upon employer and employed.—*J. McNab.*

MARSH MARIGOLD IN BLOOM.

CALTHA PALUSTRIS, popularly known as Marsh Marigold, blooms ordinarily in March, April, and May, but April is really the month when it makes the best display. In gardens of the southern counties of England at least it often flowers a second time in autumn, provided the weather is unusually mild and open. One might imagine this to be the result of cultural treatment, shelter, and other favourable conditions, but when the wild plant behaves in this way, it may be considered that the species naturally blooms twice a year. For some time past it has been flowering and fruiting freely on the marshy land forming part of Staines Moor, Middlesex. The mild autumn and the abundance of moisture has set various kinds of vegetation into a second growth, and besides the Marsh Marigold, various other interesting wild plants have also been gay, as if it was still early in the season.—*Rambler.*

QUESTIONS AND ANSWERS.

HEATING A SMALL HOUSE.—*W. E. B.*: You can get exactly what you want from Messrs. C. Toope & Son, Stepney High Street, Stepney Square, E., or the Albion Lamp Co., Birmingham.

NAMES OF PLANTS.—*Perth*: Oncidium Gravesianum, a good dark variety and sweetly scented. *J. M. G.*: The specimens you sent were those of Fraxinus Ornus rotundifolia or some other variety of the Manna Ash. We should like to see a flowering branch in spring.—*S. J.*: 1, Adiantum Capillus Venerus var.; 2, Adiantum cuneatum grandiceps; 3, Pteris cretica albo-lineata; 4, Euonymus microphyllus; 5, Begonia maculata; 8, Jasminum revolutum; 9, Cotoneaster Simonsii.

BUDS OF ONCIDIUM CRISPUM DROPPING.—*C. B. G*: In winter this could be ascribed to fogs in the vicinity of large and smoky towns. But at other times and places some other cause must be sought. It might even be ascribed to the sunless and unfavourable season if the atmosphere of the house has been kept too cold and damp with long continued, stagnant moisture. The species you mention is generally grown upon rafts, blocks, or in baskets, and it may be that the roots have been allowed to get too dry while growth was being made, or while throwing up their flower spikes. Without knowing the cultural treatment it would be impossible to definitely name a cause for the evil, which, as far as we know, is of casual and not general occurrence. We imagine that it must be due to something somewhere in the cultural treatment.

CRUDE MANURE FOR FRUIT TREES.—*C. B. G.*: Dead cats, dogs, and even horses we believe have been buried at the roots of fruit trees at one time or another, but we never heard of extraordinary results. The fact is that putrescent flesh or similarly highly concentrated manures would be greatly injurious to the roots of trees and plants of all kinds, if brought into direct contact with them in the crude condition. After they are getting fairly rotted then the roots could attack them and find great benefit therefrom. Large animals would have to be buried at such a depth that they would ultimately serve to induce the roots to penetrate the soil too deeply, which in itself would be detrimental than otherwise in the long run to fruit trees. We should prefer to cut the animals up roughly, and to mix them with a heap of good soil, then to allow the whole to decay and become more or less incorporated during a period of ten or twelve months. Then this rich compost of humic matters could be spread over the ground and dug in about or above the roots of fruit trees, &c.

CLUBBING OF CABBAGES.—*G. F. C., Reading*: There will be no danger of applying gas lime, even in the fresh state, to vacant plots of ground, provided you do not plant nor sow anything there for two months afterwards. Break up the gas lime finely with a spade and spread it over the ground till the latter appears white. No particular quantity is necessary, and you should apply it much in the same way as for ordinary lime. First of all you should remove as many of the clubbed roots and pieces as possible, because the gas lime will have little effect upon large lumps of diseased roots. You can then spread it upon the ground before digging. Trenching the ground 2 ft. deep every year or every second year is a good plan, because by so doing you bury the spores of the fungus, as well as the eggs and pupae of insects, slugs, etc., at too great a depth for their getting to the surface the following year. If you trench, the gas lime may be scattered over the top spit after it is turned to the bottom of the trench. Avoid planting the same kind of crop on the same plots of land two years in succession.

PEARS FROM NOVEMBER TO MARCH.—*E. B.*: The following will give you a succession:—Beurré Diel, Glou Morçeau, Chaumontel, Easter Beurré, Josephine de Malines, and Beurré Rance. You may substitute Doyenné du Comice for Beurré Diel because of better quality and less gritty.

CLIMBERS FOR TRELLIS.—*Thomas Finch*: The oval-leaved Privet and the golden variety of it would answer the purpose admirably and cover the trellis in a few years. The first-named grows stronger, and would require more pruning to keep it within bounds. The golden one grows slowly, and although it would take a little longer to cover the space, it would be the neater and more handsome of the two. Other very neat climbers are Cotoneaster Simonsii, Cotoneaster microphylla, The Fiery Thorn (Crataegus Pyracantha) also Roses, like Rosa multiflora with double flowers or some of the more hardy Noisette Roses. The everlasting Pea (Lathyrus latifolius) and its white variety would make a beautiful screen in summer, and flower grandly after becoming established some years. The cotoneasters and Fiery Thorn are evergreen, and have red and orange berries.

LIME TREE AND SMELLS.—*Thomas Finch*: We are doubtful if any Lime tree would deodorise bad smells, although when in bloom it would doubtless counteract the disagreeableness of the same to some extent. Some carbolic acid, which can easily be obtained, and scattered about the place, and thrown down the sink, would prevent any danger to health arising from such sources.

NAMES OF FRUITS.—*A. R. Wilson*: 1 and 2, King of the Pippins; 4, Gravenstein; 5, Bess Pool; 9, Scarlet Nonpariel; 10, Brownlees Russet.—*Juno*: Too far decayed for identification.—*H. F. E.*; 1, Doyenné Boussock; 2, Marie Louise.—*G. T.*: 1, Doyenné Boussock; 2, Marie Louise; 3, Urbaniste, 4, Beurré Clairgeau; 6, Beauty of Kent.—*St. Lawrence*: 1, Beurré Hardy; 2, Doyenné du Comice; 4, Beurré Diel; 5, Vicar of Winkfield; 6, Glou Morceau.

COMMUNICATIONS RECEIVED.—W. A.—J. T.—C. H. P.—W. S.—S. & S.—A. P.—A. S.—S. J. (next week.

TRADE CATALOGUES RECEIVED.

FOTHERINGHAM & KING, Dumfries.—Forest and Ornamental Trees and Shrubs, &c.

J. P. ABRAHAMS, Colombo, Ceylon.—Tropical Plants, Seeds, Bulbs, &c.

LITTLE & BALLANTYNE, Carlisle.—Forest and Ornamental Trees, Hardy Plants, &c.

MORRISON & CUNNINGHAM, Pinefield Nurseries, Elgin.—Roses, Fruit Trees, &c.

LONDON SEED TRADE.

November 6th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report little demand for Clover Seeds. White Clover is again higher. Alsike and Trefoil steady. Red Clover has advanced one shilling per cwt. Rye grasses unchanged.

COVENT GARDEN MARKET.

November 7th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	22 6	25 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 6	1 0	Lettnces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mnshrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Caulflowers, Eng. dz.	3 0	6 0	Seakale...per basket	0 0	0 0
Celery.....per bundle	1 6	2 0	Smallsaladlng, pnnnet	0 4	
Cucumbers .....each	0 4	0 6	Splnach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnlps .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Heliotrope...per doz.	3 0	6 0
—specimen plants, each	5 0	15 0	Marguerites, per doz.	6 0	12 0
Cyperus .....per doz.	4 0	12 0	Mignonette, per doz	6 0	0 0
Chrysanthemums, per doz.	4 0	15 0	Palms in variety, each	2 6	10 0
Dracaena term., doz.	18 0	36 0	Palms, Specimen ...	15 0	63 0
Dracaena viridis, doz.	9 0	18 0	Pelargoniums, scarlet per doz...	3 0	6 0
Evergreens, in var. doz	6 0	24 0	Primulas, per doz. ...	4 0	6 0
Ferns, invar., per doz.	3 0	8 0	Solanums, per doz. pots	10 0	12 0
Ferns, small, per 100	3 0	6 0			
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Arum Lilies, 12 blms.	3 0	5 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums 12 sps.	0 6	0 9
Carnations...per doz.	1 0	2 0	Pink Roses...per doz.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Pyrethrum doz. bun.	2 0	4 0
,, doz. bunches	3 0	9 0	Primula, double, bun.	0 6	0 9
Eucharis ...per doz.	2 6	4 0	Roses .....doz. bchs.	6 0	12 0
Gardenias 12 blooms	2 0	4 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9	— Red..... doz. blms.	1 0	1 6
Lilac (French) per bch.	3 0	5 0	— Tea ..... per dozen	0 6	2 0
Lilium Harrisii, doz. blooms	6 0	9 0	Scarlet Geraniums, doz. bchs.	4 0	6 0
Lilium lancifolium, white.....doz. blms.	2 0	4 0	Tuberoses, per doz	0 4	0 6
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) Parnu, per bch.	2 0	3 6
Marguerites, 12 bun.	1 6	3 0	Violets (French) Czar, per bch.	1 3	2 0
Mignonette... 12 bun.	3 0	4 0	Violets (French) doz. bch.	1 6	0 0
Narciss (French) doz. bch.	4 0	6 6			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 19th.—National Chrysanthemum Society: Meeting of General Committee at 7 p.m.
Bulb Sale at Protheroe & Morris' Rooms, and every day.
Sale of Nursery Stock at the Windlesham Nurseries, Bagshot (6 days).

TUESDAY, Nov. 20th.—Chrysanthemum Shows at Woking, Hanley, Chester, and Ripon (all 2 days), and Helensburgh.
Sale of Imported Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, Nov. 21st.—Chrysanthemum Shows at Newcastle-on-Tyne, Southwell, Lichfield (2 days), Glasgow (3 days), and Ayr.
Sale of Palm Seeds at Protheroe & Morris' Rooms.

THURSDAY, Nov. 22nd.—Chrysanthemum Shows at Thame and Neath.
Sale of Greenhouse Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, Nov. 23rd.—Chrysanthemum Shows at Manchester and Stockport.
Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, Nov. 24th.—Chrysanthemum Shows at Birstall and Dundee.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 17th, 1894.

MUSHROOMS ON THE HOUSE-TOPS.—Many and strange are the places we have seen or heard of in which the votaries of these favourite esculents cultivate or simply collect the natural product. In gardening establishments it has been the custom for many years to cultivate the common Mushroom (Agaricus campestris) in a systematic manner, in houses constructed for the purpose, with the view of furnishing a regular supply all the year round. Some are very successful, while cultivators of repute amongst other classes of plants often find the greatest difficulty in securing anything like a satisfactory crop, if indeed they succeed in getting a crop at all. On the other hand there are those who utilise sheds and out-houses, while some successful market growers cultivate Mushrooms extensively on ridges of manure protected with a thick layer of straw in the open air. Extensive cultures have been carried on for some years in a disused railway tunnel at Edinburgh. In the vicinity of London is an old wine cellar, on the top of which a mansion once stood, but this has long since been pulled down and a new house built over a site at a short distance away. A regular supply of Mushrooms all the year round is obtained from a series of properly constructed beds, arranged so that their produce affords a constant succession.

All of the above means and methods may be regarded as perfectly legitimate, but others of doubtful propriety are sometimes pursued. For instance, the tenant of a certain building on the northern outskirts of London, was brought before the magistrate to answer a charge concerning the cultivation of Mushrooms in the basement of the tenement in which his family was housed. The vapour and effluvia arising from fermenting manure, must have been anything but beneficial to the inmates, and the cultivator was ordered to have the nuisance removed. We have seen good Mushrooms produced from beds of manure in the basement of a conservatory, adorned with the usual occupants on the floor above the Mushroom beds. Another establishment, long famed for its collections of Orchids and Cacti, having been broken up, the garden was turned into a nursery, while the beds, and even the pathways of some of the plant houses, were filled with manure and utilised for Mushroom growing. This latter case, though not exactly illegitimate, shows to what base uses Orchid houses in their day of misfortune may be put.

Nature also sows and rears Mushrooms in strange places, as might have been seen some time ago upon the thatched roof of a snug cottage by the wayside in the old-fashioned village of Wytham, near Oxford. The little garden in front had been a model of neatness and care all through the summer months, and a Plum tree upon the wall blossomed a second time just as the first crop commenced to colour. A few days ago the tree was leafless, revealing some of this second crop of Plums, and the happy and contented cottagers were pleased to rehearse their history. The husband, pointing to the roof of the house, declared with evident pride that they had a crop of Mushrooms up there, and some fine ones too, while his wife interposed with a satisfied smile, stating that they were of the real sort. While it would be useless to speculate upon the possibility of a supply of Mushrooms from such a source, the incident gives rise to many reflections and much mental pabulum upon which to ruminate, and has even a poetical leaning. We all remember the happy idea of peace and plenty represented by the parable of "every man sitting under his own vine and under his own fig tree." Here is a case of family life, sitting, feeding and sleeping under its own Mushroom beds, towards the production of a crop from which it contributes nothing. It reminds us, too, of some tropical, eastern countries, where the natives often sit for long periods under the wild Durian trees waiting for the fruits to fall. There is a seamy side to the case, compared with the last, for, while the Durian fruits are being produced by living and healthy trees, the Mushrooms under notice have been feeding upon and wasting the roof of the house over the heads of the contented cottagers. One wonders, too, while reflecting upon the fields that are raided by trespassers in search of Mushrooms in various parts of the country, whether the roof of a cottage would be held sacred by such depredators, and thus enjoy immunity from spoliation.

The common mushroom is cosmopolitan, that is, it grows wild in all the five continents of the globe. It is capricious, however, in its appearance in a wild state, and equally fickle under cultivation, so that the

supply is often far from being adequate to the demand. The fact that it grows spontaneously in the fields and is therefore wild, doubtless induces hundreds of people to collect it, heedless that they are trespassing knowingly on the property of others. Something like 782 species of Agarics are native to Britain, but of all that number it is remarkable how few of them are eaten. The fact that they include both mushrooms and toadstools, that is, edible and poisonous species, and the accidents that occasionally occur, doubtless prevent the masses from experimenting upon other species with a view to determine their toothsome qualities. It is more than probable that many of the species yet unattemped would either prove wholesome and savoury under the treatment of good cookery, or, on the other hand, harmless. The proof of the pudding is in the eating, says the old proverb, but few experimenters are yet prepared to follow the American precept that says, "Eat it and if you live it was a mushroom, but if you die it was a toadstool." Even amongst scientific men there are few who care to make experiments such as some one or several must have done in ancient times to prove the wholesome qualities of the common Agaric. Several species of mushroom are eaten in Italy, but that which is so much appreciated by the British, is rejected as suspicious by the Italians.

Mr. H. French, late of the Royal Gardens, Kew, has been engaged as gardener to Joseph Yorke, Esq., of Forthampton Court, Tewkesbury, Gloucestershire.

The Society of Arts Programme for the ensuing session includes a lecture on Forestry, on December 19th, by Lt.-General J. Michael, C.S.I., and three lectures on Commercial Fibres (March 18th, 25th, and April 1st) by Dr. Morris, Kew.

Legacies to Servants.—In accordance with the will of the late Mrs. Lyne Stephens, of Lynford Hall, Norfolk, who died a short time ago, all the gardeners, gamekeepers, woodmen, and farm labourers, together with those members of their families who were employed on her estate at the time of her decease, in the villages of Lynford, Cranwich, Mundford, and West Tofts, have each received a legacy of £20.

Apple Imports.—The arrivals of Apples at Liverpool from United States and Canadian ports up to the 27th ult. were 191,961 barrels, as compared with 1,663 last season; and on Wednesday the Allan Line steamer, "Laurentian," arrived in the Mersey bringing some 7,000 barrels of Canadian Winter Apples in splendid order. The present value of Canadian Apples ranges from 12s. 6d. to 23s. per barrel, according to variety and quality.

Feeding Apples to Cows.—There has long been an opinion among farmers that while sweet Apples might be fed to cows with satisfactory results, sour Apples were very injurious to them, but this opinion has been founded upon very slight actual knowledge of the real feeding value of Apples. Experiment stations have so far given but little attention to analysis of the Apple to ascertain its feeding value. At the Vermont station Apple Pomace, ensilaged and used supplementary to and in part as a substitute for Maize ensilages, was found to be relished by cows, and the results of four tests found it to be about equivalent in feeding value to corn ensilage. At the Massachusetts station Dr. Goessmann found Apples to contain about 80 per cent. of moisture, the Apples having been gathered October 6th. The further advanced Apples are towards maturity the more sugar is found in them, and their feeding value depends largely upon the amount of dry matter which they contain. Laboratory tests show that the feeding value of Apples is somewhat higher than that of an equal weight of Turnips. Apple Pomace is said to be equal to Sugar Beets, it being a somewhat singular chemical fact that the Pomace is richer in nitrogenous matter than the Apple from which it has been made.—*Bell's Messenger.*

Birmingham Amateur Gardeners' Association.—The meeting of the above Association held on Wednesday evening, the 7th, at their rooms, 116, Colmore Row, was much better attended than the past few meetings. Mr. Arthur Roe occupied the chair. Mr. T. P. Cope gave a short lecture on that much discussed and often much abused subject, "Judging." He described the various principles to be taken into account by judges, and enumerated the many ways adopted by judges to secure fair awards. In amateur societies he thought particular attention should be paid to the locality where the exhibits had been grown. A good discussion followed the paper, in which Messrs. E. B. Clark, J. Child, W. B. Child, W. B. Griffin, W. H, Peake, A. Roe, and W. H. Wilks, and others took part. There was a strong competition for two prizes offered by Mr. Albert Sydenham, Acocks Green, for six blooms of Chrysanthemums. Mr. E. D. Clark was the winner of the first, an electro-plated inkstand; and Mr. W. A. Sarsons was the winner of the second, a pair of electro-plated ash trays. Messrs. W. England, Hy. Beech, W. Chapman, and M. Moss, also exhibited.

Scottish Horticultural Association.—At a meeting of this Association on the 6th inst., in 5, St. Andrew Square, Edinburgh, the Secretary read a paper by Mr. William M'Conochie, gardener, Doonside, Ayr, on "Soils." The writer of the paper described the various kinds of soils, and said that in clay soils the drains should never exceed 30 in. in depth, nor more than from 9 to 10 ft. apart. Beyond that depth no healthy root action could take place. Sandy soils containing less than one-tenth of clay were easily worked, but their great defect was their non-retention of moisture. They could be gradually improved by the application of clay vegetable refuse. Good cultivation and intelligent management were essential in all cases. Soil properly cultivated would never "run out;" while by a course of injudicious cropping the most fertile soil in the world would in time become barren. It was therefore of the utmost importance that a rational course of rotation should be carried out. In the discussion which followed, several members took exception to Mr. M'Conochie's view as to the depth of drains. A malformed Potato sent for exhibition by Dr. Paterson, Bridge of Allan, was examined with interest by the members.

Unfair Railway Rates.—A correspondent of *Bell's Messenger* calls attention to a fact which is exceedingly instructive in connection with railway rates. Some time ago he purchased some foreign potatos on board a ship in Hull Docks, and ordered them to be forwarded to him by rail. The railway company sent to the docks, brought the potatos, put them in their trucks and delivered them at his station, charging him 7s. 6d. per ton for carriage. Shortly afterwards he again visited Hull with the intention of buying a similar lot of potatos, but found a local farmer in the market who was prepared to sell him the quantity he required at the same price as the foreign potatos and in somewhat better condition. Naturally he closed the bargain, and the seller agreed to deliver them to the railway company. In this case the company had not to send for the Potatos, but had them actually placed in their own trunks, sent them by train and delivered them at the same station as the previous consignment. The purchaser assumed that the carriage would be slightly less, as the company had no carting to do to get the goods into their trucks, and therefore he was much surprised to find that, instead of 7s. 6d. per ton, he had 10s. to pay. He declined to do this; but after a long correspondence and a good deal of trouble, found it better to hand over the money and have done with the matter.

Testimonial to Mr. William Dean, Birmingham.—Mr. Robert Sydenham and Mr. W. B. Latham met Mr. Dean on the evening of Wednesday, November 7th, and formally presented him, in name of the Committee of Subscribers, with a handsome silver watch bearing the following inscription:—"Presented to Mr. Wm. Dean, along with fifty guineas, on his 70th birthday, as a mark of esteem. Subscribed for by florists and friends in all parts of the country." The following are the names of the subscribers:—Messrs. S. Arnott, W. Adams, W. Bull, Birmingham Amateur Gardeners' Association, W. D. Bason, H. A. Burberry, F. W. Burbidge, T. Beddard, — Black, A. Brown, — Bubb, Cocker & Sons, Rev. J. T. W. Claridge, H. Cannell, H. B. Croscomb, W. Crump, A. Coombes, A. D. Christie, Dobbie & Co., J. Downes, J. Egginton, H. Eckford, W. Earp, A. Friend, R. Featherstone, W. Finch, R. H. Griffin, R. Greenfield, W. A. Green, J. Grice, W. G. Head, Dr. Hogg, R. M. Hogg, C. H. Herbert, J. Hughes, T. Hewitt, S. Hearn, — Hobson, A. Irvine, J. M. Johnstone, W. Jones, A. W. Jones, B. F. Kelly, Laing & Sons, P. Lutz, G. Lakin, W. B. Latham, — Lambert, S. M'Kee, Dr. Masters, A. Medhurst, W. Miller, F. M. Mole, — Morley, — Mansell, — Mawley, F. Nokes, A. Outram, Paul & Sons, S. Pye, J. Pope, T. Perkins, J. B. Riding, A. J. Rowberry, W. Robinson, J. Rickards, Sutton & Sons, J. D. Stuart, R. Sydenham, C. T. Saunders, C. Turner, O. Thomas, "Viola," Veitch & Son, Rev. D. R. Williamson, B. Wynne, J. Wright, J. Wills, W. Wardill, W. Wright, J. H. White. Geo. M'Leod, Hon. Treasurer, Wm. Cuthbertson. Hon. Secretary, of Committee.

GARDENERS AND THEIR HOLIDAYS.

(*Concluded from page* 172.)

Leaving Bournemouth by an early train the following morning on our way to Southampton, and thence to Alresford, as we were desirous of seeing

THE GRANGE,

the seat of Lord Ashburton. Mr. Allen, the gardener, met us at the station, and drove us to the gardens, a distance of about four miles. Our worthy friend knowing the district well pointed out all objects of interest on the road, which were by no means few. In one place the Juniperus communis grows so luxuriantly that it, together with Ligustrum vulgare, had taken possession of the country. Here the wild rabbits made their home, for they were to be seen by hundreds in all directions. On the top of one hill is an old Roman camp, from which a fine view of the surrounding country can be seen. On our arrival at the gardens, Mr. Allen, who has no mean reputation in the Horticultural world, conducted us round, and as there were so many interesting things to be seen we made the most of the time at our disposal. The grounds are extensive and are bounded on one side by a fine piece of water, along the banks of which are to be seen, here and there, bold clumps of Cornus sanguinea, while some noble trees of various kinds are dotted about the grounds. Fagus asplenifolia was very fine as also was the common Ash. There is also an avenue of limes on which the Mistletoe had established itself in great profusion, through which a road leads from the mansion to a new church built by the late lord. The ground is undulating and well wooded, which adds wonderfully to the beauty of this charming place. The mansion is a large one and contains a fine collection of oil paintings, which, for the most part, occupy a large room that was formerly a conservatory. The kitchen garden is in keeping with the other part of the establishment, it however, lies rather low, and on that account is subject to early and late frosts. Tender vegetables had suffered more here than any other place we had seen. A fine range of glass covers one wall.

The first house we entered was devoted to a fine fig tree, which covered the whole space under the roof. It is the finest specimen we ever saw, and when in fruit must be truly grand, for it covers no less than 1,000 square feet, thousands of fruit being gathered from it each season. The variety, we were informed, is Brown Turkey. In another house we found a plant of Guava, Psidium Cattieyanum, which covered the partition between two houses. It is an evergreen plant, having fruit somewhat resembling that of the Japanese Rose, (Rosa rugosa), of a dull purple colour and agreeably flavoured. The plant at the time of our visit was covered with ripe fruit. It is a wonder that this is not more cultivated, as its fruit makes a splendid dessert during autumn months. On a shelf in an adjoining house we noticed a fine lot of ripe Strawberries; plants too, were grown, particularly Cattleyas, of which there was a goodly number. We noticed that the Peach wall was covered with a very serviceable glass coping about three feet wide. Brackets were fastened to the wall and lights were made to swing by being hung in the centre. This we considered a very good plan, as the lights could be lifted from the trees during hot, sunny weather. Time, however, was passing, and as we had a long drive to the station, were obliged to leave, our kind friend Mr. Allen accompanying us as far as Alresford Station, from which we took train to Liphook, as we were desirous of visiting—

HOLLYCOMBE,

The seat of J. Hawkshaw, Esq. We had heard much of the scenery of this place and of the many charming pictures to he seen, especially in the glorious autumn weather we were then enjoying. Our friend, Mr. Silcock, the very ahle gardener, met us at the station, which is about two and a half-mi'es from the place. The road for the first mile is uninteresting till we enter on the Hollycomhe estate. Here the scarlet Oaks, dotted amongst the fine coniferae, present a peculiar feature at this time of the year, their foliage heing such a contrast to that of the dark evergreen. Crataegus of various kinds are most profusely covered with berries, and numerous interesting trees and shrubs grow and thrive admirably. We noticed Bambusa Metake upwards of 20 ft. in height and 80 ft. or more in circumference; Arundinaria falcata, about the same height and 15 ft. through; B. Simonii, 18 ft. high and as many in diameter; B. nigra and some others have made some remarkable growths. There is a clump of Azalea amoena upwards of 30 ft. through, which flowers in great profusion every year. A. pontica has grown into large hushes, while Andromedas of various kinds grow as well as in their native land. A. Catesbaei has made growths this season about 6 ft. long. Here, too, the Camellia seems to be at home, as plants growing in the open air from 10 ft. to 12 ft. high and 15 ft. through, being well set with flower buds. The views from the house and grounds are charming, as far away in the distance may be observed the South Downs, the Hampshire hills, and those in Surrey. The mansion is nearly new, having undergone considerable alterations and improvements since the present owner, who succeeded his father, the late Sir John Hawkshaw, came into possession. In the old conservatory adjoining the house were some large Camellias planted out; these had to be lifted to make room for the new house, and were taken to the kitchen garden and transplanted in a house there. The largest at the time of lifting was ahout 12 ft. high and 15 ft. through; they have done well and are now showing for bloom. There are many interesting plants in the houses, particularly amongst the Orchids, which are done well. Here the old Dendrobium nobile has made growths 3 ft. long, and clothed with foliage to the pot. D. nobile Wallichianum has made extraordinary growths, being over 2 ft. in length and 3 in. in circumference; many of the other plants, too, are in like excellent condition. Tomatos were an abundant crop, in fact, we might say that everything was a great credit to Mr. Silcock, the energetic and able gardener, who has done so much much to improve this once neglected place. From Liphook we went to

ARUNDEL CASTLE

To see Mr. Burbury, who kindly showed us over the grounds of this noble establishment. There are so many good things here to enumerate that it would be impossible to do justice to them all, so we will only name a few. Calanthes were especially fine, and the enormous plants of Coelogyne cristata could not help but attract attention. Eucharis plants were in the most flourishing condition, as were the Pines and other things. The grounds are extensive and varied, containing some choice trees and shrubs. Here Magnolia grandiflora does well as a standard tree, having grown to a considerable size and flowers freely. The Castle, which stands on high grounds overlooking the Arun, which runs below, from which, away in the distance, may be seen, the English Channel. Arundel was the last place on our list; from here we took train to Brighton, then back home, having spent a most enjoyable and instructive ramble. To one and all of those who kindly assisted us on our journey we tender our sincere thanks, hoping they may be spared to preside over the various establishments for many years to come, and that they, too, may enjoy their outing as thoroughly as did their humble compatriot and brother in the craft. *Viator.*

POTTING SOILS.

IN very many instances where partial failures in plant growing occur, the unsatisfactory results attending the grower's labours may he traced to mismanagement in the preparation and storage of the potting soil. If having the very best material at hand, or even that of a more common description, proper care is not exercised in its preparation, when wanted for use the chances of success in plant growing are largely discounted, and the man whose forethought has led him to a wise discretion in the use of material will often excel his less cautious neighbour, whose soil may he of a better class than his. simply because he has taken care and used them when in a fit condition.

One very great mistake is allowing quantities of rain to fall upon and wash through potting soil. Owing to this much of the fertilising elements in it are washed out, thus depriving the compost of much of the plant food contained in it. The best place of all for potting soils is an open shed, but unfortunately a large proportion of those using potting soils have not this convenience. Where this is the case, if a space behind a north wall is available, against which it can be banked up, making it cover as small an area as is convenient, and finishing the top of the heap up slanting to throw off the rain, it will keep fairly well. Stacking up in ridges with a sharp roof will throw off very much of the rain, and this answers well if care is taken whenever soil for use is wanted from the ridge to cut it down carefully and evenly; unless this is done it will soon become a confused heap saturated by heavy rains.

There is still a tendency to use soils in too fine a condition, with the result that after a few waterings it gets into a close heavy state, in which few plants will thrive. Better use it coarser and press it firmer, as both water and roots will work more freely through it. All potting soils should he passed through the hands at least once, so that insects or any objectionahle material can be thrown out, and a happy medium struck between extreme dryness and dampness at the time of using it. If too dry there is a difficulty in getting the plants properly saturated, if too wet and cloggy plants will not take kindly to it.—*W. B. G.*

ZONAL PELARGONIUMS AT LEWISHAM.

ON a recent visit to the Ryecroft Nursery, Hither Green, Lewisham, where Mr. H. J. Jones grows his extensive collection of Chrysanthemums, some strong contrasts between different kinds of plants presented themselves. The tuberous Begonias had been settled by the frost till another season, and the tubers had heen dug up and piled in heaps over the ground preparatory to their being cleaned and stored. The Chrysanthemums were just coming to their hest, while the zonal Pelargoniums which had heen flowering all the summer, were still gay although no attempt is made to keep up a winter display.

A good collection of the newer and hest types is, however, maintained, and some of the more striking of them we noted. Wm. Dobbs is a crimson-scarlet variety with large flowers to be sent out next year. Very pretty is another sort recently named Mrs. H. Shoesmith, with flowers almost of a uniform cerise hue. A seedling still unnamed caught our eye on account of its large white flowers with a large, well defined carmine-red eye, making it very distinct. Alice M. Love is a beautiful blush pink variety. Another unnamed seedling in the style of Lady Brooke has white flowers with five pink rays radiating in the form of a star.

Mr. Jones has also raised numerous seedlings from the Souvenir de Mirande group, the original of which was characterised by soft salmon scarlet flowers with a large white blotch at the base of their two upper petals. Seedlings from this have exhibited a thin shading of salmon or scarlet over the white, and others resemble crushed strawberry, while in other cases the flowers would be of a uniform orange-scarlet or salmony orange, thus obliterating the original character of the group. The Old Double Guinea Gold is a variety with very heautiful, clear orange-scarlet flowers showing a tendency towards a much desired, true yellow Pelargonium. Mrs. A. Wright is dark purple with two scarlet spots at the base of the two upper petals, and is the best of that type which most nearly approaches to blue in this class of plants.

PINEAPPLES.

ALTHOUGH the cultivation of Pineapples is greatly reduced throughout Britain, and especially in Wales, from whence was hrought some of the finest fruits ever exhibited in London, there is a goodly quantity grown still, and one of the largest private growers we know said, some time ago, that the return he had from the outlay for Pine growing was equal to the most profitable produce grown on the place. Market men, however, will not generally endorse this statement. It is true there is very little labour required for Pines in well-appointed structures which can produce so many other things besides Pines. During summer little expense for fuel is necessary, and when all arrangements are put in order, say during October, for the winter little labour should he required before March.

When hottom heat is maintained by leaves only, much more labour has to be expended than where hottom heat is obtained from hot water. It is not the expense or profit which prompts us to make a few remarks on Pineapples, but to note how little bottom heat is necessary for the growth of the plants, or for the swelling of the fruit. A friend whose name is widely known as an exhibitor, has a span-roofed house facing the south, supplied on one side with bottom heat from tanners' hark only, and on the north there is no means of supplying heat at all for the roots. I have often seen fine fruit on this side, and my friend says they are always best without the aid of bottom heat. I have often swelled off the best fruit placed round the side shelves when they have been crowded out for want of space in the beds. The past season some dozens of Queens have rooted along the shelves as quickly as the plants plunged in a temperature of 85°; while numbers of plants have fruited as quickly on shelves as if they had been plunged. This is no new idea—but seeing there are cultivators of Pines in most counties, I think more might be written ahout them.—*Stirling.*

HERBACEOUS BORDERS.

WHEREVER one travels to see gardens it is worthy of note that herbaceous plants are generally a prominent feature of the place While bedding in its various forms may have a place, the useful classes of plants for cutting to decorate rooms and dining tables are generally seen in great breadths, and when one begins to grow these, if not already doing so, it is well to consider whether the collection is to be for cutting or chiefly for a botanical collection. There are many fine species very suitahle for the former purpose, while there are others very beautiful where they are growing but which cannot be used for decoration in a cut state; but while we would go in for all sorts and conditions of plants—alpine plants especially—we think from what we have seen of late years it is well to have separate collections, or at least to grow the strong-growing species for cutting in suitable quarters in quantity.

We notice in some gardens much confusion among the plants indicated by allowing them to extend too far and become entangled with each other. The roots are spread frequently by cutting while digging is in practice. An annual digging is very common; but we maintain that it is not required. If the horder is in the first place well trenched, or at least to have the second spit turned over and well broken, manure added as may be required, the plants will stand for years doing well, and the soil having become firm they flower abundantly. Each plant should be kept in its place, no larger plants allowed to crowd or smother the smaller species, and every growth which grows out of place removed in good time. We give our plants a thorough examination every season, generally in November or December, and after putting all in good order give a surfacing with sandy loam.—*Stirling.*

ON PLANTING ROSES

THE plantlng of Roses is very general during November, and double digging aud abundant supplies of manure will keep the plants in vigour for many years; but where the bottom soil is strong, water-holding clay or of a poor sandy nature, in due time the plants will show distress. Mildew appears quickly under both conditions, or where roots suddenly cease to assimilate nourishment in autumn.

If the Rose grower (I am prompted to suggest this from the difficulty in which I often see amateurs placed) would take the trouble to to lift their plants, carefully retaining all the roots, but cutting off cleanly with a sharp knife any broken ones or those which may have grown long and fihreless, and replanting into soil well prepared as recommended for new plantations, I feel sure there will be no regret from the

extra trouble taken with his favourite. How often do we see suckers from the stocks having it all their own way? While the plants are being lifted an examination should be made to prevent any suckers from escaping detection, and such should be carefully removed entirely.

The planting of dwarf Roses should be low enough to cover the junction of scion and stock, and protection well round the collar should be made against frost. We mulch liberally, but cover the manure with enough clean soil to prevent nourishment from escaping and for appearance sake as well. At many places (in Scottish gardens) we have seen Gloire de Dijon flowering unusually well during the past autumn. It is much improved by judicious lifting. —*Stirling.*

SEVENOAKS CHRYSANTHEMUM SHOW.

THE tenth annual exhibition of Chrysanthemums, fruit, and vegetables, was held in the Club Hall, on Tuesday and Wednesday, Nov. 6th and 7th, and was a great success. There was certainly a falling off in the specimen trained plants as regards the first division, but it was pleasing to note the keen competition for three plants trained or otherwise in the second division. Mr. H. Heath, gardener to Mrs. Petley, had the best three Japanese, followed by Mr. Hilton, gardener to J. Drummond, Esq., and Mr. S. Huntley, gardener to the Rev. S. Curties. Mrs. Hilton had the best three incurved, closely followed by Mr. Farmer and Mr. Huntley.

Groups as usual were the leading feature of the show, there being no less than nine put up, all of which compared favourably with those of previous years. In the first division the best lot came from Mr. S. Cooke, gardener to De Barri Crawshay, Esq., who had quality of bloom as well as effect in arrangement; second, Mr. E. Hughes, gardener to J. Dixon, Esq., whose flowers were smaller and the plants rather closely packed. The third prize lot came from Mr. Hancock, gardener to Lord Dunsany, whose group was noticeable for the dwarfness of the plants. The best groups in the second division were put up by Mr. Heath, Mr. Read, gardener to Admiral Miller, and Mr. Wing.

Cut flowers were plentiful and of good quality. For twelve Japanese, distinct, Mr. E. Hughes was first with good blooms of Mdlle. Thérèse Rey, Madlle. Marie Hoste, and Waban (fine); second, Mr. R. Potter, gardener to Sir Mark Collett, Bart., whose blooms of Charles Davis, Mdlle. Thérèse Rey, and Mrs. E. W. Parke were very good. For twelve Japanese, not less than eight varieties, Mr. S. Cooke was first, his best blooms being of E. Molyneux, Sunflower, and Mrs. Nesbit; second, Mr. W. Tebay, gardener to Mrs. Ryecroft, his best blooms being E. Molyneux and Sunflower. For twelve incurved distinct Mr. A. Gibson, gardener to T. F. Burnaby-Atkins, Esq., was first with a rather poor stand, the blooms being very flat; second, Mr. Hughes, who would have been easy first had he taken the trouble to properly cup the blooms. For twelve, not less than eight varieties, Mr. S. Cooke was first, followed by Mr. W. Tebay. Mr. H. Heath had the best twelve Japanese in the second division, followed by Mr. T. Emery, gardener to G. C[illegible], Esq.

H[illegible] fruit was poorly represented, there being very fe[illegible]ries; what there was, however, was very good. M[illegible] Edwards, gardener to G. Field, Esq., had the best [illegible]ears, showing in good form Beurré Bachelier and [illegible]nné du Comice; second, Mr. R. Potter; third, [illegible] A. Hatton, gardener to Mrs. Swanzy. Mr. [illegible] Potter had the best kitchen Apples, followed by Mr. R. Edwards; and Mr. Edwards had the best dessert Apples, followed by Mr. Potter and Mr. T. Hughes, gardener to W. O. Dodgson, Esq.

The class for table decorations, bouquets, sprays, etc., was well filled, Messrs. A. Reeve, B. Bolton, C. Buckland, and W. Bartlett being the most successful. Collections of vegetables were both numerous and good, Mr. R. Edwards being the most successful in the professional classes. There was a splendid competition for three bunches of Black Grapes, the best coming from Mr. R. Potter; second, Mr. Hilling, gardener to H. E. Gordon, Esq., Ightham. Mr. S. Ryder, gardener to C. Young, Esq., staged a group of Orchids (not for competition), which comprised numerous varieties of Cattleya labiata, the beautiful C. aurea, Cypripedium insigne, and Odontoglossum crispum, which was highly commended by the judges. Poinsettias, with their brilliant scarlet bracts, were well shown by Mr. G. Latter and Mr. Hatton. The decoration of the stage was carried out by Mr. F. Seale, and was most artistically done.

BRIGHTON CHRYSANTHEMUM SHOW.

A VERY good show was held by the Brighton and Sussex "New" Horticultural Society on the 6th and 7th inst., though we did not see many stands of special excellence, the competition was very close and all were fairly uniform in quality. In groups and plants there was little to choose between the prize-winners. Mr. H. Head, The Drive Nursery, Brighton, was first for a group, and had remarkably good blooms upon his plants. The second prize group from Mr. J. Hill, gardener to Marriage Wallis, Esq., Withdean, was better arranged, but the individual flowers were weaker. Mr. Fairs, gardener to R. Clowes, Esq., Hassocks, was first in a smaller group with a very bright lot.

Twelve plants arranged with Ferns, etc., was a strongly contested class, Mr. J. Miles, of Victoria Nursery, Brighton, being first; and Mr. Turner, gardener to Sir Greville Smythe, Hove, a close second. Mr. W. J. Austin, Hove, was first for a group in the amateur's division, but was closely run by Mr. A. E. Coleman. Mr. E. Meachin was awarded first for four standards, and Mr. Hill, second; but the last-named was first for four pyramids, and also for a specimen of the same form. The first prize for a specimen dwarf also went to Mr. Hill.

Cut Flowers:—In a class for thirty-six Japanese, there was a much stronger competition than usual, and the judges had a hard task before them. Mr. Martin Standing, gardener to Mrs. Joad, Worthing, was first; and Mr. W. Neville, gardener to Mr. Flight, Twyford, Berks, made a capital second. In Mr. Wells' third prize stand we noted several new varieties. Mr. Standing was also first for twenty-four Japanese; Mr. Hopkins, gardener to Mrs. Thornton, High Cross, Framfield, making a good second. Mr. A. Payne, gardener to Mrs. Ernald Smith, Emsworth, was first for twenty-four incurved, and Mr. J. R. Heasman, second. In a strong class for twelve Japanese, Mr. Horscroft, gardener to T. Potter Esq., Ardingly, and Mr. Elphick, gardener to Major Hardman, Haywards Heath, were very close for first and second, the prizes going in the order named. Mr. F. Suter, gardener to T. Lascelles Esq., Chichester, was first for twelve incurved, and Mr. Heasman, first for Anemone-flowered. Among sixteen competitions for six Japanese, Mr. Emery, Eastbourne, was a good first. Mr. M. Standing won with Avalanche. Mr. Horscroft with Sunflower, and Mr. Hopkins with Viviand Morel, in their respective classes.

Miscellaneous exhibits were very good, and consisted of Primulas, Cyclamen, Vegetables and many more. Among these we must give notice to a fine lot of fruit, table plants and Orchids from Messrs. Balchin & Sons of Brighton and Hassocks.

ORCHID NOTES AND GLEANINGS.

By JOHN FRASER, F.L.S., KEW.

Oncidium pulvinatum.—The quantity of flowers which this graceful species produces is a great feature in its favour; but an equally interesting feature is that it flowers almost at any period of the year, according to circumstances, and although spring is apparently the natural season, plants will flower in summer and also late in autumn, as we recently noted in the collection of Messrs. J. Veitch & Sons, Chelsea. The flowers are of medium size and produced in panicles of great length, the whole scape measuring 3 ft. or 4 ft. The base of the sepals and petals is brown or barred with brown. The lip is paler yellow and spotted with brown, but it is rather curious in being concave on each side of the crest, which resembles a pincushion on a small scale, and which originally suggested the specific name.

A hybrid Anguloa.—The name Anguloa Madouxiana has been given to a hybrid which flowered last year in the houses of L'Horticulture Internationale, Brussels. By an inadvertence of a young gardener the names of the parents were lost, but they are believed to be A. Rückeri and A. uniflora. The scape is almost a foot high, independently of the flower which is intermediate between those species. The interior is ornamented with lively red lines arranged in concentric lines like the arcs of a circle. By some curious coincidence another plant flowered some days later in an importation of A. uniflora, and though paler in colour the structure was the same, but such as to forbid the idea of its being a variety of the last-named species. It is figured in the *Lindenia, pl.* 434, where the opinion expressed is that the imported plant is a natural hybrid.

Miltonia Lubbersiana.—Several of the Miltonias are not very common in cultivation, and that under notice is one of the rarest. It is much after the style of M. Clowesii in habit, and bears a number of flowers on a scape. The sepals and petals are pale yellow heavily marked with numerous, amalgamated, dull purple blotches, and are purple at the base. The lip is creamy-white and deep purple at the base, with two darker purple lines upon the disc. We saw it in flower recently with Messrs. J. Veitch & Sons, Chelsea. The species is chiefly to be recommended on account of its flowering at a late period of the year when variety is highly desirable. Its rarity is another feature in its favour.

Cattleya superba.—The usual flowering period of this species is July and August, but a plant may be seen in this stage in the nursery of Messrs. J. Veitch & Sons, Chelsea. The scapes about a foot long bear three flowers each, and which are fragrant. The sepals and petals are rosy-purple suffused with a lighter shade, and the latter are elliptic in outline and wavy. The lower portions of the three-lobed lip are magenta-purple, but the lamina is crimson-purple. The large piece now flowering is grown in a basket suspended from the roof. The secret of flowering this species is to grow it in the warm house, where the temperature should range pretty high while growth is being made. During this period it should be supplied with an abundance of moisture, but kept cooler and more airy when in bloom.

THE VEGETABLE GARDEN.

Carrots.

THOSE who took the precaution to make a sowing of these about the latter end of July will now have plenty of nice young roots to draw from, and as such are far more appreciated than the overgrown ones that were sown in April or May, no place ought to be without them. The ground between the rows ought now to be sprinkled with some finely-sifted leaf soil to help to ward off the frost, as by this means they will be kept fresh and in good condition till February or March, by which time those sown on a hot-bed will be ready for use. Hot-beds are easily made at this season of the year where there are plenty of leaves. These, however, if allowed to remain on the ground for any length of time usually contain a quantity of insects' eggs, and, on that account, should be subjected to a good fermentation before being made up into a bed. Instead of mixing stable litter with them in the usual way cover the heap with a sufficient thickness to raise a heat of about 130° Fahr., there will be but little fear of anything in the shape of insect life being alive afterwards. If the soil intended to be used could also be heated in the same manner, this would save much trouble afterwards, for with the gentle warmth of a hot-bed, the eggs of snails are hatched while the plants are small and tender; they soon make headway, clearing whole lights off before they are well through the soil.

When the hot-beds are made, a sufficient thickness of mould should be put on, not only for the roots to grow in, but to prevent too great a heat from coming in contact with them. Carrots do not require a high temperature to cause them to grow rapidly; they, however, like a light rich soil to induce them to make a free, clean growth, and, unless this can be obtained naturally, sand and other materials must be added to make it so. It must be borne in mind when making a hot-bed at this time of the year that it is necessary to use more material in forming it than would be required in spring, for it will be required to retain the heat much longer. If made 4 ft. in depth at the back and three at the front, this will be found none too much. When made, the frame should be put on covering the inside with at least 6 in. of soil. We prefer sowing the seeds in drills about 2 in. apart, as this saves much trouble when thinning; plenty of seed should also be used in case some of the plants should be ate off by the snails.

It is a good plan to dust round the edge of the frame with newly-slacked lime about a week after the seed has been sown, in addition to searching after dark with a lamp for the slugs. Where the seed is sown in heated pits much of this trouble is avoided, as it will not be necessary to make a fresh hot bed to cause the seed to germinate, care, however, in this case, will be needed, for slugs at this time of the year find their way into any place that is a little warm and moist, and as they are so partial to young carrots they are almost sure to visit them. It is not well to thin too early on this account, as a loss of crop after all the trouble would be a serious consideration.

It is not a good plan to sow Radishes with the seed as some advocate, for these grow much more rapidly than the Carrots so that their foliage would overshadow them, causing a weak spindly growth. If Radishes are required they should be sown by themselves, and when cleared off the frame could be used for some other purpose. There are several of the stump-rooted varieties well adapted for forcing such, for instance, as the Parisian Forcing, French Forcing, Sutton's Inimitable Forcing, and several others all of which form roots in a remarkable short space of time. With these early sowings much watchfulness is needed, for if the bed gets a little too warm just as the plants are coming through the soil, they are apt to damp off unless air be admitted to strengthen them, therefore it will be necessary that this should have attention.—*Kitchen Garden.*

Brussels Sprouts, Scrymger's Giant.

Brussels Sprouts are, as a rule, a very satisfactory crop this year, and among other good old varieties Scrymger's Giant has again proved itself of sterling merit. I saw a fine batch of it on Saturday last, grown upon a rather shallow soil in really good condition. The plants are dwarf in habit, whilst the sprouts are of large size, firm, and of excellent flavour. This is a sort that should particularly recommend itself to the notice of the cottager.—*G.*

THE FLOWER GARDEN.

The heavy and continuous rains that have visited us during the past fortnight will have set at rest any doubts we might have entertained with regard to the state of the soil round the roots of large and vigorously growing trees. Such rains as these usually visit us during the autumn months, and such copious downpours render it of paramount importance that a sharp eye be kept upon the drains which are to carry off the superfluous water. It often happens that when a dry autumn has preceeded the rainy period, the drains are blocked up with leaves, sand, &c., with the consequence that an unexpectedly heavy fall of rain results in floods which do more or less damage, together with considerable washings of walks which might otherwise be prevented. In many good establishments, especially in hilly districts where the paths are more or less at an angle the drains are examined weekly to see that they are in working condition.

As soon as time can be spared leaves in shrubberies, or in out-of-the-way parts of the pleasure grounds, should be raked up, and removed to the rubbish heap, for if these are allowed to remain where they are, they will cause a good deal of inconvenience, and a large amount of extra and unnecessary labour, as during dry and windy weather they will blow about all over the place.

In most districts in the north of England it is usually necessary to afford the climbers on the walls some protection. That fine old wall subject Magnolia grandiflora particularly, requires attention in this respect, and even roses, more especially those of the Tea section, require like treatment. Branches of any trees of Thuja or Cupressus that have been cut down will prove of inestimable service. They should be cut up into nice handy pieces, and carefully inserted among the branches of the climbers in sufficient numbers to form a screen from the cold winds. In the case of roses, any large and straggling growths may be nailed roughly in, pruning in exposed situations being left over till spring. Failing a supply of such branches as I have described, Russian mats may be used, only this renders the operation rather more expensive.

Pay attention during dry weather to the removal of any weeds that may be present from beds and borders, and an occasional use of the rake, when occasion offers, will be of great service.

Pruning of deciduous trees and shrubs may be proceeded with as soon as desired, any movement of the sap that may take place after the operation will materially assist in the strengthening of the buds. A heavy mulching (with good stable manure if procurable) should be given the roots of deciduous shrubs and evergreens, particularly those which have been newly planted, in which case it will serve a two-fold purpose—adding nutriment to the soil, as well as in a great measure affording protection to the roots. In weather when outside work is not permissible plenty of work may be found in the store sheds. Dahlia tubers may be looked over, and any injured or decayed portions removed. Wooden labels, stakes, &c., may also be made for use in the coming season.

THE HARDY FRUIT GARDEN.

In favourable soil and situations the planting of hardy fruit trees may now be actively carried on, always supposing the weather continues mild and open. In planting, great care should be taken that the holes are made sufficiently large to admit all the roots without crushing them. Before planting, the roots of the young trees should be carefully examined, and any injured portions removed—cut clean out with a sharp knife. This will tend to promote the production of new fibrous roots close to the surface of the soil, the value of which every fruit grower is well aware of. Spread the roots out carefully, and when filling in the hole, introduce the soil among them as much as possible and tread firmly. A good watering after planting will be of great service in settling the soil well about the roots. A liberal mulching of well rotted manure may be given the trees before winter sets in in real earnest. Newly planted standard trees will, moreover, require staking, which should be performed as soon as possible.

Fig Trees on walls outside should be unnailed or untied, as the case may be, the growths tied into bundles, and covered over with some protecting material, either hay or bracken will do. This of course applies more particularly to districts in the north of England.

The pruning of standard Apple and Pear trees may be proceeded with without delay, as this is an operation that takes a lot of time, and, as a rule, extends over a considerable period; therefore, advantage should be taken of all favourable opportunities to get the work well in hand, as a few weeks of snow weather and hard frost presently will very much delay operations.

The fruit in the fruit-room will now be considerably thinned out, at least with regard to Pears. Old fruit should be thrown out without delay, for keeping it in that state only creates an unpleasant smell in the fruit-room. The windows should therefore be thrown open whenever the state of the weather permits.

FRUIT UNDER GLASS.

Vines and Peach trees in houses in which the wood has been thoroughly ripened by means of the judicious use of fire heat should now be allowed to go entirely to rest, frost only being excluded, always supposing there are no plants in them to need a slightly higher temperature.

Vines that were started at the beginning of the month, and which were tied down horizontally to ensure them breaking equably, may now receive a slight increase of temperature. The thermometer should not now be allowed to fall lower than 52° F. by night, rising during the day to a little over 60° F. The necessary syringings should be regularly conducted twice daily, and if in the event of very cold weather hard firing is needed to keep up the requisite temperature care should be taken that the atmosphere does not get too dry. These remarks will also apply to pot vines, except that the mean temperature for these may be just a little higher.

Bunches of ripe Muscat of Alexandria, Black Alicante, and other late varieties should not be allowed to remain on the canes too long. They may be kept just as well in bottles of water in almost or quite as good condition as if they were left hanging upon the vines. A dark room and a dry atmosphere is necessary in which to keep them.

Gleanings from the World of Science.

A nut to crack.—Plants sometimes come up in strange places, and where one would scarcely think it possible to do so. A short time ago some specimens of the fungus Phallus impudicus pushed up by the side of the wooden edging to one of the main walks in Finsbury Park. If this had been all, it would have passed as of quite common-place occurrence, but the mycelium had evidently ramified beneath the asphalted walk, the asphalt at this particular place being about 3 in. thick. A fruiting stem or toadstool was developed and pushed up through the solid asphalt, making a round hole about 2 in. in diameter, and 3 in. deep, as if artificially accomplished. The nut to crack is how a soft fungus could manage to push its head up through the solid, incumbent matter without itself being crushed to a jelly. The spot where it emerged was about 6 in. from the edge of the asphalt, and when a constable was passing along his accustomed beat one morning he failed to understand why a wooden peg had been driven into the walk at such a place, until closer inspection of the foetid vegetable revealed its true nature.

Similar phenomena.—Many observers have noticed the force of tree roots in raising large stones and disturbing walls of masonry, but one generally looks at a tree as a source of great power as compared with a soft fungus. Some plants however, of a more lowly nature may sometimes be observed to establish themselves in strange and unlikely places. Very frequently large trees in hedges by the way sides will sometimes push large roots into the materials of a macadamised road, and the latter getting worn exposes the roots to the wear and tear of traffic. Cherries and Poplars will even develop suckers from roots near the surface. One of the British reeds (Phalaris arundinacea) is well known for the long, underground rhizomes which it develops and throws up young plants at long distances from the parent stool. In the case of a plant grown in a border by the side of an asphalted walk, the latter was cracked in various places apparently by the agency and force of the rhizomes and young plants pushed through the crevices here and there. At another part of the same county the asphalted platform of a country railway station, was cracked and riven by some means or other, and the Bindweed (Convolvulus) pushed its way through the crevices, and may in reality have been the original aggressor causing the disruption of the solid asphalt, and on the face of it would seem more likely when one remembers the case of the softer toadstool. This power or force in vegetation would seem to be due to the slow and steady progress of growth which acts in the same way as a screw-jack with a very fine thread or blocks and pulleys that gain such power at the expense of time. The mechanism is not the same in the case of living vegetation, but near enough to draw a comparison.

Eel-worms or Nematodes in Phloxes.—For some years past Phloxes of the P. glaberrima suffiuticosa and P. paniculata sections, that is, the summer and autumn Phloxes have been subject to some inexplicable disease which either destroys them or prevents them from flowering satisfactorily. The stems thicken in an unnatural way at divers places and are rendered very brittle at those points, so that the wind snaps them across wholesale, particularly about the time of flowering. One of these stems cut across at the thickened portion revealed a strange sight. The stem was hollow and the cavity simply swarmed with the larvae or maggots of some dipterous insect. In this case the thickening would be of the nature of a gall; but it is doubtful whether the swellings are produced in all cases by phytophagous or plant-eating flies, seeing that the greatly disorganised pith of the same stem swarmed with eel-worms or nematoid worms, which would be sufficient in themselves to account for the mischief. The swellings occur at various heights from the ground and the disorganisation of the pith and vascular tissue prevents the internodes from lengthening in their usual manner, so that the leaves become densely crowded together there. The flies would reach the plants from the air; but the microscopical eel-worms must come from the soil through the medium of the roots; and this seems likely from the fact that the plants get very weak and refuse to grow as if the roots were the primary organs attacked. —*J. F.*

CHRYSANTHEMUM NOTES FROM THE PARKS.

FINSBURY PARK.

The Chrysanthemum Show has been open to the public in this park for six weeks past, and judging from the freshness of the flowers, will in all probability remain open for another fortnight, notwithstanding the damp and unfavourable state of the weather. About 3,400 plants are grown in pots, including the cream of last year's new ones. All of those presented to the public last year were housed in the new conservatory which had just then been completed, but since then a collection of other plants has been got together making it impossible to find room for all of the Chrysanthemums here. The old house amongst the shrubbery has therefore been renovated and filled. About eight large groups have been interpolated amongst and between masses of Palms, Ficus, Dracaenas, Pandanus, Grevillea, Eurya, Araucaria, Cocos Weddeliana and others of that class in the conservatory, making a pleasing change. Large baskets in which Ampelopsis Veitchi is very conspicuous, hang from the roof.

Amongst the groups here we noticed a number which have done well, including the graceful Sunflower, Viviand Morel, Duchess of Devonshire, Beauty of Exmouth, Miss Anna Hartzhorn, and the old Fimbriatum with long, pink, or almost white florets loosely twisted about in all directions. The well known Val d'Andorre has generally done badly this year, but is in respectable condition here and, like Mons. Bernard and Marie Hoste which have also done splendidly, it requires only one stake to the whole plant as the flower heads are self-supporting. Commander Mariagnon is a tall grower, but when cut back in June is very suitable for conservatory work, and has the graceful, drooping character of Sunflower, but is of a rich, crimson-red and very striking. The long, quilled florets of Lilian Bird are very distinct in their way. Sunset is a dwarf variety with bronzy yellow flowers of good size. Madame Louise Leroy has semi-globular, white heads in the style of Avalanche, but smaller. The fringe round the white heads of Mrs. J. Wright, gives the blooms an attractive character, and the tall plants may be reduced to 3½ ft. by cutting them back in June. The rich carmine-purple heads of Excelsior assume a fine shape when they get to large size.

Incurved varieties in this house are represented by good examples of Empress of India, Queen of England, and Lord Alcester, the latter having blooms of great depth. The single white Mary Anderson is very pretty, and makes one regret that single varieties are not more largely used for decorative purposes. Miss Margaret, with pink or white rays and a pale disc, and La Marguerite, dark purple, are useful Anemone Pompons; while Miss Annie Low, soft primrose, and Judge Benedict are showy large Anemones. The high and pale yellow disc of the latter is very conspicuous.

In the old house the plants are arranged in a two-faced bank from end to end of the same, so that the public is admitted at one door and passing round both sides in succession makes exit at the other. The paths are narrow and straight, whereas in the conservatory there is one broad winding walk permanently bounded by an edging of short, rustic, wooden pales. The number of blooms give the whole bank a solid and massive appearance, and new and old varieties mingle together, both being interesting and ornamental for this kind of work. Viviand Morel, Sunflower, Florence Davis, Marie Hoste, Col. W. B. Smith, and Etoile de Lyon, are more or less liberally distributed about the house, and constitute the "lions," or some of them, in most modern collections. The last named sometimes exhibits pure white, pink, and deep rose blooms upon the same plant, which is dwarf and would appear to have been cut back. A notable feature of this variety is its lateness. Mons. Freeman and Wm. Tricker are naturally dwarf kinds. Amos Perry is an incurved Japanese variety, soft yellow in colour, and seldom seen, although here, of large size. G. W. Childs is one of the richest velvety-crimson kinds in cultivation. Commander Mariagnon is also very pretty here, but J. S. Dibbens refuses to develop into form this year. Mr. Bunn, White Beverley, King of Crimsons, Cesare Costa, and other old kinds, receive the same attention as more recent acquisitions. The whole collection reflects credit upon the superintendent, Mr. John Melville, and his foreman, Mr. Batchelor, for its freshness at this late period of a wet and unfavourable season.

VICTORIA PARK.

The Chrysanthemums in this park are mostly arranged in the house expressly built for the purpose. Something like 3,000 are grown, and 2,000 of them are massed in two broad banks, one on either side of the central pathway, throughout the length of the house. The exhibition was opened to the public on the 10th October, that is over five weeks ago, and by replacing the early varieties by late kinds the superintendent, Mr. J. W. Moorman, and his foreman have succeeded in maintaining a fresh and attractive display. Whatever may be said of this style of arrangement and differences of opinion and taste, there can be no doubt it is the best way to bring the whole collection under the eye at one view. Here, as at other London parks, a considerable number of old varieties may be seen, so that these places may be considered the conservative side of Chrysanthemum growing, since the old are preserved with the new, while in private and trade collections generally only the newest and most advanced exhibition types are to be seen.

Director Kowallek is an incurved Japanese kind with large pale purple flowers with a white centre. Mrs. C. Harman Payne is of sturdy habit, and each plant bears four and five large blooms. Other kinds that have done exceedingly well are Col. W. B. Smith, Viviand Morel, Etoile de Lyon, R. C. Kingston, G. C. Schwabe, Mrs. H. A. Neve, Gloire du Rocher, Beauty of Exmouth, Charles Davis, and Marie Hoste. Bouquet des Dames, Gloire du Rocher, and several other early kinds are now, of course, past their best, and may now be considered out of season. Beauty of Exmouth is generally reputed to be liable to damping, but large blooms of it are still perfectly fresh. Lord Brooke is only now developing its beautiful heads of bronzy-gold, and will remain in character for some time. The large heads of Mrs. A. G. Hubbuck are carmine-purple. The reflexed petals of Amy Furze are beautiful and graceful, the centre being white and the outer florets rosy. The old gold hue of Beauty of Castlewood is very striking, though in form it resembles Comte de Germiny. Waban is a bold and striking incurved Japanese sort, with white blooms of great size. Robert Flowerday is of the same form, but crimson-red with a pink reverse. Well known sorts that have also produced large blooms of good form are Internationale, Wm. Tricker, W. H. Lincoln, Mrs. E. W. Clarke, W. W. Cole, Charles Blick, Enfant des Deux Mondes, or the White Louis Boehmer, Florence Davis, Louis Boehmer, Sunflower, and Anna Hartzhorn.

Charles Blick makes a strong contrast with the similarly formed J. S. Dibbins. C. E. Shea, though early is still in fresh condition and distinct in form. The blush flowers of the incurved Japanese Julian Hillpert are of great depth and solidity. The long, spreading lilac florets of Mons. Patrolim are very distinct in their way. La Verseau is a rosy-purple Japanese variety. Beautiful also is Madame La Marquise de Mun, a Japanese sort which opens of a plum-purple, and fades to rose. The blush white Louise is still very fine. Mrs. Dr. Ward is a hirsute Japanese variety of a soft buff-red with a nankin reverse. Amos Perry has also done well here, and would seem to be suitable for exhibition purposes. Astrolade is a reflexed variety with globular, buff yellow flowers.

Old varieties are pretty numerous and amongst the Japanese kinds we noted the pleasing rosy flowers of Rosea Superba, the globular and crimson-red blooms of Mr. J. Laing, and the purple and fragrant blooms of Progne, elsewhere mostly suffered to fall into neglect, notwithstanding the character which so strongly recommends it in a class by no means favoured with pleasing odours. King of Crimsons enjoys better treatment as does the Pompon Mademoiselle Elise Dordan, which is not disbudded here but left to develop a branching head, and as many of its globular and pretty pink blossoms as possible. Of all the types we consider that Pompons and Singles should not be disbudded for conservatory purposes. Anemones are represented by La Marguerite and others. The reflexed variety Gluck is also in excellent condition. Incurved kinds are plentiful including the recent acquisition Lord Rosebery, the crown bud of which is nearly white, while the terminal is deep purple. Queen of England, Lord Alcester, Mr. Bunn, Jardin des Plantes, John Salter, and various others serve to keep alive the memory of their ancient reputation of this class. Less frequent nowadays are Gloria Mundi, Golden Beverley, Cherub, and the pure white Mrs. Halliburton. The house would hold 2,000 varieties if only one plant of each was kept in stock, but even in the parks a good display of up-to-date varieties in some quantity to secure the massive effect produced by the most popular and leading exhibition kinds. Near the entrance door outside is a large bed of Pompons now in bloom, and which will doubtless last for some time unless crippled by severe frost.

NEW CHRYSANTHEMUMS.

THE following novelties were awarded First-class Certificates at the National Chrysanthemum Society's exhibition on Wednesday, the 7th inst.:—

MONS. PANCKOUKE.—This is an incurved Japanese variety about 6 in. to 7 in. in diameter, and of a clear bright yellow. The florets are moderately broad, the outer ones drooping and more or less curled, but all the rest are incurved and slightly interlaced and twisted. When of good average size the bloom is very handsome. Mr. J. Dinsmore, The Cedars Gardens, Harrow Weald.

WILFRED MARSHAL.—The blooms of this variety are 6 in. in diameter or slightly over, very useful, showy, and of a soft yellow except the central and younger portion, which is a shade or two darker. They are semi-globular, with loosely incurved florets of moderate width, and belong to the incurved Japanese section. Mr. W. J. Godfrey, Exmouth, Devon.

DUCHESS OF WELLINGTON.—All the florets of this Japanese variety are incurved above the middle, rather pointed and of a deep almost golden yellow. They are covered with short hairs, and so much incurved that the bloom might properly be described as a hirsute, incurved Japanese variety. The bloom measures about 5½ in. in diameter. Mr. W. J. Godfrey.

MISS MAGGIE BLENKIRON.—Here again we have an incurved Japanese variety 5½ in. to 6½ in. in diameter. The bloom is broad, rather flattened until fully developed, and bright, almost golden yellow, and shining. All the outer florets are more or less tinted with bronzy-crimson on the upper face, and very broad; the inner ones are narrower. It is a bold and distinct variety. C. E. Shea, Esq., The Elms, Foots Cray, Kent.

MISS RITA SCHROETER.—Here we have a Japanese variety with massive blooms 7 in. to 8 in. in diameter; the florets are very long, moderately wide, and of a pale silvery lilac, almost white, but deepening to a distinct purple at the edges. The outer ones are longest, rather spreading, revolute at the edges and more or less twisted, while the inner ones are more incurved at the tips and slightly interlacing. C. E Shea, Esq. See Illustration opposite.

CHARLES H. CURTIS.—The blooms of this incurved variety are 5 in. to 6 in. in diameter, about 4 in. deep, and very full with much material in them. When fully developed they are of a clear, soft yellow, or bright yellow towards the centre. The florets are fairly broad, but compactly arranged, and suddenly pointed at the apex. On the whole the variety is very handsome. The plant grows about 5 ft. to 6 ft. high, but when stopped only 3 ft. high, like those from which the blooms shown were taken. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.

JUNON.—This large Japanese Anemone measures 4 in. to 4½ in. across. The rays are numerous, reflexed, revolute at the edges, and appearing narrow. The disc is large, well elevated, semi-globose, and like the rays of a uniform flesh colour, or soft pink. Mr. H. J. Jones.

NIVEOUS.—The blooms of this snowy-white Japanese variety are 5 in. to 6 in. in diameter, with broad, blunt, flat florets, loosely turned in various ways at the tips only. The variety has evidently been giving great satisfaction this year. Mr. H. J. Jones.

THE QUEEN.—The blooms of this variety are slightly flattened, pure white, and attain a diameter of 7 in. or 8 in. The florets spread widely, the outer ones are slightly twisted, but all the rest broad, slightly toothed at the tips, where they are incurved or slightly turned about in various directions. It is of American origin, and was shown by Mr. H. J. Jones.

H. L. Sunderbruch.—The florets of this Japanese variety are of great length, but the longer and outer ones droop considerably; they are broad, flat, and golden-yellow, but not very numerous compared with the compact and massive varieties. The blooms would measure about 8 in. to 10 in. across. Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet.

J. Agate.—The blooms of this incurved variety are about 5 in. in diameter, pure white, deep and massive, somewhat resembling Empress of India, but larger and apparently higher in the centre. The florets are of fair average width, blunt, and lie very neatly. Like Charles H. Curtis it is a great acquisition to its class. Mr. E. Beckett, Aldenham House Gardens, Elstree.

W. G. Newitt.—In this we have a pure white Japanese variety with long, drooping florets of moderate width. The blooms would measure about 6 in. in diameter. The variety is of American origin. Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey.

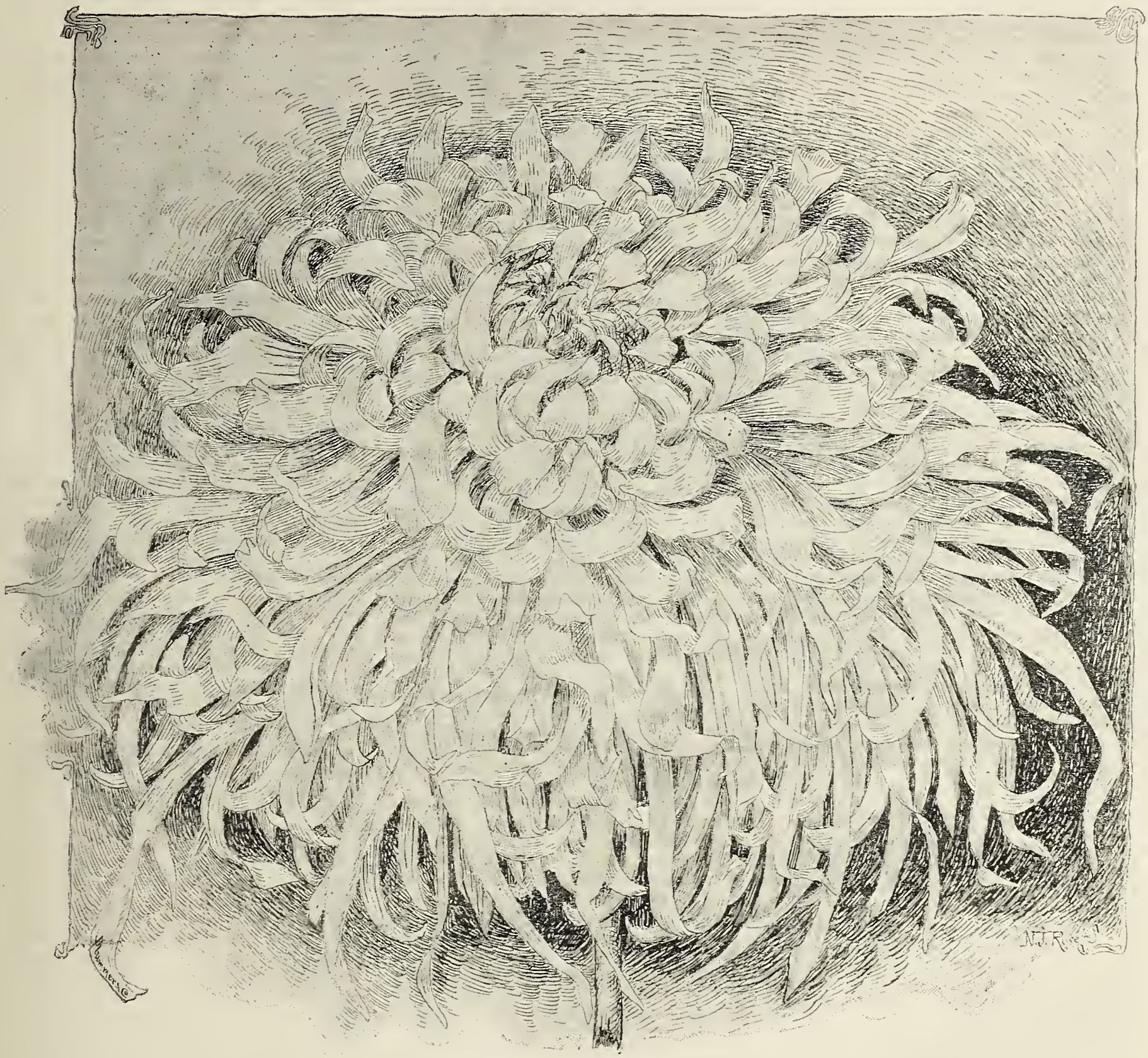
Caledonia.—This Japanese Anemone variety measures about 5½ in. across the rays which are numerous, broad, spreading nearly horizontally, then incurved or variously twisted at the concave tips and white. The disc is full, and pale purple with pale yellow tips to the teeth. It is a very distinct variety owing to the incurved tips of the rays. Mr. Robert Owen, Castle Hill, Maidenhead.

Owen's Perfection.—The blooms of this Japanese Anemone are even larger than those of Caledonia, say 5½ in. to 6½ in. across. The rays are very numerous, narrow, spreading or somewhat reflexed, and of a soft blush white. The disc is large, and soft pinkish purple with yellow tips to the divaricate teeth. Mr. Robert Owen.

Florence Carr.—The blooms of this Pompon are globular, with fluted florets, very densely arranged, exactly on the same plan as those of Mademoiselle Elise Dordan, but the colour is entirely different; this is of a deep bronzy-orange passing into golden-yellow at the very tips. In this respect it is darker than Prince of Orange, another Pompon modelled on the same plan. Mr. Carr.

Globe d'Or, the variety certificated at the Crystal Palace also received a F.C.C. here. Messrs. H. Cannell & Sons. *See also page* 186.

Chrysanthemum Philadelphia.—On Wednesday evening of last week, unfortunately some hours after the Floral Committee of the N.C.S. had concluded its labours, a box of Chrysanthemum blooms arrived at the Royal Aquarium, which oreated a lively amount of interest among the growers present. The box, which had been sent by Mr. Hugh Graham, 1,204, Chestnut Street, Philadelphia, U.S.A., contained six blooms of his seedling incurved Japanese Chrysanthemum Philadelphia, and which, notwithstanding their long ten days' journey, arrived in a remarkably fresh condition. Beyond a few bruises on the petals, the result of rubbing, they were as fresh as if cut but the day before, and Mr. Graham was awarded a Silver-gilt Medal of the Society for his exhibit. It is a grand looking flower, 6 in. across, and in general terms may be described as a white Robert Owen, but unfortunately is not a pure white, the tips of the petals being shaded with pale lemon or cream colour. It is said to be a cross between Margaret Graham (Ruth) and Mrs. Craig Lippincotte.



Chrysanthemum Miss Rita Schroeter.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were certificated according to merit by the Royal Horticultural Society on the 13th inst.

Pteris cretica cristata Torrancii.—The pinnae of this distinct variety are very much shortened, widened, and more or less crested at the apices. The fronds are leathery in texture, dark green, and bold in appearance from the breadth of the pinnae. Award of Merit. Exhibited by Messrs. Stroud Bros., 182, Green Lanes, Finsbury Park.

Cosmos bipinnatus grandiflorus.—The plants of this shown in pots were about 6 ft. high and much branched, bearing a large number of pure white flowers, like small single Dahlias. Award of Merit. Exhibited by C. B. Simpson, Esq., Worthing.

Chrysanthemum Princess Ena.—This is a sport from Hairy Wonder, which it exactly resembles except in colour. The outer florets are rosy-purple, fading to the centre of the bloom, where they are pink or nearly white. Award of Merit. Exhibited by Mr. Owen Thomas, The Royal Gardens, Windsor.

Chrysanthemum Garnet.—The blooms of this incurved Japanese variety are 5 in. to 6 in. in diameter, and the broad florets are of a deep purple-red on the upper face, and silvery-pink on the reverse. Award of Merit. Exhibited by Mr. W. J. Godfrey, Exmouth, Devon.

Chrysanthemum Mrs. Dr. Ward.—This hirsute Japanese variety measures 5 in. to 6 in. across. The florets are broad, sometimes reflexed, sometimes incurved, and of a soft buff-red, with an old gold reverse fading to nankin. Award of Merit. Exhibited by Mr. W. J. Godfrey.

Chrysanthemum Mrs. W. J. Godfrey.—This is of the same type as Mrs. Alpheus Hardy, but is of strong constitution, easily grown, and the plants are of medium height. The blooms are about 5½ in. across, and the broad, incurved, hairy florets are pure white. Award of Merit. Exhibited by Mr. W. J. Godfrey.

Chrysanthemum Maggie Blenkiron.—This variety was recently certificated by the National Chrysanthemum Society. For description see p. 184. Award of Merit. Exhibited by C. E. Shea, Esq., The Elms, Foot's Cray, Kent.

Chrysanthemum Sir Edwin T. Smith.—The blooms of this handsome Japanese variety are clear yellow with reflexed florets of moderate width, and measure 6 in. in diameter. Award of Merit. Exhibited by C. E. Shea, Esq.

Chrysanthemum Dulcie Schroeter.—The florets in this case are long, loosely reflexed, moderately wide, and golden-yellow, with a narrow bronzy margin. Blooms 6 in. across and handsome. Award of Merit. Exhibited by C. E. Shea, Esq.

Chrysanthemum Owen's Perfection.—This Japanese Anemone was recently certificated by the N.C.S. On this occasion it had an Award of Merit. For description see p. 185. Exhibited by Mr. R. Owen, Castle Hill, Maidenhead.

Chrysanthemum J. Bidencope.—The blooms of this Japanese variety measure 7 in. or more across. The florets are moderately broad, spreading, dark amaranth-purple, and silvery on the reverse, which is little shown. Award of Merit. Exhibited by Mr. R. Owen.

Chrysanthemum John Lightfoot.—In this Japanese sort we have a very distinct type about 6 in. in diameter, with densely arranged spreading florets of a soft lilac with purple edges. There is much material in the flower. Award of Merit. Exhibited by Mr. Robert Owen.

Chrysanthemum Mrs. R. Filkins.—In this we have a decorative variety that will be much in request for cut flowers. The blooms are clear yellow, and the spreading florets are deeply fissured at the apex with the teeth pointing in different directions. Award of Merit. Exhibited by Messrs. H. Cannell & Sons, Swanley.

Chrysanthemum Alice Seward.—The blooms of this incurved Japanese type are much in the style of Duke of York; but the broad florets are of a brilliant crimson-red and silvery-pink on the reverse. Good blooms are 6 in. in diameter and sub-globular. Award of Merit. Exhibited by Messrs. H. Cannell & Sons.

Chrysanthemum Purity.—In this we have a single variety 3 in. to 4 in. in diameter and pure white. The rays are numerous and incurved at the tips only, showing the golden disc. Award of Merit. Exhibited by Mr. W. Wells, Earlswood Nursery, Redhill, Surrey.

NEW PEAR.

Pear Beurre Dubuisson.—The fruit of this variety is about the size of an average Marie Louise, but it is pyriform, though sometimes shortened at the stalk, which is inserted in a small cavity, and generally on one side. The skin is greenish-yellow, but for the greater part covered with bronzy-russet or spotted with that colour. The flesh is white, very juicy, melting, and very sweet, but not aromatic. It is now in season. Award of Merit. Exhibited by the Duke of Rutland (gardener, Mr. W. H. Divers), Belvoir Castle, Grantham.

CIRENCESTER CHRYSANTHEMUM SHOW.

Cultivators of the popular Chrysanthemum in the Cotswold district held a most successful two days' show at the Corn Hall, Cirencester, on the 8th and 9th inst., when the weather was fairly bright and enjoyable. The hall, corridor, and lobby were filled to repletion with products in competition. The "extras" included some fifty dishes of Apples and Pears from Messrs. J. Jefferies & Son, who also arranged a very effective group of neat Palms, Ferns, Dracaenas, Arum Lilies, Azaleas, Solanums, Bouvardias, Roman Hyacinths, Cyclamens, Epacris, and Chrysanthemums, one other group of mixed plants coming from Mr. H. Dyer, Springfield Nurseries.

Groups for Effect were a strong feature, about a dozen semicircular arrangements occupying the four sides of the room. In the class for Chrysanthemums and foliage plants and Ferns, the premier came from A. Cator, Esq., Coates (gardener, D. Elkins), the design on sixty-three square feet having a large spreading piece of Encephalartos villosus, encircled with a grand lot of blooms, very prominent being Mrs. C. H. Payne, Edwin Molyneux, Sunflower, Avalanche, Puritan, Viviand Morel, &c., pricked out with neat Acacias, Ficus, and Palms, with a front row of neat Ferns and Lycopods, and tastefully finished with Moss. This design secured the premier prize (£2 10s.) and the N.C.S. Silver Medal. The second prize group from Col. Chester Master, The Abbey (gardener, W. Taylor), was well deserving of the award, having a nice few incurved blooms, such as Lord Wolseley, Golden Empress, Mrs. Rundle, in addition to a mass of Japs, Stanstead White and Florence Davis being especially fine, but the massive Cordyline indivisa, which formed the centre had a heavy look, somewhat marring a good display. Aralias, Pompon Chrysanthemums, with Ferns and edged with Moss, gave the design a fair finish. The third card went to J. Hyde, Esq. (gardener, W. Larner), whose group displayed some big flowers of Avalanche, Mad. C. Audiguier, Sunflower, and Edwin Molyneux, Pompon and single Chrysanthemums forming an outer line.

Plants were all naturally grown. For one specimen the cards went to densely flowered examples of Viviand Morel, J. Taylor, Esq., Rendcombe Park (gardener, H. R. Saunders), being first for a noble example; Mrs. W. Brewin (gardener, G. Bignell), second. For three Japanese, the last-named exhibitor secured the cards for three-quarter specimens of Viviand Morel, Bouquet Fait, Source d'Or, Mons. Bernan, and La Triomphante, a special prize going to J. Taylor, Esq., for a trio of incurved forms, comprising members of the Rundle family.

Cut Blooms.—This section was a most excellent feature, and under a good light the several varieties came out in contrast. For thirty-six distinct, the premier card went to Mrs. Bulley, Marston Hill, Fairford (gardener G. Price), whose stand was well balanced, the flowers large and bright, arranged as under Japs: back row—Charles Davis, W. Seward, Mdlle. Thérèse Rey, Van den Hede, Mrs. C. H. Payne, Mdlle. Marie Hoste; mid—Viviand Morel, Edwin Molyneux, Primrose League, Boule d'Or, W. Tricker, Beauty of Exmouth; front—Miss Dorothea Shea, Stanstead White, Gloire du Rocher, Alberic Lunden, Florence Davis, and Mrs. Falconer Jameson: Incurved, back—Mons. R. Bahaunt, Mrs. Robinson King, Lord Wolseley, Empress of India, Violet Tomlin, Lord Alcester, mid—John Salter, Jeanne d'Arc, Mad. Darier, Miss M. A. Haggas, Prince Alfred, John Lambert; front—Baron Hirsch, Jardin des Plantes, Mrs. Heale, Queen of England, Refulgence and Princess of Wales; the second prize being awarded to Mrs. C. Hooper, Stroud (gardener R. Fawkes), who put up blooms a shade smaller, but in fine condition, the forms were:—Japs, Charles Davis, Stanstead White, Amos Perry, Mrs. C. H. Payne, President Borel, Viviand Morel, Robert Owen, Sarah Owen, Florence Davis, Etoile de Lyon, J. Shrimpton, W. Tricker, G. W. Childs, Sunflower, Puritan, Edwin Molyneux, Lady Lawrence and W. Seward; incurved—Lord Wolseley, Jeanne d'Arc, Mrs. S. Coleman, John Salter, Violet Tomlin, Lord Alcester, Princess of Wales, Miss M. A. Haggas, Queen of England, Golden Empress, Prince Alfred and Mad. Mante. For a dozen incurved forms, and for twelve Japs, Mrs. Bulley, headed the list in each class with replicas of varieties previously named, adding, however, a fine specimen of Excelsior in the Jap class; the other cards in these classes going to A. Cator, Esq., who had grand examples of Edwin Molyneux, Mad. C. Capitant and Excelsior, Brookleigh Gem, Princess Teck, Queen of England and Lord Alcester; and R. Calcutt, Esq., Avening (gardener W. Chipp), who staged noble blossoms of Jeanne d'Arc, Mons. R. Bahuant, Mr. Bunn, Col. W. B. Smith and Mrs. C. H. Payne. For six incurved distinct, J. L. Burgess, Esq., Maisey Hampton (gardener J. Humphries) was first, with full sized blooms of Jeanne d'Arc, Prince Alfred, Mad. Darier, Princess of Wales, Violet Tomlin, and Empress of India; while for the like number of Japs, Mrs. W. Brewin, led with colossal flowers of Mrs. E. W. Clarke, G. C. Schwabe, Viviand Morel, Charles Davis, and Mrs. C. H. Payne; J. L. Burgess, Esq., second, he having grand specimens of W. H. Lincoln, and Mad. C. Audiguier. For six Japs, one variety, Mrs. Bulley headed the list with some noble clean specimens of Avalanche; A. Cator, Esq., second with Edwin Molyneux; Mrs. W. Brewin, third, with Viviand Morel; while for half-a-dozen incurved one variety Mrs. Bulley put up Jeanne d'Arc; J. L. Burgess, Esq., second with Lord Wolseley. For eighteen Japs, Mrs. Bulley, A. Cator, Esq., and R. Calcutt, Esq., divided the honours, the latter having a fine white sport of Viviand Morel, an acquisition, if perpetuated. Epergnes of Chrysanthemums were of a very high order, Mrs. Sare, Fleece Hotel, first, Mesdames Wearing and Green, second and third. Baskets of mums and foliage also a good class. Mesdames Sare and Dyer, and Hon. Mrs. Wilmot, dividing the honours, the latter hon. lady being first for a basket of autumn leaves and berries, of which several arrangements were very tastefully presented. Bouquets were very neat at the hands of Mrs. Sare, A. Cator, Esq., and Miss Edwardes, Earl Bathurst (gardener T. Arnold), Mesdames Arnold and Wearing, being prize winners with chaste button-hole bouquets in triplets, Orchid blooms largely predominating. Col. Chester Master had the only collection of bouvardias staged second prize (not out enough); but was first with Cyclamen; J. Taylor, Esq., premier for table plants, single and double Primulas, and Poinsettias (good); Mrs. Bulley led in the classes for Mignonette, six pots, and six varieties of zonal geraniums (pretty table plants).

LIVERPOOL CHRYSANTHEMUM SHOW.

The fifteenth autumn exhibition held in St. George's Hall, Liverpool, on the 7th and 8th inst., had most unfavourable circumstances to contend against, the opening day being especially one of continuous, heavy, cold showers. The entries showed a considerable falling off, and the only section which showed an increase was that for cut blooms. Although less in quantity, the quality of the Chrysanthemums in pots was fully sustained. For three large-flowered distinct varieties, Mr. H. Cunningham (gardener, Mr. W. Wilson), Gateacre, secured first honours, to which was added Mrs. W. Colchester's special prize in the form of a handsome electro-plated tea-pot; staging good plants with well-finished blooms, Mrs. W. G. Bateson (gardener, Mr. J. Harrison), Aighurth, was second. For one large-flowered specimen, Mr. J. A. Bartlett was first, and Mrs. W. G. Bateson second. With three Pompons distinct, Mrs. Bateson took the lead with superb specimens; Mrs. J. Kitchen being second; and for the single plants the same exhibitors secured similar positions. In the single standard and single pyramid classes, the first prizes were taken by Mr. J. A. Bartlett; and for the six untrained and single untrained plants, the same position was accorded to this exhibitor, who had finely-flowered Japanese varieties.

The number of cut flowers offered was 1,530, and the Japanese were in advance of those seen in any previous year, whilst the incurved section were greatly deficient in depth and general finish. For twenty-four incurved and twenty-four Japanese, not less than thirty-six varieties, Mr. A. Holt, (gardener, Mr. D. Forbes), Aigburth, staged the premier lot, his best blooms being of Viviand Morel, Gloire du Rocher, Chas. Davis, Mrs. J.

Clarke, G. C. Schwabe, Marie Hoste, Boule d'Or (fine), Louise, Etoile de Lyon ; incurved :—Queen of England, Lord Alcester, Golden Empress, John Lambert, Miss M. A. Haggis, Jeanne d'Arc, Prince Alfred, Mr. Bunn, Mad. Darier, Mrs. Heale, and Mrs. S. Coleman ; Mr. W. H. Tate (gardener, Mr. G. Haigh), Woolton, was second, his Japanese being very fine ; Mr. F. H. Gossage (gardener, Mr. J. Jellicoe), Woolton, was third ; and Mr. H. Tate, Junr. (gardener, Mr. J. Edwards), Allerton, fourth. For twelve incurved, twelve Japanese, and twelve reflexed or anemone-flowered, Mr. A. S. Mather (gardener, Mr. H. Howard, Woolton, secured the chief position, his finest flowers being of Lord Alcester, Mons. R. Bahuant, Baron Hirsch, Mad. Darier, Mad. D. O'Shea, Sunflower, Viviand Morel, W. H. Lincoln, Col. W. B. Smith, G.C. Schwabe, Chas. Davis, M. Sullivan, King of Crimsons, Chevalier Domage, J. Smith, Cloth of Gold, etc. ; second, Mr. J. Findlay. Of eighteen incurved distinct, Mr. T. Clegge (gardener, Mr. J. Dutton), Aigburth, had the best, followed by Mrs. B. C. Nicholson (gardener, Mr. J. Haynes), Wavertree. There were fourteen competitors with twelve varieties. Mr. C. W. Carver (gardener, Mr. G. Hignett), and Mrs. Nicholson took first and second in the order given. With eighteen Japanese distinct, Mr. A. D. McLeod (gardener, Mr. J. Mauchline), Windermere, was well to the fore with superb blooms, his Viviand Morel, Mrs. E. W. Clarke, and Charles Davis, being of immense size ; second, Mr. W. S. Gladstone ; third, Mr. T. Clegge. For twelve Japanese distinct, Mr. W. H. Tate, Mr. W. S. Gladstone, and Mr. A. S. Mather, were placed in the order named. The best six anemones distinct, came from Mr. H. Cunningham ; and the best six reflexed from Mr. F. H. Gossage, who took the silver medal offered by the Boundary Chemical Company.

For a mixed group of plants, Mr. A. L. Jones (gardener Mr. J. Bounds), Aigburth, secured the highest award for a bright display of Chrysanthemums. Crotons, Palms and Ferns, Mr. W. H. Watts (gardener Mr. J. Bracegirdle), Wavertree, followed with a pretty collection, but wanting in brightness. In the class for four stove and greenhouse Ferns, Mr. T. S. Timmis (gardener Mr. B. Cromwell), Allerton, staged grand examples of Davallia Fijiensis (6 ft. in diameter), Microlepis hirta cristata (6 ft.), Nephrolepis davallioides furcans (8 ft.), and Goniophlebium subauriculatum (5 ft.), second Mr. J. A. Bartlett. For three Orchids, Mr. W. H. Watts was a capital first in a strong class with Vanda caerulea having twenty-two flowers, Cattleya gigas Sanderiana with five flowers, and C. gigas imperalis, with six flowers. Second, Mr. T. S. Timmis, and third, Mr. H. Tate. Among ten exhibitors of a single Orchid, Mr. V. H. Williams (gardener, Mr. T. Wilson), Fulwood Park, was first with Cattleya aurea.

Fruit : Although the entries were sixty less than last year, some good exhibits were staged. The Grapes numbered some seventy bunches, which gave considerable trouble to the judges, owing to the bad light. For six dishes of Fruit, Mr. A. R. Gladstone, (gardener, Mr. T. Elsworthy), Broad Green, staged the premier collection having Muscat of Alexandria, and Black Alicante Grapes, Beaurré Clairgeau and Louise Bonne of Jersey Pears, and King of Pippins and Sturmer Pippin Apples. Mr. J. W. Raynes (gardener, Mr. J. Barker), Rock Ferry, was second. In other classes first prizes were taken by Mrs. Bankes, Mr. A. R. Gladstone, Mrs. Patterson, Col. Bird, Mr. H. Cunningham, Sir Pyers Mostyn, Rev. Canon Robin, Rev. L. Garnet, Mr. W. E. King, Mr. T. Comber and Mr. J. H. Salmon.

Certificates were awarded to Messrs. R. P. Ker & Son, for a fine group of Cyclamen ; to Messrs Charlesworth & Co., Bradford, for a display of Orchids of high merit ; to Messrs. J. Cowan & Co., Garston, for Orchids, &c. ; to Mr. Thomas Coulton, Liverpool, for cut Chrysanthemums ; to Messrs. Dicksons, Limited, Chester, for hardy fruit and plants ; to Mr. H. Middlehurst, Liverpool, for a collection of Potatos : to Messrs. W. Clibran & Son, Altrincham, for cut Chrysanthemums ; to Messrs. J. G. Robertson, for garden fertiliser ; and to Mr. R. Hinde, Sale, near Manchester, for dried Orchid blooms.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s. ; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

BULBS AND THEIR CULTIVATION.

(*Concluded from p.* 138.)

Having given you a short account of the bulbs at home in Holland, I will say a few words on their successful cultivation in your own homes, window boxes, or gardens. In the first place you must understand that at this time of the year the flower is already partially developed in the bulb and can be distinctly seen if the bulb was cut in half, therefore it depends upon the skill and care taken in cultivation if the flower will develop properly or be a failure.

Why most persons fail to produce good flowers from the bulbs is from the fact that they hesitate to give a fair price for them, forgetting to reckon the cost of pots, soil, manures, etc., and more particularly the time spent in attending to them before coming to maturity. I calculate that every dozen Hyacinths cost two to three shillings for pots, soil, and time, therefore the cost between good and inferior bulbs being so little, it is a pity it is not taken more into consideration rather than so often overlooked. Many persons will go to auctions, and because the bulbs are cheap, buy four or five times more than they want, comforting themselves that because they are so cheap, that if there are some failures it does not matter. forgetting if they spent the same amount of money on better bulbs they would have less labour and much more satisfactory results. To get the best results from all bulbs it is desirable to plant early, that is in September, or as early in October as possible. Some hesitate to disturb the borders in their gardens so long as there is a little bloom left, forgetting it is very detrimental to bulbs or plants that have to take their place, and which can never be expected to do well unless well established before the severe winter weather sets in, and if failure results from these delays, the bulbs are condemned rather than their wrong treatment. Crocuses begin to grow in September, thus showing it is time that they were in the ground ; therefore to delay planting till late in October, or November, is to promote failure. Narcissus of all kinds grow stronger and bloom better if planted at the end of August, and this will show you that if they are not planted until late in October or November, it is impossible to expect the best results. Hyacinths, Tulips, and all other bulbs should be planted from the middle of September to the middle of October, and no one must expect success or the best results if they delay this till November or even December, for you must understand that it is one thing to grow ordinary and indifferent flowers, but skill, patience and attention is necessary to bring them to perfection.

The next object to be considered is the proper soil or position to plant bulbs in. Some imagine that any soil or position will suit them, but no greater fallacy can exist, and yet how often do we see this. I know many who are willing to spend any money in reason on bulbs, plants, or seeds, but who spoil everything by not getting better pots, soil, etc. Bulbs of all kinds want a light open sandy soil, which should be on the side of dampness rather than dryness. Although they like rich treatment, they do not like to be near fresh manure, that is manure less than a year or even two years old. Narcissus or Tulips may thrive better in richer or heavier soil than Hyacinths but all should be on the side of lightness rather than heaviness. In planting your garden it may be as well to say put Tulips three or four inches under the soil, but Crocus and Narcissus, particularly Polyanthus Narcissus, may be put five to six inches deep. In all cases care should be taken that the bulbs are placed well on the soil so as to avoid any vacant space underneath them, particularly when planted in holes, as I mentioned in the earlier part of this paper.

We pass on now to the consideration of how to obtain the best results from bulbs grown in glasses, jars, etc., and for this purpose, more than for outdoor planting, I cannot advise you too strongly to get sound bulbs for the work, for without them it is simply impossible to succeed. I may say that all bulbs will naturally do better in soil than in water, but where good soil cannot be obtained, I advise some of my audience here to-night to try them in water, in the usual glasses made for the purpose. Bulbs treated in this way do not want so much attention, but great care must be taken to have good fresh water ; water that has been standing in a tank a long time is detrimental, so is rain water, which in large towns like Birmingham is so often very impure. A piece or two of charcoal put into the water will help to keep it sweet, and if ever the water looks cloudy or smells offensive it should be changed at once, I think it beneficial to change the water about every month or six weeks. Care should also be taken in putting the bulbs in glasses to keep the bulb quite clear of the water, that is about an eighth of an inch above it ; between the water and the bulb the moisture and dampness arising from the water will be quite sufficient till the little roots touch the water, when they will absorb all that is desired ; if the bulbs are allowed to touch the water they have a tendency to go rotten, and it is also necessary to give the bulbs as much air as possible, but where they will not be caught by frost. If these bulbs are kept too confined or in a warm room it has a tendency to draw the foliage and that weakens the flowers, for it is the bloom you want to develop first rather than the foliage. When the bloom is over, the foliage should be allowed to grow to form next year's flower rather than weaken this season's growth. Narcissus, Crocus, even Tulips may be grown in glasses the same as Hyacinths and produce very satisfactory results ; but where good sandy soil can be obtained I should certainly say use pots, care being taken to have the drainage kept as open as possible so that the surplus water can easily drain away. When putting the bulbs in the pots do not press the soil too hard, if you do the young roots cannot freely push themselves down, but rather push the bulb up, and that is why you sometimes see bulbs raised out of the soil. After they are potted they should be allowed to stand for a week or two before much water is given ; I do not like the system of soaking the pots directly the bulbs are potted and I think much more harm is done by over-watering than by under-watering, on the other hand they must not be allowed to get dry, for if they do, the tips of the young roots dry up, and if water is then given they cannot absorb it ; it is like keeping little children without food for three or four days and then giving them three or four days food at one meal and expect the same results as if they are fed regularly day by day. To those who can afford a little expense I should certainly suggest their planting some of their bulbs in a mixture of cocoa nut fibre and sand, in pots, jars, dishes, etc. I find this composition will retain just enough moisture without being too wet or too dry. I have planted many bulbs for some years past in fancy jars and have the most satisfactory results. If I find it dry at any time I let the pot stand in water and then drain itself as much as possible, or if I have used this mixture in jars or glass dishes, I fill them up with water as far as I can and then turn the jar on one side to let any surplus water drain away. This cocoa-nut fibre I find will retain moisture much longer than anything else, and if some of my audience could have seen the beautiful results I had from some of the small jars, something like the one I have here, they would realise that it is a very interesting method of growing them. They can be moved from place to place without any trouble, and always look clean and bright, and they also make very charming table decorations.—*R. Sydenham.*

REIGATE CHRYSANTHEMUM SHOW.

The sixth annual exhibition of Chrysanthemums held at the Public Hall, Reigate, on Friday, the 9th inst., in aid of the Gardeners' Royal Benevolent Institution, and the Royal Gardeners' Orphan Fund, was again a very successful display. The number of entries was somewhat in advance of previous years, although there was a slight falling off in the number of groups, which has hitherto been one of the leading features of the show. There was very keen competition in the classes for cut blooms, and with the exception of Class 14 for twenty-four incurves, where Mr. Salter was easily first, only a few points divided the other classes.

In the class for a group of Chrysanthemums not exceeding 50 ft. super, arranged for effect, Mr. H Bailey, gardener to Mrs. W. L. Barclay, The Briars, Reigate, was well first ; second, Mr. A. Hayter, gardener to Lady Henry Somerset, The Priory, Reigate ; third, Mr. J. B. Mead, gardener to Maurice Marcus, Esq., High Trees, Red Hill. For a group not exceeding 30 ft. super, Mr. E. Tickner, gardener to J. Watney, Esq., Shermanbury House, Reigate, was

first; second, Mr. J. Dowell, gardener to John Hart, Esq., Lochinvar, Reigate. For bush, standard, and trained specimens, Mr. A. Hayter, Mr. G. Smith, gardener to W. R. Inglis, Esq., Craigendowie, Reigate, and Mr. E. Tickner were prize-winners in the various classes.

Cut flowers: for thirty-six Japanese distinct, Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, was first with a grand lot followed closely by Mr. W. Slowgrove, gardener to Mrs. Crawford, Gatton Cottage, Reigate; third, Mr. C. Ritchings, gardener to Dr. Frankland, The Yews, Reigate. For twenty-four Japanese, distinct: first, Mr. W. King, gardener to J. Colman, Esq., Gatton Park, Reigate; second, Mr. H. Bailey; third, Mr. J. R. Cotton, gardener to E. Bell, Esq., Raglan Road, Reigate; 4th, Mr. A. Hayter. Twelve distinct, first, Mr. G. Smith; second, Mr. C. Blurton, gardener to H. Cosmo Bonsor, Esq., M.P., Kingswood Warren, Epsom; third, Mr. J. Miles, gardener to Mrs. Searle, Eversfield, Reigate. Six distinct: first, Mr. W. Robertson, gardener to Mrs. G. Simpson, Wray Park, Reigate; second, Mr. J. Dowell; third, Mr. J. B. Mead (Class 13), one variety here, Mr. J. R. Cotton was well first with six grand Sunflowers; second, Mr. W. Robertson with Avalanche; third, Mr. H. Bailey with Mdlle. Marie Hoste. Twenty-four incurved, distinct: first, Mr. C. J. Salter in whose stand were some fine flowers. Special mention should be made of Barbara; second Mr. C. Ritchings; third, Mr. G. Steers, gardener to A. Mordan, Esq., Stone House, Reigate. Twelve ditto, distinct: first, Mr. W. King; second, Mr. G. Smith; third, Mr. J. R. Cotton; fourth, Mr. H. Bailey. Six distinct: first, Mr. W. Slowgrove; second, Mr. S. J. Crofts, gardener to W. D. Freshfield, Esq., The Wilderness, Reigate; third, Mr. E. Tickner. Six incurved, one variety: first, Mr. J. R. Cotton; second, Mr. J. Dowell; third, Mr. W. Slowgrove. Twelve reflexed: first, Mr. C. J. Salter; second, Mr. G. Steer; third, Mr. A. Hayter. Six ditto: first, Mr. J. R. Cotton; second, Mr. S. J. Crofts; third, Mr. E. Tickner. Twelve anemones, distinct: first, Mr. C. J. Salter; second, Mr. G. Steers. Six ditto: first, Mr. S. J. Croft; second, Mr. A. Hayter; third, Mr. J. R. Cotton. Twelve Pompon Chrysanths. in bunches of three, distinct: first, Mr. C. J. Salter; second, Mr. E. Tickner. Six ditto: first, Mr. J. R. Cotton; second, Mr. S. J. Crofts; third, Mr. G. Smith.

Plants in pots were well shown, Primulas, Bush Pompon Chrysanthemums, untrained, Bouvardias, Table plants, and Cyclamen, &c., were all well exhibited. There were also classes for single-handed gardeners with occasional assistance, in which there was a spirited competition. The President, John Hart, Esq., gave special prizes for Cottagers, and these were also well contested.

VIOLETS FOR WINTER.

These lovely flowers have been in the front rank of popular floral favourites for many a long year, and from present appearances there does not seem to be even a remote likelihood that they will ever be anything other than favourites of the first class. Nor is this to be wondered at when we consider their beauty, their delicious fragrance, and above all the astonishing ease with which they may be grown. In fact no plant yields a better return for labour expended upon it than the violet, and I suppose absolute failure with regard to the supply of flower afforded by it, is a hitherto unknown calamity.

The violet is quite a socialist in principles, and is quite as much within the reach of the peasant as of the king, the holder of a few square feet of glass as the owner of large and commodious greenhouses fitted with all the improved modern horticultural appliances. As pot plants for growing in the cottage window nothing could be more suitable. The old fashioned garden, too, must have a few plants of this time-honoured favourite in it or a great deal of its credit would be lost. Very few of us indeed I venture to say but when looking back at childhood's happy days, but have pleasing and fond recollections of the times when we used to go and search so patiently for the sweet wild violets in the lanes and hedgerows of our native villages, and how we used to think our efforts well rewarded, if, by hook or by crook, we could scrape up together a little bunch of the half-opened buds which we used to think so exceedingly pretty. It would be impossible to correctly analyse the charm that clings around the sweet woodland violet for it is indescribable.

Although in a wild state early spring is the period of the year at which it produces its pretty blue or white flowers; under cultivation some wondrous changes have been wrought. Its flowering period has been doubled several times over in extent, and now for six or seven months of the year it is quite possible to obtain the exquisite double and single forms of our old friend Viola odorato in all its beauty. No difficulty at all can be met with in the propagation of numbers of plants. All that is necessary is to divide up the old plants into small pieces, each carrying a few roots and two or three leaves. These little cuttings may be dibbled in rows about a foot apart each way, upon a border having a northern or an eastern aspect. This is a necessary precaution for the direct rays of the hot summer sun would otherwise prove too much for them. A good watering-in should be given them, as soon after planting as possible, after which they will give but little trouble.

If the summer proves to be a hot and dry one, occasional waterings will be necessary. As a rule when the plants get well established they throw out a lot of runners. These should be cut off without delay, as their growth tends considerably to weaken the plant producing them. The beds should also receive occasional attentions with the Dutch hoe to keep down the weeds, as well as to prevent the surface of the soil from becoming baked and hard. The single-flowering varieties, like the Czar, will thrive exceedingly well outdoors with no other protection than that afforded by a brick or stone wall, and a supply of flowers may always be obtained throughout the season if anything like favourable weather conditions prevail.

The double-flowering varieties must, however, be sheltered during winter, for, although the plants are perfectly hardy, the flowers are not so—in fact, a very few degrees of frost are sufficient to spoil their beauty. If very early flowers are needed it is advisable to put up a few plants into 32-sized pots. After these have got fairly well established they may be introduced into a gentle heat as occasion requires, although hard forcing should never be indulged in.

For the main stock of plants the good old-fashioned plan of planting them in specially-prepared frames has never been beaten. These frames should be got ready to receive their occupants quite by the end of September. No good is derived from deferring planting them for much longer after this, or the plants will not so readily get a fair hold of the new soil before winter, and blooming will, as a natural consequence, be considerably retarded. If the frames are deep enough a good layer of fermenting material should be placed at the bottom and a layer of soil (which should consist of good loam and well decayed manure), placed on the top of this to the depth of about 9 ins. The plants should be lifted carefully with as good balls as possible, and when first planted should nearly touch the glass, thus making allowance for the sinking of the soil, which is sure to occur to a greater or less degree from the decay and consequent shrinking of the fermenting material beneath.

In planting, the space allowed between the plants should in all cases be governed by the size and strength of the plants, also in a less degree by the particular variety planted, some being much stronger growers than others. After planting, a good watering should be given to settle the soil well about the roots, the lights put on, and the frame kept comparatively close for a few days to encourage growth. When the plants have got well established in their new quarters, air should be given whenever the mercury is above freezing point, otherwise the young tender leaves and flowers will damp off wholesale.

After the initial watering-in, little or no water will be needed until the turn of the year. No fear need be entertained that the plants will suffer from want of water, as from the usually saturated condition of the atmosphere during the dull months, the moisture contained in the soil will prove amply sufficient for all purposes. It will be necessary to cover up the frames pretty warmly to secure the exclusion of frost as far as possible; still, the covering should be removed during the day-time, unless very severe frost obtains, in which case the plants do not suffer to any very great extent from two or three days of enforced darkness. Indeed, in the very hard winter of 1890-91 some of our Violet frames were not uncovered for a period of four or five weeks, without the plants receiving any permanent injury, although when first uncovered they certainly looked as if every vestige of chlorophyll had departed from the leaves. Seasons in which we experience such severe and continued frosts are, however, fortunately rather rare.—*G.*

NOTES ON THE PAST SEASON.

The experience of some cultivators regarding the weather and returns received for labour expended during the past season must differ considerably. In our own district (with a few exceptions) we have had one of the best and most productive seasons which have been known for some years. 1893 prepared fruit trees for fruiting in such a way as gave hope to most of us that crops were likely to be plentiful this year, and indeed, except the Apples, which were cleared off so ruthlessly by frost at the end of May, most fruits were very abundant. Small fruits were superabundant, as in many cases they were too thickly set on the bushes to be profitable crops. We have here experienced a very genial autumn, for from the end of August to nearly the close of October (about nine weeks) no rain has fallen in sufficient quantities to interfere with the work of the farmers, and (except where some with more zeal than caution have taken in their crops before they were ready), there has been no complaining among a class that have often just cause to be depressed by untoward weather during harvest.

Potatos were cut down to the ground level in May, but most of the tubers we have seen are unusually large, and the late Potatos seem to be in good condition. Turnips generally, in the Valley of the Forth, are first-rate, and many fields which I have noticed in Inverness, Nairn, Elgin, and Banff Shires were all that could be desired. In addition to these glad tidings there were many sad forebodings caused by the sunless wet weather during the months of June, July, and August. We learn that in many gardens Rhododondrons and other flowering shrubs have set few blooms. This is regrettable, as those who cultivate this class of plants largely for lifting to force for cut flowers, and for decoration of show houses, &c., will find some difficulty. We find especially that the useful Rhododendron Nobleanum is not as good as usual.

Bulbs have started easily this season. Roman Hyacinths without much forcing came into flower early in November, bedding plants were a mass of bloom until the third week of October, when 12° of frost suddenly put an end to most of the tender class of plants. In many places where the much-valued Begonia is cultivated extensively, the frost at the end of September, put them suddenly out of action, but where these favourites were used as dot plants standing clear above Pansies, dwarf Pelargoniums, etc., they were cleared off after having been cut down by frost and the hardier plants associated with them remained to fill up the beds. Pansies and Violas never were finer than we have seen them this season, and they are now (on rich well trenched soil) doing well. Calceolarias likewise.

Reverting to Apples it is only fair to say in answer to many who only appreciate large trees suitable for orchards, only that we have a strong leaning to medium and dwarfer plants standing on stems about four feet high or less, because they are almost invaluable where heavy gales prevail. They require little in the way of labour except pruning and gathering of the crops; sturdy in habit, the result of careful root manipulation, with foliage large and green, and all growth little more than good spurs, they can hardly fail to form abundance of fruit buds. On such trees the fruit is freely exposed to sun and air which ensures it being of fine colour and good keeping quality.

Lord Grosvenor and Sandringham have cropped well this year, and the fruits are large and fine. We are more than ever inclined to favour the selection of a few good hardy and sure bearing varieties, than to grow large collections of so-called first-rate sorts, which cannot be depended on as sure croppers.—*W. T. Stirlingshire*

GARDENING MISCELLANY.

"MUMS"—LANKY AND DWARF.

Your correspondent "G.," p. 150, is quite right in his note on lanky "Mums." It is the practice of many to grow tall plants for the production of large blooms, and those tall plants, especially late varieties, grow taller still when housed in vineries or Peach houses of old-fashioned construction, where they cannot obtain the light and ventilation so essential to their well-being, as is afforded them by houses of

modern build. When I grew a large collection of the best varieties I was obliged to flower them in lean-to houses, heavily raftered and badly ventilated. The result was similar to "G's" remarks, the flower-stalks of many became too weak to support the heavy blooms, and they likewise lost a great deal of lower foliage. Being down south last week I called at Woodcote House, Epsom, and there saw a splendid collection of plants, arranged in a large and light conservatory, built a few years ago by, I believe, Messrs. Boulton & Paul. It is just the house to show a collection off to advantage. What struck me was their singular dwarfness, strength, and splendid foliage which clothed the stems down to the pots. I was too early to see them in their prime, but they must produce a splendid effect about the 20th of this month. The gardener (Mr. Pledger) does not go in for exhibiting, but through the kindness of his employer (the Rev. E. W. Morthey), the collection has for some few seasons past been thrown open for public inspection when at its best. Should any of your readers be "down Epsom way" I think that they would meet with a cordial invitation to have a look round. They are the best lot of plants I ever saw in a private place, and are certainly a credit to the grower.—*Geo. Potts, The Gardens, Farming Woods, Thrapston, Nov. 9th.*

APPLE—COX'S POMONA.

As a culinary Apple of first-class quality, coming into season in October, it would be hard to beat this well-known variety. The fruit is rather over the medium size, roundish, and somewhat flattened in shape, and of decidedly handsome appearance, the skin being yellow, heavily striped or streaked with crimson. To those growers who from lack of sufficient space are limited to the growing of a very few varieties, it is advisable to make a judicious selection of the sorts to be grown. Certainly Cox's Pomona should find a place even in a limited collection. It was raised by Mr. Cox of Colnbrook Lawn.

PEAR—JOSEPHINE DE MALINES.

This well-known sort is well-nigh an indispensable to the gardener who has to prolong the hardy fruit season as much as possible, and the above variety cannot be too highly praised for its splendid keeping qualities, as it will keep in good condition until the month of May. Another point to be urged in its favour is that it possesses an excellent constitution, and is, as a rule, a free and abundant bearer, although of somewhat straggling habit. For this great acquisition to our fruit rooms we are indebted to Major Esperen, of Malines, who raised it in 1830.

BLANCHING OF ENDIVE.

It is said with regard to this useful salading that those who once taste it prefer it to the best of Lettuce. This is, perhaps, saying a good deal, but certain it is that for filling the salad bowl in autumn and winter it is an indispensable subject. If it is not intended to lift it and place it in frames to afford a winter supply, it may be blanched very readily in the open ground by tying up in the same way as is usually practised with Lettuce. It often happens, however, that the later made plantations have not attained a sufficient size to render this an easily performed operation. In such cases the hearts may be blanched very nicely if a common house-tile be laid flat upon the crown of the plant. It takes rather longer, however, to get well blanched heads by this means than when the leaves are tied up as before mentioned.

MANETTIA BICOLOR.

It is scarcely possible to say too much in the favour of this handsome plant, and there can be no doubt whatever as to its usefulness to the gardener, possessing, as it does, so large a share of intrinsic beauty. Although the genus contains several ornamental and interesting plants, M. bicolor is perhaps the one best known to us. At the present moment several plants of it in the Begonia house at Kew are full of flower, and present such an attractive appearance as to make it well nigh impossible for even a casual observer to pass them by without noticing them. The plant is exceedingly easy of culture, and may be propagated easily enough from cuttings composed of the young shoots inserted in pots in light sandy soil in good bottom heat. Trained upon a trellis, or balloon shape in the stove, it has an opportunity of showing off its real beauty to advantage; its orange and scarlet flowers, although of no great size, being produced in great profusion.

BASKET FERNS.

In reference to the difference between Adiantum caudatum and Adiantum ciliatum, I should like to say the difference is always very apparent though not always to so large a degree as in the specimens sent you. Still, there never need be the slightest doubt as to which is which, though, probably, one is a variety of the other. It is quite likely that many purchasers of these Ferns have had one supplied for the other, just as Lygodium japonicum is hundreds of times sold for L. scandens, from which it is totally distinct. Another case which may be cited is Selaginella Kraussiana, perhaps the commonest of all Selaginellas, times out of number being sold for Selaginella denticulata, from which it is very distinct.—*J. Birkenhead, Sale, Nov. 12th*, 1894.

ADIANTUM CILIATUM.

Although a continuation of the argument concerning the distinctness or otherwise of Adiantum ciliatum of gardens, and A. caudatum, may not be attended with a great deal of profit to anyone, I should like to mention that as the Editorial note at the foot of Mr. Birkenhead's letter of last week states, the supposed distinctions between them may not be constant. I have had the pleasure of seeing the specimens of the two supposed varieties that Mr. Birkenhead sent in support of his contention, and I ask now to be permitted to say that if Mr. Birkenhead will pay a visit to the Tropical Fernery at Kew, he will find there a plant of A. caudatum in which the primary fronds are evidently those of A. caudatum. But (and here the curious part come in), the secondary fronds, that is to say, those that result from the bud borne at the extremity of the primary ones have the pinnules much deeper cut, farther apart from each other, and are certainly more like the description Mr. Birkenhead gives of A. ciliatum than anything else. This is only an instance of the extremely variable nature of the plant as well as being illustrative of the inconstancy of these variations.—*Filices.*

CHRYSANTHEMUM—MISS ROSE.

Two round beds filled with spendidly floriferous plants of this exceedingly pretty single-flowered Chrysanthemum are specially noticeable at the present time, close to the entrance of the southern wing of the Palm House at Kew. The plants are of dwarf and bushy habit, from eighteen inches to two feet in height, and present a singularly attractive appearance. Grown in small pots as bushy specimens, moreover, this lovely variety is of the utmost service for all kinds of indoor decoration, whether it be for the filling of vases in the boudoir and drawing-room or for the decoration of the dinner table, it takes a lot of beating. Those who complain of the stiffness and formality of blooms of the incurved section, and the unnatural appearance of large flowers of the Japanese type should here find their ideal of floral perfection. Nothing can be more useful for cutting purposes, and certainly any trouble expended in the growing of two or three dozen plants of it in pots would meet with ample reward.

SOCIETIES.

Royal Horticultural, *13th Nov.*.—The meeting on Tuesday last was noted for the display of Orchids if anything. Chrysanthemums were also pretty abundant, as well as Cyclamens, Pelargoniums, stove and greenhouse plants and fruit. A large and well-flowered group of Cattleya labiata was exhibited by Messrs. Hugh Low & Co., Clapton. The amount of variation was considerable, the dark-lipped ones being abundant, but the most distinct variety we noticed was a light-coloured one named C. l. lilacina, the sepals, petals, and tube of the lip being of the faintest lilac, while the lamina was of a peculiar shade of blue-purple. Vandas were also conspicuous, including V. caerulea and V. Sanderiana with large and highly-coloured flowers. Mormodes tigrinum is by no means a common species and is certainly curious (Silver Banksian Medal). Messrs. W. L. Lewis & Co., Southgate, had a mixed group of Orchids, in which Oncidium tigrinum, Cattleya Bowringiana, and numerous Cypripediums, of which C. insigne montanum was conspicuous and telling in its markings. Masdevallia tovarensis was well flowered (Silver Banksian Medal.) A mixed and varied group was also exhibited by Messrs. F. Sander & Co., St. Albans. The varieties of Dendrobium Phalaenopsis Schroderianum were numerous, beautiful and grandly flowered, dark and light kinds being equally conspicuous. Cypribedium Cyris was a hybrid of great merit and richly blotched. Curious and interesting was Dendrobium Platycaulis with its flattened stems. A grand group of Catasetums, including C. Bungerothii and several very distinct varieties, some of which, such as C. B. Lucienianum and C. B. Lindeni were named, was exhibited by Messrs. Linden, Parc Leopold, Brussels. They also had varieties of C. macrocarpum and Cattleya Alexandrae elegans, a light variety (Silver Banksian Medal.) A large group of Cypripedium insigne, Cattleya labiata, and Oncidium varicosum Rogersii, was staged by Messrs. Collins & Collins, Cumberland Park, Willesden Junction (Silver Banksian Medal.) Cattleya labiata Mrs. Wingfield was shown by Mr. W. J. Empson, Ampthill House, Ampthill. W. A. Gillett, Esq. (gardener, Mr. Carr), Fair Oak Lodge, Bishopsgate, exhibited Odontoglossum crispum Fair Oak var. Cut flowers and plants of Cattleyas were shown by E. Ashworth, Esq. (gardener, Mr. H. Holbrook), Harefield Hall, Cheshire. The flowers were large and bright. Mr. G. Young, St. Albans, exhibited Cypripedium insigne Youngianum, a pale and beautiful variety. Cut flowers of various species and hybrids of Cattleya were sent up by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. C. Dowiana aurea magnifica was certainly handsome and showy. Flowers of Dendrobium Phalaenopsis Schroederianum were exhibited by the Rt. Hon. J. Chamberlain, M.P. (gardener, Mr. H. A. Burberry), Highbury, Birmingham. Odontoglossum crispum Frantz Masereel, a splendid variety was shown by Messrs. Vervaet & Cie, Mont St. Amand, Ghent. Cymbridium Cyperius longifolium was staged by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. He also had Cattleya labiatia R. I. Measures' var. and Cypripedium insigne Ernestii. Lycasti macrobulbon was staged by R. G. Fletcher, Esq., Withdean, Brighton. Phaio-Calanthe Sedenii rosea was shown by Messrs. B. S. Williams & Son, Upper Holloway. F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited Cattleya superba splendens, Cypripedium Clarense, and others. A fine plant of Saccolabium bigibbum was staged by H. Grinling, Esq. (gardener, Mr. W. Rapley), Harrow Weald House, Stanmore. Laelio—Cattleya albanense was shown by Mons. Jules Hye, 8, le Coupure, Ghent. Odontoglossum Wilckeanum was staged by J. Forster Alcock, Esq., Northchurch, Berkhamsted. A pale coloured hybrid Cattleya named Miss Williams was exhibited by J. W. Temple, Esq. (gardener, Mr. E. Bristow), Tunbridge Wells. Earl Cowper (gardener, Mr. J. Fitt), Panshanger, Hertford, brought up a group of Cypripedium insigne and several Calanthes. Cattleya Fabia, C. Statteriana and Cypripedium Titigus. All hybrids were staged by Messrs. J. Veitch & Sons, Chelsea.

As might have been expected the exhibits of cut blooms of Chrysanthemums were numerous, and some thoroughly good examples were shown. Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, received first prize for a collection of cut blooms. Good blooms of Etoile de Lyon, Lord Brooke, William Seward, and Sunflower were in praiseworthy condition. The second prize went to Mr. J. M. McLeod, Dover House Gardens, Roehampton. Mr. McLeod was also successful in obtaining the first prize for twelve cut blooms of the Japanese section; varieties like Chas. Blick and Violetta appearing to advantage. A Silver Flora Medal was awarded to C. E. Shea, Esq., The Elms, Foots Cray, for a superb collection of cut blooms of the Japanese and Anemone sections. Among the former class, Etoile de Lyon, Boule d'Or, John Lightfoot, Sir Edwin T. Smith, Mdlle Thérèse Rey, Amy Shea, Stanstead White and Dulcie Schroeter, were in first rate order, whilst among the Anemone division Owen's Perfection and Caledonia were well deserving of recognition. Mr. W. J. Godfrey, Exmouth, Devon, exhibited four dozen cut blooms of Japanese and Incurved varieties in good condition. Sorts like Madame Carnot, Lady Northcote, Le Rhone, Jules Chretien, Mrs. Joseph Thompson, and Mrs. H. Broomhead were particularly commendable.

Mr. G. Wythes received a first prize for a neat little group of Chrysanthemums in pots. Plants of Fernand Ferol, Madame M. Fabre, Viviand Morel and Mrs. Holmes carrying a lot of flower. Messrs. H. Cannell & Sons, Swanley, Kent, staged a number of cut blooms of Chrysanthemums (chiefly of the Japanese section) in excellent conditions—blooms of Viviand Morel, Primrose League, Mrs. Libbie Allen, Niveus, Eda Prasse, Kentish Yellow, and the pretty anemone flowered John Bunyan being exceedingly fine, also a quantity of blooms of zonal winter flowering pelargoniums, tastefully arranged in bunches with cut fern. The pelargoniums made a practicularly bright display, such sorts as Albion, Lucrece, Anone, Duke of York and John Ruskin being very fine. For this extensive display Messrs. Cannell & Sons were awarded a Silver Gilt Banksian Medal. A Silver Banksian Medal for a first-class exhibit of cut blooms of Japanese Chrysanthemums was awarded to Mrs. Crawford, Gatton, Reigate (gardener Mr. Wm. Slowgrove). A dozen fine blooms of Thunberg Improved were very conspicuous here as were also blooms of Viviand Morel, Madame M. Hoste, Mrs. L. Allen, Robert Owen, John Shrimpton, Lord Brooke, Charles Davis, and Princess May.

A tasteful little group of neat little plants of Begonia John Heal, interspersed with small plants of Adiantum cuneatum in pots, exhibited by Messrs. J. Veitch & Sons, was thoroughly deserving of honourable mention. A magnificently-flowered collection of Cyclamens in pots was staged by the St. George's Nursery Co., Hanwell, W. The blooms, particularly of the white varieties, were of large size and produced in great profusion, while the plants themselves were, although strong and healthy, growing in large 48-sized pots (Silver Flora Medal). Another group of Cyclamens exhibited by Messrs. Hugh Low & Co., Bush Hill Park Nurseries, Enfield, was in very fine condition, and was awarded a Silver Banksian Medal. Mr. McLeod exhibited a splendid little group of stove, foliage, greenhouse flowering plants and Orchids. The plants, although of no great size, were very cleanly grown, and appeared to be in excellent health. Crotons and Dracaenas were exceptionally well coloured, several nice little pieces of Cypripedium insigne being very conspicuous, a fine plant of Dracaena Doucetta in the centre of the group displaying itself to great advantage (Silver-gilt Flora Medal).

The exhibit of fruit and vegetables were very few in numbers, although the quality of the material shown was excellent. A Silver Knightian Medal was awarded to the Duke of Rutland, Belvoir Castle, Grantham (gardener, Mr. W. H. Divers), for a nice collection of Pears, and the samples here shown of such varieties as Winter Nelis, Pitmaston Duchess, Catillac, Glou Morceau, Easter Beurré, Beurré Clairgeau, and General Todleben, were of a high standard of merit.

Messrs. Rivers & Sons exhibited three magnificent dishes of that fine Apple Cox's Orange Pippin, grown in the orchard house at Sawbridgeworth, for which a Cultural Commendation was given. Mr. J. Walker, 7, High Street, Thame, was awarded a Bronze Banksian Medal for a number of well-grown samples of Onions.

QUESTIONS AND ANSWERS.

NAMES OF FRUITS.—*S. J.* 6, Beurré Capiaumont; 7, Doyenné du Comice.

RATING GREENHOUSES.—*A. S.*: Though greenhouses are properly a nurseryman's plant, you will have to pay a little under Schedule A., but the amount is generally settled by a compromise with the Assessment Committee.

NAMES OF PLANTS.—*James L. Grant*: 1, Ruellia Portellae, a stove plant; 2, seems to be Podocarpus chinensis variegata, *W. W.*: 1, Sanseviera cylindrica; 2, Selaginella uncinata; 3, Adiantum hispidulum; 4, Saxifraga sarmentosa; 5, Polypodium aureum; 6, Adiantum cuneatum Legrandi. *G. R.*: 1, Cattleya maxima; 2, Oncidium varicosum Rogersi; 3, Dendrobium aqueum, usually called album. *A. L.*: 1, Pteris serrulata cristata; 2, Pteris cretica cristata.

FUCHSIA NOT THRIVING.—*Thomas Finch*: Fuchsias bought in the street have generally been grown under better conditions than can be given them in windows, especially if the latter are small and perhaps shaded with other houses or trees outside. Whether this is so or not, you have not informed us. But you will get better results next year by growing your plant from the first under the best conditions you can command. For instance, it must be near the glass, and the window should be partly opened on all favourable occasions to afford air; on the other hand, you may grow it on the window sill outside from the end of May onwards, and if it gets the morning or afternoon sun it should flower well. The fact that it was covered with aphides shows that it was in too close an atmosphere, probably without either sun or air.

PLANTS FOR A WINDOW.—*Thomas Finch*: There are various plants that may be grown with great satisfaction in a parlour window, but you do not state whether flowering or merely foliage plants would suit you best. We think you could not do better than get Aspidistra lurida or A. l. variegata having the leaves striped with creamy white. Another good thing is the India Rubber plant, and Arabia Sieboldi or its variegated form would all thrive and merely require sponging now and again to keep them clean. During severe frost, stand them on a table away from the window, putting them back to the light when the frost goes. Several of the ferns to be had, can be grown in a window, but they need syringing now and again to keep them clean.

COMMUNICATIONS RECEIVED.—A. H.—E. P.—G. P.—W. C.—X.—T. M.—Quercus.—W. B.—H. C.

LONDON SEED TRADE.

November 13th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk demand for White Clover at extreme prices. Present value show an advanced of fifteen shillings per cwt. since opening of season. Red Clover and Alsike steady. Rye grasses dull.

COVENT GARDEN MARKET.

November 14th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	22 6	25 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, hundle	2 0	4 0
Beans, French, per lb.	0 6	1 0	Lettnces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	6 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 6	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Ferns, small, per 100	3 0	6 0
—specimen plants, each	5 0	15 0	Foliage Plants, doz.	12 0	60 0
Cyperus .....per doz.	4 0	12 0	Heliotrope...per doz.	3 0	6 0
Chrysanthemums, per doz.	4 0	15 0	Marguerites, per doz.	6 0	12 0
Cyclamen, per doz....	9 0	22 0	Mignonette, per doz	6 0	0 0
Dracaena term., doz.	18 0	36 0	Palms in variety, each	2 6	10 0
Dracaena viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Erica Thymalis, per doz.....	12 0	18 0	Pelargoniums, scarlet per doz...	3 0	6 0
„ Gracilis per doz.	9 0	12 0	Primulas, per doz. ...	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Solanums, per doz. pots	10 0	12 0
Ferns, invar., per doz.	3 0	8 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arnm Lilies, 12 blms.	3 0	5 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Azalea.....doz. bchs.	6 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pink Roses...per doz.	2 0	4 0
Carnations...per doz.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Primula, double, bun.	0 6	0 9
„ doz. bunches	2 0	9 0	Roses .....doz. bchs.	6 0	12 0
Eucharis ...per doz.	2 6	4 0	Roses, yellow, dozen	2 0	4 0
Gardenias 12 blooms	2 0	4 0	— Red..... doz. blms.	1 0	1 6
Heliotropes, 12 sprays	0 6	0 9	— Tea ..... per dozen	0 6	2 0
Hyacinth (Roman) doz. bch.	10 0	12 0	Scarlet Geraniums, doz. bchs.	4 0	6 0
Lilac (French) per bch.	3 0	5 0	Tuberoses, per doz	0 4	0 6
Lilium Harrisii, doz. blooms	6 0	9 0	Violets (French) Parnu, per bch.	2 0	3 6
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) Czar, per bch.	1 3	2 0
Marguerites, 12 bun.	1 6	3 0	Violets (French) doz. bch.	1 0	1 6
Mignonette... 12 bun.	3 0	4 0	Violets (English) doz. bch.	1 0	2 0
Narciss (French) doz. bch.	2 0	4 0			

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FLOWER SHOW FIXTURES, 1894.

NOVEMBER.

20.—Helensburgh Chrysanthemum Show.
20, 21.—Woking and District Chrysanthemum Show.
20, 21.—Hanley Chrysanthemum Show.
20, 21.—Chester Paxton Society's Show of Chrysanthemums and Fruit.
20, 21.—Ripon Chrysanthemum and Fruit Show.
21.—Ayr Chrysanthemum Show.
21, 22.—Southwell Chrysanthemum Show.
21, 22.—Lichfield Chrysanthemum Show.
21, 22.—Newcastle-on-Tyne Chrysanthemum Show.
21, 22, 23.—Glasgow Chrysanthemum Show.
22.—Thame Chrysanthemum Show.
22.—Neath Chrysanthemum Show.
23, 24.—Chrysanthemum Show in the Town Hall, Manchester.
23, 24.—Stockport Chrysanthemum Show.
24.—Birstall Chrysanthemum Show.
24.—Dundee Chrysanthemum Show.

DECEMBER.

4, 5, 6.—N.C.S. at the Royal Aquarium.
11.—R.H.S., Drill Hall.

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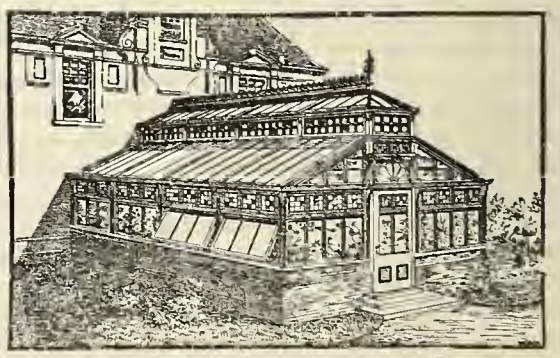
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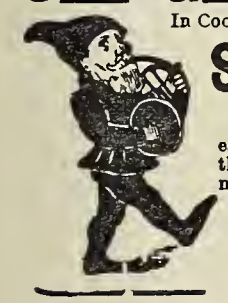

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For Index to Contents see page 206.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 26th.—Bulb and Plant Sale at Protheroe & Morris' Rooms.

TUESDAY, Nov. 27th.—Royal Horticultural Society. Meeting of Committees at 12 o'clock.

WEDNESDAY, Nov. 28th.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Nov. 29th.—National Chrysanthemum Society's Annual Dinner at Anderton's Hotel.

Sale of Greenhouse Plants at Protheroe & Morris' Rooms.

FRIDAY, Nov. 30th.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 24th, 1894.

A COMING FLOWER.—Since 1570, when Canna indica was first introduced from the West Indies, others have been introduced from time to time, and their cultivation has probably been more or less continuous since that date. Doubtless, however, they were grown by a few enthusiasts only for many years. Some ten or fourteen years ago an extensive collection of varieties was grown upon trial in the gardens of the Royal Horticultural Society, but they were all evidently intended as fine foliage plants for sub-tropical gardening, for which they were very suitable in park and garden where a sufficient amount of shelter could be afforded them to guard against boisterous weather and gales of wind, which were prejudicial to their well-being and detrimental to their freshness by tearing the leaves and making them ragged, as happens to Musas under the same conditions. The incitement or inducement to this kind of culture came doubtlessly from the eastern side of the Channel, where our French neighbours, enjoying a warmer and less fickle climate, found them serviceable adjuncts to other kinds of floral vegetation in their parks and gardens.

Since garden improvements upon existing species have been inaugurated, Cannas have acquired a new lease of life and progressive development, and it seems that in a few years they must assume a place of importance in our greenhouses and conservatories as flowering plants. Neither can the beauty and noble character of the foliage of well grown specimens be ignored, seeing that it varies from green to glaucous, coppery, bronzy, and purple. Another character of desirable modern improvements is dwarfness; for in pot cultures it is evident that a maximum of bloom for a minimum of foliage can be accommodated in any given space provided the stems are short (say 2 ft. to 3 ft.) and the flowers large. The inauguration of this new era for Cannas practically commenced when the variety Madame Crozy first made its appearance and excited the admiration of cultivators in various parts of the world. The large flowers are orange-vermilion, narrowly edged and speckled with gold. For several years past the observant could hardly fail to notice the ever increasing number of Cannas that is being brought before the public at exhibitions, Every year finds fresh admirers and levies new recruits for the contingent of cultivators.

If for a moment we reflect upon the lines along which the new improvements are being effected, it is evident that anything but general ideals of perfection at present would be premature or impossible of conception. Cannas are not yet regarded as florists' flowers, whatever they may be in the future. No rules are therefore laid down as to what shall be the paragon on which to model the fashion or form of the improvements. The possibilities and potentialities of the improvements to be effected in Cannas, may yet be only in embryo, and in such a case there is a brilliant future before them. It is well that all improvements yet to be made remain untrammelled by rules according to any fanciful ideal. The principal features that have excited the public admiration are the ever increasing size of the flowers, the widening of their segment (principally the petaloid stamens) and the brilliancy of the colours in many cases. The more important of these are the self or uniform hues, the edged and the spotted flowers. Besides the two latter types there are flowers of mixed colours, but they are less appreciated as a rule. Selfs are represented by Kaiser William II. (scarlet), Primrose (clear yellow), and others. Grandiflora picta is yellow spotted and striped with red, while Charles Henderson is rich crimson, pencilled with gold in the centre. Edged kinds are represented by Königin Charlotte (brilliant red with a broad golden edge) and Madame Bernard (orange-scarlet edged with gold). Madame Crozy on the other hand is vermilion, narrowly edged and speckled with gold, thus combining in itself two types. All these may be taken as an indication of the possibilities yet to be realised to a more and more excellent degree.

The amenities that recommend Cannas to the attention of the cultivator, are those already stated, besides their continuous blooming qualities and the fact that they can be successfully cultivated in greenhouses and conservatories, at least during the summer months, without any increase above the ordinary temperature. Every sucker produced, will, when strong enough, develop a spike or branching spike of flowers, and in order to promote this end, repotting and feeding must be resorted to after the primary stems have finished blooming. Now that dwarf varieties are being raised, Cannas will become more amenable for room decoration and as window plants than they have been in the past, for which their massive but neat foliage renders them highly suitable. The leaves could easily be washed by syringing and sponging when that becomes necessary as it is liable to do

in dwelling rooms. The roots are easily kept in winter in places where frost is merely excluded. Seedlings may be raised by those who have the command of a stove. The hard seeds should be steeped in tepid water for twenty-four hours previous to sowing to facilitate germination. But unless seeds from the very best strain are obtained, it is hardly worth the trouble and the space that would be occupied, except where large numbers are required for outdoor decoration. In view of the improvements already made, nothing worth houseroom could be expected from unimproved sorts already in cultivation. Seedlings that are dwarf the first year offer no guarantee that they will remain so permanently, and, therefore, all new varieties should be well proved in that respect before being sent out.

Royal Horticultural Society.—At the meeting of this Society, which will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday next, Mr. James Douglas will deliver a lecture on the "Principles of Judging at Flower Shows."

Mr. William Earp, who succeeded the late Mr. E. Cooper as gardener to the Right Hon. J. Chamberlain, M.P., at Highbury, Birmingham, leaves shortly to superintend the nursery business of Messrs. W. Earp & Son, White Cross Road, Hereford, in which firm he is now a partner. His successor has been engaged.

Roses and Rose Growing.—A lecture on this subject was delivered on the 16th inst, under the auspices of the Waterloo (Liverpool) Technical Instruction Committee, by Mr. R. G. Waterman of Woolton. The details dealt with comprised the most approved methods of culture of the Teas and Hybrid Perpetuals for the furnishing of the flower garden and for exhibition. There was a large and appreciative audience including many ladies, and after the lecture questions were asked and answered. The meeting closed with a cordial vote of thanks to the lecturer.

Extirpation of Moss in Old Pastures.—Mr. Elliot, of Clifton Park, Kelso, has communicated to the *Field* an important discovery in the management of grass land that cannot fail to be of interest to many of our readers. On a large proportion of the land laid down to permanent pasture, Moss makes its appearance in the fourth or fifth year, and the methods hitherto adopted for its eradication have been found more or less expensive, but the system adopted by Mr. Elliot is both cheap and effectual. It simply amounts to turning the stock off the pastures at the end of July for a month or so, in order to allow the grasses to seed, by which process the Moss is loosened and partly dragged out of the ground. Mr. Elliot has put the matter to the test. In the case of an experimental plot, now in its fifth year, he has found that a considerable proportion of the Moss has been raised several inches from the ground by the seeding grasses, and is hanging from the grass stems, which carried the Moss up with them as they grew, and that much of the remaining Moss is either lying loose on the ground or semi-detached from it. The surface of the plot, moreover, differs from the other ground around it by being in such a superior condition as to be very much better fitted for springing grass seeds.

Phenological Observations.—The Secretary of the Scientific Committee having received the Reports for 1891, 1892, and 1893, from the Royal Meteorological Society, gave some account of an examination of them at the last meeting of the Committee. The conclusion arrived at was, that the first flowering of plants being made by one set of observers, and the meteorological data, temperature, rainfall and sunshine (hygrometric data wanting), being supplied by other observers elsewhere, any accurate adjustments between the two, in order to trace out local causes and effects, was next to impossible. Again, although "the observers are required under the new regulations [of 1891] to note each year the flowering of the same individual trees and shrubs, and in the case of herbaceous plants those situated in the same spots" (*Report, &c.*, 1891), yet the observers have not recorded the surrounding conditions respectively to show how far they all agree in anyone of the "areas." The problem is thus further complicated, for a plant growing in a warm place may be greatly hastened in flowering as compared with one in a shady and cool place. Again, plant idiosyncracies vary greatly: thus, of two Horse Chestnuts, one frequently flowers as a regular feature before others growing side by side with it. Hence, without such and other additional data for strict comparisons, the really scientific value of phenological observations does not seem to be very pronounced. For horticultural purposes their value is practically none. As illustrations of the above remarks there are four stations at Salisbury. In 1891 the Coltsfoot flowered at these places from February 15th to March 7th, a range of three weeks; at two places at Clifton the Blackthorn flowered on April 26th aud May 5th respectively, but there is no clue whereby one can trace the causes of these and other similar differences.

Harrisons' Royal Midland Vegetable and Farm Root Show.—This annual show, promoted by Messrs. Harrison and Sons, Seed Merchants, Leicester, was held in the Market Hall on the 14th inst., and brought together some very fine specimens of vegetable and farm root crops. The use of two bays of the Market Hall had been obtained for the purposes of the show, and this allowed the exhibits to be staged to much greater advantage than has been the case in previous years. There were 138 exhibitors, many of them showing in several classes, and generally, the vegetables were of a highly creditable character, though the Celery classes fell behind last year in point of quality, on account of the season not being favourable. The remaining classes fully maintained the average of past years. Carrots were extraordinary good quality, while there were some excellent exhibits in potatos, leeks, onions, parsnips, cauliflowers, and savoys. The following statistics as to the number of exhibits and the weight and size of some of the chief of them will convey some idea of the quality of these classes: —Potatos, forty exhibits, weights, kidneys $1\frac{3}{4}$ lb., and round and oval $2\frac{1}{2}$ lb.; carrots, thirty-five exhibits; celery, twenty exhibits; leeks, fourteen exhibits, some weighing over 2 lbs., and 7 in. in circumference; parsnips, twenty-five exhibits, weight $4\frac{1}{2}$ lbs., and measuring 24 in. long, with 17 in. circumference; globe onions, weighing $1\frac{3}{4}$ lbs., and 15 in. round.

Shirley Gardeners' and Amateurs' Association.—At the monthly held at Shirley, Southampton on Monday the 19th inst., the President, Mr. W. F. G. Spranger presiding. The lecture was under the auspices of the Hampshire County Council, and the lecturer, Mr. C. W. Herbert Greaves gave an interesting discourse on "Some Insect Pests and Fungi." The Potato Fungus came in for a large share of his attention, and by the aid of numerous diagrams, he illustrated the life history of this scourge. The remedies he recommended were syringing with Sulphate of Copper, burning all haulm and weeds, some of which latter were susceptible to the disease, the rotation of crops, and the selection of disease resisting varieties when planting. The Onion Fungus was also described, but the lecturer said a remedy was not yet known to science for it. Clubling was illustrated by diagrams, the use of Gas Lime being described as a good remedy for some soils, but the lecturer recommended that crops liable to club should not be planted in the same ground for five or six years. Many interesting question were put to the lecturer and satisfactorily answered. One gentleman in complimenting the lecturer on the accuracy of his diagrams, &c., expressed an opinion that the potato disease was due largely to an error in our method of cultivating the plant from tubers or sets continously, they ought more often to be raised from seeds than they are. Votes of thanks to the lecturer and the chairman concluded the meeting. A paper on the "Cultivation of the Eucharis," will be given next month by Mr. Jesse Jones, The Gardens Terrace House, Southampton.

National Chrysanthemum Society.—At a meeting of the General Committee held on Monday evening, Mr. R. Ballantine presiding, it was decided to hold the Society's exhibitions next year at the Royal Aquarium on October 8th, 9th, and 10th, November 5th, 6th, and 7th, and December 3rd, 4th, and 5th, and the preparation of the Schedule will be taken in hand at once. Eighteen new members were elected and the Banbury Horticultural Society, and the South Australia Gardeners' Society were admitted into affiliation. The Secretary of the last-named Society writing from Adelaide on October 15th, says:—At a meeting held recently of this society a resolution was passed affirming the desirability of seeking affiliation with the National Chrysanthemum Society of England, so as to be in touch with the advanced work in connection with this popular flower. Our Society has been in existence for over twenty years and has for its oblects "The furtherance of Horticulture and Floriculture in all branches by means of reading papers, discussions on the same, exhibitions of flowers, fruits, vegetables, &c., and the formation of a library of leading periodicals, and works of botanical and gardening interest." We have many enthusiastic cultivators of Chrysanthemums amongst our members, and our fine mild climate enables us to produce blooms of most varieties which many persons who claim to be competent to judge, consider equal to those grown in any part of the old world—of course these are grown under canvas awnings for exhibition. We have also a few enthusiastic hybridisers here, and the results thus far give them hope of greater success in the near future."

A Chrysanthemum Show in the City.—It is a good many years ago since a Chrysanthemum show was held in the Guildhall of the City of London, and owing to altered regulations made to meet the needs of the times, the prospect of seeing another show of our Winter Queen under the same roof seemed very remote indeed. But there are some enthusiastic amateur Chrysanthemum growers holding various offices under the Corporation, who, believing in the old adage that where there is a will there is a way, have banded themselves together under the energetic leadership of Mr. Deputy Rogers, to institute an annual exhibition, which is to be confined to members of the Corporation and their friends. As an evidence of their earnestness in the matter, a very interesting little show was organised in one of the Committee rooms on Thursday of last week, and Mr. Deputy Rogers and his friends must have been delighted with the result of their efforts, which afforded so much pleasure to the great number of Corporation officials and members of the Common Council who passed through the room during the day, and gave so much promise of future support and interest in the movement. The competition, for a start, was, of course, not extensive, but abundant evidence was forthcoming to show that with a more extended programme and longer notice given, the gentlemen of the Corporation will have a show another year that will hold its own among our numerous festivals held in honour of the Golden Flower. The most successful competitors on this occasion were Mr. Deputy Rogers, Mrs. Rogers (first with a charming vase of Chrysanthemums and coloured foliage), Mr. R. L. Collier, C.C., Mr. Deputy Gover, Mr. C. Bayer, Mr. C. C. Black, and Mr. J. Lake; and Mr. Bayer further added to the interest of the display by contributing from his vineries at Tewkesbury Lodge, Forest Hill, some bunches of Muscat of Alexandria, Gros Colmar and Barbarrosa Grapes that would have taken high honours anywhere.

Devon and Exeter Gardeners' Association.—At the meeting of this Association held on the 14th inst., Mr. T. E. Bartlett read an interesting paper on "Hardy Flowering Trees and Shrubs." He said that almost every garden, no matter what its pretensions, had a shrubbery, and usually this was the most interesting feature of the place. For in a well managed shrubbery there always seemed to be something fresh, some object of interest one had not noticed before. By judicious planting, a good supply of flowers might be had during the whole of the year; there need not be a day but what something was in flower. But he was sorry to say some of our shrubberies are more of the character of dreary wildernesses during the short days of winter; when by reason of the dulness of the average winter day every effort should be made to make the garden as bright and cheerful as possible. As year succeeded year an enormous number of new flowering trees and shrubs were introduced to notice, and a good many old and almost forgotten kinds were rescued from an undeserved oblivion. And these tend to swell the list to such formidable extent that one scarcely knew where to begin. In his paper he

decided to make no mention of trailing shrubs and those which must be grown as wall plants; that section of the subject being sufficiently numerous to require an evening to themselves. The paper was divided into four parts, spring, summer, autumn, and winter. For winter the best shrubs and flowers were the Laurustinus, a shrub (known to botanists as Viburnum Tinus), and another shrub is the native Furze, and known to Devonshire as "Vuz." Ulex Europaeus flore pleno, a double-flowered gorse, was a very pretty plant for winter; when out in full bloom its masses of golden flowers completely covered the plant. The Cornelian Cherry was a pretty flower which bloomed in February; it was a small tree about 13 ft. in height, and bore a profusion of bright yellow flowers. Erica carnea was another flower which was not nearly so well known as perhaps it ought to be. The flower was a red one and flowered early in January and frequently in December. The Daphne was a shrub, and gave sweetly-scented flowers from January to July. D. Mezereum was probably the best known and most popular. The flowers came early in February, and varied in colour from pinky-white to red. D. Laureola, the Spurge Laurel, gave a greenish-yellow flower in January. Mr. Bartlett also referred to numerous other plants, giving valuable particulars with regard to each. At the close of his paper he was heartily thanked.

WAYSIDE IRELAND.*

Our enthusiastic Daffodil friend at Cork, Mr. William Baylor Ireland, in company with his son, took a holiday in September last, leaving the "City by the Lee" on the 10th of that month, and has just published in a pamphlet of sixty pages his impressions of what he saw on the tour through the south-western part of the Emerald Isle, including Connemara and Achil Island. The two latter places are extremely interesting on account of the primitive condition in which they still remain, notwithstanding their beauty and natural advantages.

The peasantry engrossed Mr. Hartland's attention most largely, but we should have liked if he had been more free with his descriptions of the natural features of the country, the possibilities of agriculture, and the beauties of the wayside flora. It is true that he gives a list of the rare plants to be found in that part of the country, and which would be an interesting guide to the botanist who had time to go in search of the same; but for visitors and tourists generally a description or frequent mention of the more showy members of which he was an actual eye-witness would have been more calculated to attract tourists to that distant and beautiful part of the country. Agriculture does not seem to have improved during the last thousand years in certain districts. Turnip and Mangel seeds are bought in penny and twopenny worths to sow small patches, while the cattle feed upon the mountains, thus robbing the cultivated land of manure. Peat turves are put on the top of the chimneys to hinder the escape of the smoke so that the turves may get impregnated with soot and so constitute manure for the plots. We hope this is either exaggerated or not general, even in the poorer districts.

The parson's garden at a certain place near Letterfrack Bay, as is usually the case in rural districts, was like an oasis in the desert with red Fuchsias, torch plants, Dahlias, etc. Fuchsia Ricartoni has run perfectly wild in several places in the West of Ireland, and if Mr. Hartland had attributed its dispersal to the agency of birds we should have believed him, but we turn sceptical when he speaks of the seeds of Rhododendrons, Ash, Oak, and Birch being dispersed by the wayside and over the mountains through the agency of birds. The Aster maritimus mentioned should have been A. tripolium, even although the former name is very appropriate to the only native Aster we possess. Agriculture, even if it deserved the name of allotment gardening, is very primitive on Achil Island, as all the work is done by the women who use spades, shovels, and rakes instead of ploughs, cultivators, and harrows for the cropping of the land, while manure and other things are carried in panniers slung over the backs of small horses. Potatos are grown on the old lazy bed system, while Rye, Turnips, Mangels, and possibly Oats are grown in small plots. The Letterfrack Industrial School sets a bad example in cultural matters, yet Mr. Hartland thinks a big State Agricultural School on Achil would be productive of great reform in teaching the craft and practice of agriculture.

* Wayside Ireland, its Scenery, Agriculture, and Peasantry; A Trip from Cork, through Connemara, Achil Island, etc.

GRAPES FROM CANADA.

We have recently had our attention called to a very interesting consignment of Grapes received in Liverpool from Canada. The consignment consisted of two baskets sent by Mr. Lowe, Deputy Minister of Agriculture at Ottawa, to Mr. Ennis, Manager of the Allan Steamship Co., Liverpool, and were dispatched by steamer from Montreal on October 13th. They reached Liverpool on the 23rd of the same month, and when opened were found to be in perfect condition, well coloured, sweet, and for open-air grown fruit both tempting in flavour and attractive in appearance; at least such was the condition of the sample we saw in London several days after its arrival in Liverpool, and we are assured that all were alike. The consignor, it seems, has experimented before in sending Grapes from Canada to this country, but made the mistake of packing the bunches in cork dust, which destroyed the flavour. Those we saw had simply been put carefully into ordinary fruit baskets as the bunches were cut off the vines and protected by having a piece of cloth sown over the top of the basket, and in this way they certainly travelled admirably. There appeared to be some half dozen sorts in the basket, but the major portion consisted of the variety known as the Salem, a brownish-looking Grape with a thickish skin, which seemed to us to be the sort most worthy of attention as a shipping Grape.

Writing to Mr. Ennis on October 12th, Mr. Lowe remarked that the Grapes in Canada at that time were good and the flavour as fine, he thought, as could be obtained from any Grapes. Experts, who have seen Grapes in all four quarters of the globe, also state that Canadian grown fruit is amongst the finest they have seen; and, indeed, there can be no doubt, the climatic conditions of Canada are eminently favourable to the development of high-class quality. Grape culture in Canada is, we understand, already a considerable industry, and has made a fairly rapid growth. The Government statistician of the Department has shown that while the imports of Grapes in 1881 amounted to 3,697.555 lbs., and the weight of home-grown fruit was 424,848 lbs., in 1891 the imports had fallen to 1,081,792 lbs., and the home growth had increased to 12,252,331 lbs.—over twelve and a quarter million pounds of Grapes in one year; and it is possible that the yearly increase since has been in a proportionate ratio. If, as it is believed, such Grapes as we saw can be grown in Canada as a paying farm crop at a penny per pound, and they can be shipped here in such condition as we have seen them, then, undoubtedly, a considerable trade in them is certain to be developed in the near future, and our growers of cheap Grapes would do well to look to the prospect ahead.

GARDENERS' MUTUAL IMPROVEMENT SOCIETIES.

In the highly interesting and exceedingly instructive article upon the above subject, appearing upon page 164 of the last issue of the Gardening World, for which we are indebted to C. B. G., some very pertinent and suggestive remarks have been given to the public. The idea that he there puts forward, viz., that of asking questions at one meeting to be answered and discussed at a subsequent gathering is to me a new one. However, I am open to confess that it is a thoroughly good method of procedure, and one that is certainly fraught to a very large extent with possibilities for good.

With regard to impromptu discussion I certainly did not advocate it as a perfect plan of working, I merely threw out the suggestion as an idea, the adoption of which I have seen attended with great success at the meetings of various improvement societies. As I have before remarked there is often a good deal of sameness in the programmes of associations of this kind, and, therefore, a little break in the monotony of the proceedings, a slight alteration in the bill of fare if you like, often proves of the greatest service in the infusing of new life among, and the imparting of an increased stock of enthusiasm to, the members. I also advocated this system as being eminently calculated to bring actively into play any readiness in public speaking that any of the members may possess.

Doubtless, the system has its disadvantages, but at the same time I think C. B. G. will admit that it has its advantages also. The point he particularly urges in its disfavour is, in my humble opinion, just a little beside the mark. He states that nothing is to be gained by discussing subjects which one knows nothing about. This is perfectly true! But might not the subjects so debated upon be closely related to the practical side of gardening, and as such quite within the range of ordinary gardeners to intelligently and advantageously discuss. In such cases the opportunities of comparing practice with practice are quite as numerous as those which result from the reading of an essay. On such occasions as these various small topics of interest can be easily brought upon the tapis and threshed out. However much we may differ upon the question as to which is the best and most advantageous way of eliciting information, and of both gaining and imparting knowledge, C. B. G. and myself are thoroughly at one about the aim and object of these and kindred associations, viz., that of supplying accurate information to enquiring minds.

With regard to the selfish motive entering so largely into the reasons for the willingness of many people to read a paper before the Society when asked to do so, C. B. G. thinks I am a little ungenerous in making such a statement. Of course, as he anticipates me by saying I did not mean to generalise and I certainly did not intend to convey the idea that the selfish motive was always the most prominent one. Men who are able and willing to oblige the society by the reading of papers on suitable subjects are certainly great acquisitions, and as he rightly says, there are many secretaries of similar associations that would be only too glad to be able to lay their hands upon such men and to enlist their services as essayists to enable them to produce a tempting and instructive annual programme. Accordingly, we should not detract one iota from the tribute of thanks due to such men for their painstaking exertions. However, as far as my personal experience goes, the selfish idea of "how much good shall I do myself" does enter very largely in many instances into the calculations of many writers of papers, and I doubt not that the experiences of many more habitues of meetings of Gardeners' Mutual Improvement Associations will, if carefully analysed, fully bear out what I have said in this respect.—*G.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The Orchids described hereunder were certificated according to merit by the Royal Horticultural Society on the 13th inst.:—

Odontoglossum crispum Frantz Masereel, *Nov. var.*—The sepals of this very striking variety are heavily blotched with velvety-crimson-chocolate on a white ground. The petals are slightly ragged or cut at the edges and similarly coloured. The lip, on the contrary, is marked with fewer and smaller blotches. The cut flowers exhibited by MM. Vervaet & Cie, Mont St. Amand, Ghent, were moderate in size, but handsome. First-class Certificate.

Cypripedium Cyris, *Nov. hyb.*—The parents of this hybrid were C. villosum Boxalli atratum and C. Argus, the latter being the pollen bearer, and has influenced the progeny to a large extent. The upper sepal is large, white, shaded with green and heavily blotched with dark markings. The petals are somewhat deflexed and, if anything, more brightly marked. The distinctive feature of the spotting is due to C. Argus. The dull green lip is heavily suffused with brown. First-class Certificate. Exhibited by Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne.

Cattleya Fabia, *Nov. hyb.*—This is the product of C. labiata crossed with the pollen of C. Dowiana. The leaves are oblong and red beneath, whether the colour may be permanent or not. The sepals are lilac and the elliptic, slightly wavy petals a shade darker. The outer face of the tube of the lip is deep purple, while the lamina is of a rich dark purple of another shade with a lilac or nearly white edge. The tube internally is orange, striped with purple. Award of Merit. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Epilaelia Hardyana, *Nov. hyb. bigen.*—The parent of this bigeneric hybrid was Laelia anceps and the pollen bearer Epidendrum ciliare. The pseudo-bulbs at present are 3 in. to 6 in. long and bear two leaves at the apex. The sepals and petals are linear-oblong and palest pink or tinted with buff

at certain stages. The tube of the lip is similar in colour, but the small lamina is of a rich purple more or less shaded with crimson; the side lobes are triangular, elongate, and tipped with purple. Award of Merit. Exhibited by Messrs. F. Sander & Co., St. Albans.

Dendrobium platycaulis, *Nov. sp.*—The stems of this Dendrobium are 3 in. to 6 in. long as a rule, and very much flattened, reminding one of a Phyllocactus, except that the pale greenish-yellow hue and the presence of leaves in the younger stages constitute obvious differences. The small white flowers are borne in short racemes from near the top of the stems. Botanical Certificate. Exhibited by Messrs. F. Sander & Co.

Cattleya labiata R. I. Measure's var, *Nov. var.*—The sepals and petals of this beautiful variety are pure white, as is the greater part of the lip; the lamina of the latter is beautifully lined with rosy veins and suffused with a similar, but paler hue. The throat and interior of the tube, on the contrary, is pale yellow. Notwithstanding the endless variety to be met with amongst importations of the species, the variety under notice is chaste, distinct, and beautiful. Award of Merit. Exhibited by R. I. Measures, Esq. (gardener, Mr. Hy. Chapman), Cambridge Lodge, Camberwell.

Cypripedium insigne Ernestii, *Nov. var.*—Though not flowering for the first time, it is as recent an importation as to be practically considered new for horticultural purposes. The upper sepal is pale apple-green on the lower half, and the rest white, with exception of a faint trace of the purple spotting as seen in C. i. Maulei. The petals are pale greenish-yellow and entirely without spots. The lip is of a clear, shining bright yellow, without a trace of brown. The nearest affinity with this variety is C. i. Sanderae, but the colouring of the upper sepal will distinguish it easily. Award of Merit. Exhibited by R. I. Measures, Esq.

Cymbidium cyperifolium.—This species was originally described by Wallich and is a native of the Himalayas The leathery, dark green channelled leaves are 2 ft. to 3 ft. long, ¼ in. to ⅓ in. wide, and resemble those of a sedge, thus suggesting the name. The scapes bear six or more flowers of medium size for the genus. The long narrow sepals are greenish and lined with purple on the face. The petals are falcate, narrower, and striped in the same way. The side lobes of the lips are white striped with crimson; and the lamina has spots round the sides with a curious, almost T-shaped mark down the middle, The two ridges forming the crest are also spotted with crimson. Award of Merit. Exhibited by R. I. Measures, Esq.

Dendrobium Phalaenopsis Schroderianum highburyense. *Nov. var.*—The sepals of this beautiful variety are pink, but the petals are deep purple. The lamina of the lip is of a darker shade of purple and the basal portion deepens to rich crimson. Award of Merit. Exhibited by the Right Hon. J. Chamberlain, M.P. (gardener Mr. H. A. Burberry), Highbury, Birmingham.

Catasetum Bungerothii O'Brienianum, *Nov. var.*—The flowers of this variety as exhibited by MM. Linden, Parc Leopold, Brussels, are very fleshy and less expanded than in the typical C. Bungerothii. The sepals and petals are green externally, rosy purple internally and mottled or spotted with a pale, nearly white hue. The lip is creamy yellow and finely toothed at the edges. There were five flowers on a spike. Award of Merit.

Catasetum Bungerothii Lindeni, *Nov. var.*—The sepals and petals are rosy purple on both sides and marbled or spotted with white. The lip is clear yellow, but rosy along the basal edge, and spotted there as well as having a few purple spots near the apex; the spur is green inside. Award of Merit. Exhibited by MM. Linden,

Catasetum Bungerothii aurantiacum, *Nov. var.*—The sepal and petals in this case are of a soft primrose yellow. The lip on the contrary is bright yellow deepening to orange round the mouth of the spur. Like the two previous ones, it is remarkably distinct and gives greatly increased interest to a type which has hitherto been remarkably constant in colour. Award of Merit. Exhibited by MM. Linden.

Cattleya labiata elegans, *Nov. var.*—The sepals and broad petals of this variety are white. The tube of the lip is white, tinted with pale lilac; the lamina on the contrary is violet-purple with a white edge, and the tube internally is closely lined with purple and white. Award of Merit. Exhibited by E. Ashworth, Esq., (gardener Mr. H. Holbrook), Harefield, Hall, Wilmslow, Cheshire.

Sacycolabium bigibbum.—The short stems of this species bear a few linear-oblong leaves. The flowers are similar in structure to those of S. bellinum, but are smaller and paler in colour, and if anything they are produced in larger corymbs on the same arrangement as those of that species. The sepals, petals and spur are pale yellow and marked with pale red. The lip has relatively large and sac-like spur, while the lamina is white, spotted with red and ciliated at the margin. Botanical Certificate. A well-flowered plant was shown by H. Grinling, Esq. (gardener Mr. W. Rapley), Harrow Weald House, Stanmore.

Oncidium Wheatleyanum.—The sepals and petals of this Oncidium are of a bright Chestnut or reddish-brown and contrast with the large lip which is rendered conspicuous by its bright yellow colour. Award of Merit. Exhibited by F. Wheatley, Esq.

THE PLANT HOUSES.

The Stove.

ALTHOUGH the greater part of stove plants are growing more or less the whole year round, at this particular season vegetable life with us is at its lowest ebb, and in very many cases plants start away again at the turn of the year with all the greater vigour for the few weeks partial rest. With few exceptions nothing should be done to unduly excite root action, for growth made during this part of the year is always more or less weak and spindly. The careful management of the water-pot among stove plants during the dull, damp months is the key-note to success in their cultivation.

Advantage should be taken of the present time to wage a consistent and thorough warfare against insect pests, with a view to their total eradication. To start the year with a clean bill of health is a most important consideration for it often happens that from press of work insect pests are at other seasons allowed far too much scope for activity. Keep the air as sweet as possible, and avoid anything like a stuffy and confined atmosphere. A minimum night temperature of 60° Fahr., as recommended in the last calendar, will be amply sufficient for the present. During sharp frosty weather a covering of tiffany or frigi-domo may be given the house. This will assist to keep up the required temperature without the necessity for such hard firing.

ARDISIAS.—These beautiful plants are of the greatest service, possessing as they do such high decorative value. A. crenulata is the one most frequently met with, and when well berried is an exceedingly ornamental plant, and a favourite and conspicuous occupant of our stoves.

Another exceedingly bright and useful little plant is Rivinia humilis, the bright scarlet berries of which give the plant an exceedingly attractive appearance. Both it and R. laevis, which differs from it in being perfectly smooth and not hairy as is the former, are very easy to grow. A pinch of seed sown in a shallow pan will give an abundance of plants for all purposes, indeed, the seeds germinate very readily wherever they fall, and a sufficient stock of plants can usually be procured from these chance seedlings.

Billbergias, Aechmeas, and other Bromeliaceous plants will need to have a sharp eye kept upon them, for moisture is sure to collect in the crowns, and unless this is removed harm will be done to the young leaves, as the continual presence of moisture at this time of the year is almost sure to cause them to rot.

Greenhouse and Cool Conservatory.

A FAIRLY gay appearance should now obtain in this department, to which the queen of autumn, the Chrysanthemum, will be far and away the largest contributor. Such plants as Peristrophe speciosa, Salvias of sorts, Cyclamens, Epacrises, etc., should also be affording a brave show. Continue to remove all blooms which are past their beauty, as well as to keep a sharp look out for damping among those left.

ERICAS.—Mildew will often cause trouble among the young growths of these fine hard-wooded subjects, and steps should therefore be taken to deal with it as soon as its presence is observed or damage will undoubtedly be done. A pinch of sulphur scattered over the affected parts will considerably check its advances.

CAMELLIAS that are planted out in beds or borders, or large specimen plants in pots or tubs, which are well nigh fixtures from their great weight and size should be looked over and the leaves sponged as soon as possible. This is an operation that requires considerable caution and a great deal of care, for the buds are very easily knocked off. But it is quite necessary that the leaves should be cleaned, as nothing detracts more from the beauty of the flowers than to see leaves thickly covered over with the black glutinous substance so often seen upon Camellias. Roman Hyacinths and the early Paper White Narcissi which are in bloom should be neatly staked, taking care that the stakes used are as neat and light as possible.

Pits and Frames.

THE forcing of Roses, Lilacs, Deutzias, &c., as well as of the bulbous subjects will now be in full swing. No time should be lost in introducing a batch of Tulips into heat. The Duc Van Thol varieties bear forcing as well as any, still care should be taken that both these and the Narcissi are not subjected to too hard forcing or the flowers will be poor and of a very flimsy character. All bulbs that are being forced should not be kept in heat a moment longer than is absolutely necessary, but should be moved into a cooler temperature as soon as the flowers have commenced to open, otherwise the blooms will not last for any length of time.

CINERARIAS.—It will no longer be safe to leave these in cold frames, or in the event of a spell of sharp weather they will be very liable to take harm. They should therefore be placed near the glass in a house or pit where artificial heat can be applied if necessary. Cinerarias, however, have a great dislike to fire heat, and therefore it should be but sparingly used.

BEDDING PLANTS.—Rooted cuttings of these should be occasionally looked over and all dead leaves removed. This must, however, be carefully performed, as undue disturbance of the plants would be attended with fatal results.

CHRYSANTHEMUMS.—No time should be lost in commencing to take cuttings, if the plants are required to produce large blooms for show purposes, as some kinds are very much shyer than others in throwing up nice cuttings. Indeed it is often a matter of great difficulty to obtain a sufficient number, so sparingly are the cuttings produced. If obtainable, suckers with a few roots attached springing from near the surface are the best. These "Irishmen's cuttings" should be inserted singly in thumb pots, and placed near the glass in a cold frame, where they will readily form strong and healthy plants. Attention must be paid to the ventilation of the frame or the young cuttings will be very liable to damp.

During favourable weather all cold frames should be aired freely, the covering of course being removed the first thing in the morning in the absence of frost, or as soon as the mercury has risen above freezing point, in the event of its occurrence. All coverings whether consisting of Russian mats, tiffany or tarpaulin should be kept as dry as possible for it should be remembered that covering will exclude at least fifty per cent more frost when it is dry than it will when in a saturated condition. All protective material should therefore be spread out to dry whenever a favourable opportunity occurs, and not, as is frequently the case, simply rolled up in the morning and thrown aside until it is needed again.

THE ORCHID HOUSES.

LAELIA AUTUMNALIS.—This showy Mexican Orchid, now opening its flowers, requires an intermediate temperature to do it well, and when there is a division set apart for the Mexican Laelias its culture is very simple. But when such a house does not exist, as is the case with us, it is not one of the easiest to manage. The Cattleya house seems to be a bit too warm for them, and the cool house too shady, but by suspending them close to the glass over the Odontoglossums during the summer months (where they remain until the end of October), and

returning them to the Cattleya house to flower, we have no difficulty in growing and flowering them well. They are best grown in shallow pans or baskets, as they require but a small amount of material about their roots. This, however, should be of the best, and be removed every season just as they begin to grow. They do not like being much disturbed at the roots, so that extra care should be taken with them when the work is done. There are several varieties, but the type has flower scapes about a foot long, with six or seven flowers, and is not such a strong grower as the variety known as Atrorubens, which is in every respect superior when in bloom, but I hardly think it is so free in flowering as the type.

LAELIA ALBIDA.—This sweet-scented little gem is generally considered to do best when grown cool, but treated in the same way as L. Autumnalis, it does much better, making larger bulbs and producing more blooms to a spike. Like the preceding Laelia it does best with very little material about the roots. Some growers recommend bare blocks, but we find they require a little material to root in if they are to be kept in good condition for long.

LAELIA ACUMINATA ROSEA.—Another pretty little Laelia rarely met with now that requires the same kind of treatment is L. acuminata rosea. It certainly cannot compare with some of the larger flowered kinds, but flowering as it does during the winter months it is not to be despised.

LAELIA MAJALIS.—This is a very beautiful Orchid when in bloom, but it has a will of its own, and under seemingly the best of treatment refuses to flower. It requires a very long season of rest. The best place for the plants when at rest is, we think, a cool vinery or greenhouse, where they get any amount of light and air. When in the springtime they show signs of starting into growth they should be put into heat, still keeping them as much up to the light as possible. When growing they will take any amount of moisture at the root. This, with the necessary amount of heat, insures a quick growth, and most likely bloom, which comes up with the young growths. Blocks or small baskets suit them best, with very little peat and moss about their roots.—*C.*

THE KITCHEN GARDEN.

Preparing for Winter.

OWING to the excessive amount of rain during the last fortnight, the ground has got thoroughly saturated, especially where the soil is at all retentive, so that very little can be done on the land while in that condition. The first favourable opportunity, however, should be taken advantage of to earth up the late Celery and so secure it from frost, in case severe weather should set in. Have sticks got ready and bent over the Lettuce beds where the plants are ready for use so that they may be readily covered with mats should frost visit us suddenly. Endive, too, will need protecting in the same manner. Where there are any spare lights, these may be used for this purpose, or the plants may be lifted and transferred to cold frames. Look over all Broccoli and Cauliflower and instead of bending the leaves over any that are turning in, bring all together and tie them at the top as this will protect the hearts much better than by any other plan. Parsley should also be transplanted into cold frames to give a supply during severe weather as more plants are killed through removing the snow from them to gather the leaves while frozen than by the severity of the weather.

Globe Artichokes.

THESE should be looked to and plenty of litter put round the roots to keep away the frost, but do not cover the foliage unless the weather is severe, then a little litter may be put over each root. It is a good plan where space can be afforded under glass to take off some of the smallest suckers and pot them up to give an early supply of heads. The soil should be removed from round the old stools for this purpose in order that those proceeding from the base of the roots may be taken off, as such produce the finest heads. Take up a quantity of Jerusalem Artichokes and store them away in a cool place out of the reach of frost. Cover Asparagus beds with short manure, and those intended for lifting should have some litter spread over them to keep away the frost in order that they may be lifted when required for use. Lift a supply of Rhubarb roots when the weather is favourable and pack them close together, afterwards covering with rough litter of some kind to keep them safe till wanted for the forcing house. Seakale may also be lifted so soon as the leaves have fallen and laid in close together at the back of a north wall. If covered, they may be drawn from as required. A portion, however, should be left in the open ground till February, if lifted then and taken to a cool cellar these will come on gradually and give a supply after all the other is over. Take up and store in sand a supply of Horse Radish. Scorzonera, Salsafy, Chicory and Dandelion, also turnip rooted Celery.

Hotbeds.

WITH so many fallen leaves it will not be difficult to make up these as required, the wet, however will cause them to rot much quicker than if put together when dry. Particular care must be exercised in making the beds, as a too violent heat would soon spoil the plants put into them. Better wait a few days till the heat has gone down a little, than to have the roots scorched.

Mushroom House.

CONTINUE to collect droppings and prepare them ready for forming beds as the others get exhausted. At this time of the year it will be necessary to make the beds a little thicker, so that they may retain the heat longer. Avoid using fire heat as long as possible, as too much of this has a tendency to cause the Mushrooms to be thin. If the temperature of the house can be kept up to 55° without the aid of fire heat, this will be quite warm enough. Should the wind blow from the direction in which the door is situated do not open it more than is actually necessary, as this has a tendency to lower the temperature of the house.

General Work.

WHENEVER the ground is firm take advantage of this to wheel on manure so that it may be spread over the surface. The heavy rains will then wash the properties into the soil, thus causing it to be more fertile to a greater depth. All vacant ground should be trenched two spits deep, where the soil is of sufficient thickness to afford it. If after the first spit has been turned over, the other is found to be too poor, this should be loosened and left in the bottom of the trench. It is very bad practice to bring up the poor soil to the surface, particularly where it is intended to sow small seeds, as these cannot draw sufficient nourishment from it to cause them to grow away quickly in which case they are more subject to the attacks of the various enemies all vegetable crops are subject to. When digging two spits deep, that turned into the bottom of the trench should be broken up fine, and that which is brought to the surface be allowed to remain as rough as possible in order that a greater surface may be exposed to the action of the weather.—*Kitchen Gardener.*

Gleanings from the World of Science.

A New Species of Scurvy Grass.—Notwithstanding the ever increasing diligence of British botanists, it rarely happens nowadays that any new species is discovered, whether common to the Continental flora, or otherwise. The glens and mountains have doubtless been well ransacked from time to time. Mr. Marshall comes forward, however, in the *Journal of Botany* with Cochlearia micacea, which he describes as a species of Scurvy Grass new to science. It was discovered upon Ben Lawers, notwithstanding the fact the mountain has been the happy hunting ground to botanists for many years past. We hope that the discovery is genuine and not likely to fade into thin vapour like the mist upon the same hunting ground, like so many of the reputed discoveries of the energetic botanist Don, and which no succeeding traveller or plant collector on the same ground has ever been able to confirm, far less to corroborate. The testimony of books shows that the British botanists of a bygone age were not very particular about the genuine character of their finds, and possibly some of them planted the reputed finds, and certainly a larger number of them sowed seeds, some of which got established for a number of years at least. This is hardly as genuine, however, as the records and descriptions of waifs, strays, escapes from cultivation, and other subjects, that occasionally obtain a more or less firm footing upon the British Islands, for such plants are really fairly numerous and their arrivals in many cases difficult to trace. The Scurvy Grass that is new to science must, however, be genuine, provided it has valid characters by which it may be distinguished from native forms.

Seeds Refusing to Germinate.—Professor Somerville after visiting the Botanical Laboratory at Tharandt, and conversing with the director Herr Nohbe, speaks of certain seeds which have retained their germinating power for a period of twenty years, although they refused to germinate previous to that when put under what appeared to be favourable conditions. The kinds which behave in this way belong to the leguminous family, and include Lucerne (Medicago sativa), Sainfoin (Onobrychis sativa), and Clover. The first has a pod which is coiled up after the manner of a snail, and never opens to liberate the seeds, which can germinate only if moisture can penetrate or rot the pod. The moisture has to penetrate two coats, namely, the pod and the skin of the seed, before reaching the embryo so as to excite germination. The pod of Sainfoin is jointed, each joint containing a single seed, and is thick and corky, so that when it has once dried up moisture would often have great difficulty in penetrating it. Clover to some extent resembles Lucerne inasmuch as the pod of several species does not open to scatter the few seeds it contains, but the outer coat or seed vessel is not very thick.

A Provision of Nature.—The above species grow, as a rule, in dry places, and most frequently upon the chalk in a state of nature, and the ground is often very dry about the time they are ripening their seeds, so that when the outer husk or pod gets dried up moisture cannot penetrate it even when it does come. Under these conditions many of the seeds may and in all probability do remain quiescent for some years and yet retain the faculty of germination. When such seeds are to be sown they should previously be dressed or milled, as the term is employed, to remove the dry, corky, outer covering, otherwise a good and even germination cannot be expected. Many cruciferous seeds behave much in the same way.

Variations of Temperature and Germination.—Professor Somerville also states that germination takes place much more readily and regularly when the temperature is allowed to vary than under a constant degree. Thus only 50 per cent. of a sowing of grass seeds germinated when kept in a temperature of 80° Fahr. for three days, whereas in another case the temperature was allowed to drop to 50° half the time, and 80 per cent. of the seedlings came up. Seeds of hardy plants are often sown by gardeners in too high a temperature, and bad results often follow without the true reason being detected. Even the Shepherd's Purse (Capsella Bursa-pastoris) often germinates very badly even in a greenhouse when sown during the warm summer months, whereas if a part of the same seed is kept in a dry state till autumn and then sown the seedlings come up freely and quickly. The conclusions would be that the high temperature and the dry atmosphere are unfavourable to the germination of this hardy subject. This should be taken into consideration when trials of seeds of hardy subjects are being made in the laboratory.

SEFTON PARK, LIVERPOOL.

THERE is at the present time a fine house of Chrysanthemums open to the public, adjoining the residence of Mr. Herbert, the superintendent, in Sefton Park. The house is 120 ft. long and 20 ft. wide, and contains some 700 plants in all the leading varieties. They are arranged in the centre bed and are beautifully blended as to colours. The side stages are filled with dwarf Chrysanthemums and well-flowered Zonal Pelargoniums, a bright and effective combination. Thousands of visitors daily enjoy the floral treat provided for them by the Corporation, and at different times the children from the various public schools and institutions of the city have been conducted round the house, much to the astonishment and delight of the youngsters. I noticed, when recently visiting this fine public park, that a number of good substantial houses have been erected, and not before they were wanted, to supply the enormous demand for plants for furnishing the many parks and other open places belonging to the Corporation, and which, under Mr. Herbert's management, as chief in command, are so beautifully kept up.—*Rusticus.*

A CHRYSANTHEMUM JUDGE IN THE WEST.

A MODERN writer has said "Think not that baffled endeavours bear no fruit because they do not bear the particular fruits you sought and sighed for." It is the philosophy contained in the foregoing sentence which consoles me under a baffled attempt to reach the Plymouth Chrysanthemum Show, on the 12th inst. It was nobody's fault; the clerk of the National Weather had decreed rain, and it did rain, and that is how my endeavour to reach the far west was rendered abortive.

Curious and unusual experiences—grave and gay—occasionally fall to the lot of flower show judges, and as one who commenced the work of judging very nearly forty years ago, ample opportunity has been afforded me of sometimes seeing the contrary side of things.

What had ruffled the serenity of the Clerk of the Weather I cannot say, but on taking the 1.15 p.m. express at Paddington for Plymouth on the above date, it rained as if a deluge like that in the days of Noah had set in, and the wind came in angry gusts from the west, bringing up heavy murky masses of clouds, laden with moisture. On the way there were indications that the water was out, and rapidly accumulating at West Drayton, Twyford, Maidenhead, and Reading; at Goring the poet's Silvery Thames was a rushing torrent of mud-tinted water; Didcot Junction was much flooded, and the low-lying, grazing lands between Didcot and Swindon were miniature seas, joining each other at various points and extending for miles. And still the Heavens poured down sheets of water without intermission. Despite a strong head wind the train was only twelve minutes late reaching Swindon—the railway station literally a sheet of water. This was the first stop. The next stoppage was Bath, but it appeared a little ominous that the train pulled up at Chippenham, passengers anxiously asking why, and getting no satisfactory response. But it was soon seen that something was wrong, for instead of proceeding by the main line to Bath, the train was diverted on to the Weymouth branch with the intention of reaching Bath *via* Trowbridge and Bradford-on-Avon. This at once suggested a stoppage on the main line, and the enquiry was hazarded—is the Box tunnel flooded, and therefore impassable? Before reaching Melksham the train had passed over rails almost hidden from view by the accumulating water, and when a mile or so below this station was reached, the train came to a stop, and the reason was not far to seek, for a powerful torrent of water was rushing over the line, covering it for some distance; a bridge spanning a river over which the train had to pass was hidden from view, and the driver of the train properly hesitated to advance. The head guard took his way back to Melksham to seek advice, and in the course of an hour and a half he returned, literally drenched, with instructions for the train to back to Melksham. This was eventually accomplished, the engine was reversed at this station, and the train taken back to Chippenham, three hours late. On reaching there it was discovered that the line had been flooded at Corsham earlier in the day, and it had been deemed expedient to attempt to reach Bath by the Weymouth line, with what results I have already stated. At Chippenham the Refreshment room and Telegraph office were invaded and the lady passengers, especially those who were going below Bath became anxious as to the probabilities of reaching their various destinations. It was now six o'clock, and save for the moonlight, would have been very dark. I think the two hours waiting at Melksham, with the uncertainty as to anything like progress—with the fierce wind howling about the train, and the rain beating furiously against the windows, was as dismal a time as I have passed for many a day, though every one sought to make the best of it. It was a particularly anxious time for mothers who had young children with them, and who did not know but that the rapidly rising floods might have barred the return to Chippenham.

It was at last resolved to risk the main line, and when Corsham was reached it was found the flood had subsided, though as far as could be seen in the darkness there was a considerable depth of water still on the line. Bath and Bristol were reached, it being now about eight o'clock; and from the latter place there was a run to Taunton, passing through a great deal of water, especially at Creech, two miles east of Taunton, where the water was up to the axles of the wheels. At Taunton we overtook the three p.m. express from Paddington, which had passed down during the delay at Melksham, and after a rather long wait, the train was sent on to Exeter, but with gloomy forebodings as to the possibility of getting there, for it was reported a bridge had given way before the resistless energy of the flood. Soon after leaving Bristol the weather improved, and the moon shone out between heavy masses of watery clouds, and by the time Tauntou was reached, the sky was pretty clear and the moonlight brilliant. By somewhat slow degrees the train reached Hele, twelve miles or so this side of Exeter, and it was doomed to proceed no further that night, for the line was reported impassable a short distance east of Exeter. Here at midnight the train stood for an hour or more; the keeper of a small inn near the station was knocked up, and such provisions and drinks as could be supplied were in great request. Eventually, the train was backed to Taunton, reaching there between one and two in the morning, and the occupants of two or three other trains were landed also. Earlier arrivals had secured all the available hotel accommodation, and there was nothing to do but remain in the waiting-rooms. The refreshment room was fortunately open, and kindly-disposed porters made good fires in the waiting-rooms. I discovered that something like six hours of sitting upright in a hard chair is not conducive to personal comfort, but there was no appeal from the wooden bed. Happy were they who had ulsters and rugs, for the morning was very cold. I also made the discovery that tired men can sleep in the most uncomfortable and extraordinary positions when there is no choice. To me, it was a night of watching, I can scarcely say I slept, but the truest philosophy was exercised in making the best of it. The first-class waiting-rooms were given up to the women and children; some spent the night in the carriages. How gladly the breaking of the day, bringing with it a fine morning, was welcomed! I have enjoyed a cup of tea on many occasions, but never before as I did at seven o'clock that bright November morning of the 13th. I am sure that station-master, guards, porters, and the keepers of refreshment bars, did everything in their power to make the belated passengers comfortable, and everyone was good-humoured and agreeable. Finding at eight o'clock there was as much chance of getting to Plymouth that morning as to Jericho; I determined to return to London by the first train. The guard of an early train reported that the water was very deep at Creech, and as the flood was rising, expressed a doubt whether a train could get through it. But it was determined to send on the train from Taunton Londonwards, though more than a half-hour late; and by way of preparing for eventualities a second engine was attached. Just before reaching Creech, railway sleepers were handed up to the engines, and then an attempt was made to pass through the water. In a cutting was a flood extending perhaps 500 hundred yards, full steam was put on, and the passengers watched with considerable interest the attempt; at its deepest part it was level with the floor of the carriages, and the depth of water produced a powerfully resisting body to the passage of the train; eventually it got through, but at the expense of both fires. Now the sleepers came into use; a body of labourers broke them up, some fetching others for the same purpose; oil and paraffin cans were forthcoming, and in this way, after some delay, the fire re-lighted, steam replenished, and the train reached Bristol in safety, leaving behind it in its progress, on either side of the line, thousands of acres under water. Bath presented to view a sorry spectacle; many of the streets near the station, where the poor reside, were flooded up to the sills of the lower windows of their houses; the inhabitants being driven to the upper rooms. From here to London, water was everywhere to be seen, the outskirts of Chippenham being much flooded. I found myself back in London soon after two p.m. on the 13th, having, practically, spent twenty-four hours on the railway, and nearly eighteen of them in railway carriages.

The fruits of experience gathered on the occasion of this memorable but abortive journey to a Chrysanthemum show is a deepening of the conviction I have long held, that he is wisest who in the face of calamities which cannot be helped, makes the best of them; and by consideration for others, lightens the load of anxiety natural under circumstances of an unlooked for and inconvenient character.

R. Dean.

BIRMINGHAM CHRYSANTHEMUM SHOW.

THE thirty-fourth annual exhibition of this Society took place on November 14th and 15th, and was a most successful exhibition, seventy-one exhibitors having entered, besides numerous honorary exhibits. The classes for specimen plants were well filled, Lady Martineau, Mrs. Marigold, and G. Cadbury, Esq., being the chief winners. The specimens were very fine, and probably at no other exhibition could so fine a lot be seen. Six grand groups of Chrysanthemums and other plants were staged for the five prizes commencing with £10—and six finer groups are not often seen at any exhibition; and here Mr. W. H. Dyer, gardener to Mrs. Marigold, was first. In the smaller class for groups five prettily arranged lots were staged.

The cut flower section is always strongly filled here, and the six prizes in each class for twenty-four incurved, as well as for twenty-four Japanese, with a first prize of £10 in each instance, brought out a number of exhibits and strong competition. For twenty-four incurved: First, Lady Dowager Hindlip; second, E. Loder, Esq., Weldon. There were eight exhibitors, and twelve exhibits in the class for twenty-four Japanese: First, E. Loder, Esq.; second, Mr. Austin, gardener to the Earl of Dudley. All the other classes were also well filled. For a long number of years Birmingham has been famous for its Chinese Primulas, and it is now quite twenty years since that those famous and unbeaten varieties, Princess Louise and Marquis of Lorne were raised, followed by the Queen, Emperor, and others, and these grand varieties were strongly in evidence at the recent exhibition. Messrs. Thomson & Co., of the Sparkhill Nurseries, where these varieties were raised in the time of the late Mr. Tomkins's proprietorship by Mr. Rose, who is now the Primula grower at Messrs. Pope & Sons, King's Norton Nurseries, was well first with grand plants in the four classes for singles, Fern leaved, and doubles; and Messrs. Pope & Sons, second; and the gentlemen gardeners' classes were also well filled. Mr. W. Earp, gardener to the Rt. Hon. Joseph Chamberlain, M.P., staged a very fine lot of Cyclamens, and William Brown, Esq. (gardener, Mr. J. Palmer), a fine lot of Orchids. Excellent Bouquets were staged and a good lot of table plants.

A very fine display of Grapes were staged, there being eight exhibits of six bunches. Mr. Bannerman, gardener to Lord Bagot, was 1st; second, Mr. Elphinstone, The Gardens, Shipley Hall, near Derby. For three bunches of black Grapes (eighteen exhibits), first, Mr. Elphinstone, second, Mr. J. Bates, gardener to J. T. Harris, Esq., Stone. The other classes for Grapes were also well filled as also were the classes for Apples and Pears.

The very extensive display of fine vegetables in response to the special prizes offered by Messrs Thomson & Co., Messrs. Webb & Sons, Mr. R. Sydenham and Mr. J. Hughes, was a surprise to all. The entries were very heavy in all the classes, and the vegetables generally so very fine. In addition Messrs. Thomson & Co., had a fine honorary display. Messrs. Charlesworth & Co., Bradford, and Messrs. Heath & Son, Cheltenham, had excellent exhibits of Orchids, and Messrs. Perkins & Sons, Coventry, and Messrs. Thomson & Co., very fine displays of Floral Artistic Work.

The weather was continuously wet all the first day, still there was a large attendance, and early in the morning of the second day nearly 1,500 school children were admitted free.

BEGONIA GLOIRE DE LORRAINE.

GREAT improvements are still being effected amongst the shrubby winter-flowering type of Begonias. Varieties are being obtained which give a larger production of flowers with the same amount or even less trouble, and these in time will naturally take the place of the older ones in hot-houses, where a display has to be kept up during the winter months. The variety under notice is dwarf and very moderate in growth, but blossoms abundantly. The smaller shoots assume a spreading or drooping habit, and the obliquely cordate or sub-peltate, light green leaves form a pleasing background to the rosy-pink flowers, which are of medium size, but produced in such quantity as to render the plant quite gay. The accompanying illustration will give an idea of the general character of the plant to those who have not seen it. The best effect is produced when a batch of plants is grown together and introduced to the conservatory in groups.

HULL CHRYSANTHEMUM SHOW.

The eleventh grand annual festival of the Hull Chrysantbemum Society, was held on the 14tb and 15th inst., in the Artillery Barracks, Hull, a most suitable series of buildings for tbe purpose. The largest Hall contained the group classes, and the groups at Hull display greater skill in arrangement than is to be seen at any other Exbibition in the Kingdom. A second large building was allotted to cut flowers, and smaller subjects, while in a third ladies' table adornments, Epergnes, bouquets and other tasteful florist displays was allocated, and in the fourth large building were brought together tbe specimen plants. The exbibition throughout was characterised by the high culture of the exhibits.

Taking the schedule in order we have first to name the cut bloom classes for the encouragement of which most liberal prizes were offered. Class one was for twenty-four blooms incurved in not less than eighteen varieties, and not more than two blooms of one variety, for which the first prize was £10, and a silver cup value £5 5s, the second prize £5, and the third £2 10. This only brought out two exhibitors and the premier position was gained by Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Notts, for a fine solid and bright collection consisting of Lord Alcester, Princess of Wales, Jeanne de Arc, Mrs. Robinson King, Empress of India, Lady Dorothy, John Lambert, Violet Tomlin, Miss Haggas, Queen of England, Golden Empress, Madame Darier, Golden Empress, Alfred Salter Mrs. Coleman, Princess Teck, Empress of India, Princess of Wales, Mrs. Heale, Miss Haggas, Lucy Kendal, John Salter, Queen of England and Mrs. Coleman. Mr. D. Forbes, gardener to Afred Holt, Esq., Crofton, Aigburth, Liverpool, secured the second place for a very even collection. In the class for twelve blooms incurved distinct, there were seven collections staged, and first honours fell to Mr. W. H. Lees, gardener to F. A. Bevan, Esq., Trent Park, New Barnet, for grand blooms of Violet Tomlin, Hero of Stoke Newington, Mrs. Mitchell, Jeanne d'Arc, Mrs. Norman Davis, Princess Teck, Brookleigh Gem, Princess of Wales, Barbara, Miss Haggas, Mrs. Coleman and Lady Dorothy. Mr. G. W. Musk, gardener to Lord de Ramsey, Haverland Hall, Norwich, was a close second, and Mr. J. R. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull, a very good third.

For twenty-four blooms, Japanese distinct, there were six collections, and the prizes offered were exactly of the same value as in Class I. for twenty-four incurved, that is, for the first prize, £10 and the 5 guinea silver cup; this was worthily won by Mr. W. H. Lees with magnificent blooms of Viviand Morel, Florence Davis, Le Prince de Bois, W. H. Lees, President Borel, Niveus, Edwin Molyneux, Madame Chas. Capitant, G. C. Schwabe, Mrs. E. G. Wheeler, Beauty of Castlewood, Souvenir de Petite Ami, E. W. Clark, L'Isere, Henry Jacotot fils, Primrose League, Mrs. C. H. Payne, Madame Chatin, Etiole de Lyon, Mdlle. Thérèse Rey, Beauty of Toulousaine, Mrs. D. Shea, W. H. Lincoln, and Madame Octavia Mirabeau. Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, was a good second, and Messrs. Pearson & Sons a close third. Twelve Japanese distinct brought nine stands, and the three prize-winners ran eacb other so closely that in addition to the pointing, freshness and otber minute details had to be well weighed before making the awards, which finally fell to Messrs. Lees, Willey, and Musk, in the order named. All the nine collections were of the bighest order of merit. The next class was somewhat disappointing. It was for twenty-four blooms, Japanese distinct, arranged for effect, and set up in any manner the exhibitor desired, with or without Chrysantbemum or other cut foliage, on a table space not exceeding 6 ft. in length by 2 ft. 6 in. in width. The object of this class was to introduce a more tasteful system of staging highly developed flowers, therefore first quality blooms were indispensable, at the same time artistic arrangement was essential, and it was in this latter we think that all three exhibitors failed in realising wbat the executive had desired to obtain when they offered 5 guineas, £3, and 30s., for first, second, and third prizes respectively. The best came from Mr. J. R. Leadbetter; while the second was awarded to Mr. Wilson, gardener to Sir James Reckitt, Swanland Manor, Brough; and the third to Mr. G. Picker, gardener to F. R. Pease, Esq., Hesslewood.

Messrs. Witty, Goodhill, and Harland exhibited fine examples of the Rundle family, and secured the prizes in the order of their names. Anemones, both large and the Japanese, were well and plentifully staged. A. Smith, Esq., Woodleigb, Hessle, took tbe first prizes in both classes, the other honours falling to Sir Henry Bennett and T. B. Grottian, Esq. Tbe best reflexed came from Col. S. Clitherow, Sir Henry Bennett, and E. Harland, Esq., in the order named. Sweet-scented, bunches of pompons and singles were all cared for, having classes allotted for each, and E. Harland, Esq., was tbe principal prize taker in all these classes.

The foregoing sixteen classes were open to all, while the remainder of the schedule was confined to exhibitors residing in Lincolnsbire, within twenty miles of Hull, or anywhere within the East Riding of Yorkshire. For twelve blooms incurved distinct, A. Wilson, Esq., Tranby Croft, well deserved the silver cup, value £2 and £2 in money, for a well balanced board, consisting of Alfred Salter, Golden Empress, Prince Alfred, Empress of India, Miss Bella Wilson, Mrs. T. Coleman, Queen of England, Lord Alcester, Princess of Wales, John Lambert, Mrs. Heale, and Violet Tomlin. Sir J. Reckitt was placed second. In a similar class of a dozen blooms, but only nine varieties required, the same exhibitor was again well to the front with fine examples of John Lambert (2), Mrs. Heale (2), Prince Alfred, Golden Empress (2), Violet Tomlin, Empress of India, Mdme. Darier, Lord Alcester, and Alfred Salter. Col. Clitherow and Mr. Whittaker were second and third respectively. For twelve blooms Japanese the prizes were the same as for twelve incurved, a silver cup and £2, and brought together eight collections, the finest coming from Mr. Blackhouse, North Bar Street, Beverley, Mrs. Harman Payne, Amos Perry, F. Davis, Edwin Molyneux, Louise, Miss Dorothy Shea, Madame Marie Hoste, Kentish Yellow, Viviand Morel, Chas. Seward, and Stanstead White. Sir Henry Bennett was placed second, and A. Wilson, Esq., third.

Begonia Gloire de Lorraine.

Ten collections were set up in the next class, which only required nine varieties in the twelve blooms, and Col. Clitherow was well to tbe front with Viviand Morel, Etiole de Lyon, Sunflower, Chas. Davis, W. W. Coles, Mdme. Marie Hoste, Viviand Morel, Mdlle. Thérèse Rey, W. Tricker, Chas. Davis, W. H. Lincoln, and Avalancbe. The next two classes were for twelve blooms of incurved and twelve Japanese, but only six varieties required in eacb case, Messrs. Witty, Veal, Dore, and Hudson sharing the prizes amongst them. Several classes were set apart for amateurs' cut blooms, and all well contested, as many as nine entries being made in several of them. Messrs. Melbourne, Gillett, and tbe Rev. W. M. Bennett being the principal prize-takers in this division.

Chrysanthemums in pots were numerous and consisted of very neatly trained plants and fine flowers, more especially the bush trained specimens, but two of the principal features of this exhibition remain to be told. These were the groups of Chrysanthemums and miscellaneous plants. Of Chrysantbemum groups there were six exhibitors, and the first prize was £6, with which goes the Silver Challenge Cup, value twenty guineas, the winner to hold tbe

cup until the next exhibition. These groups had to be arranged in a space of 100 square feet, and interspersed with foliage plants, and the effect of arrangement throughout was wonderfully effective. Medium sized Palms stood out in hold relief here and there, and finely coloured Crotons, Eulalias and Coleus added colour and brightness to the whole, while the large and massive blooms of the Chrysanthemums stood out boldly, and in many cases the stem is so trained below the foliage plants as to give the appearance of beautiful dwarf specimens. As each group is backed up by the walls of the building, advantage is taken to clothe the same with verdure, and with the exception of one group the arrangement in all was very much after the manner of rockwork with well-clothed and undulating hollows which might be said to imitate water below. The arrangement certainly was most telling and the Hull growers are to be congratulated on the pains and time that was given to make this marked effect.

Of the six groups the first prize was awarded to Mr. George C. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull; the second to Mr. Gledhill Cottam, Alma Gardens, Cottingham; the third to Mr. A. Pike, gardener to C. H. Wilson, Esq., M.P., Warter Priory, Pocklington, and the Hull Corporation Parks Committee was awarded the fourth prize.

The groups of miscellaneous plants were also magnificently done, more especially that of Mr. Wilson, gardener to Sir J. Reckitt, and this was also an imitation arrangement of water and clothed rocks, in fact lichen covered cork bark was freely used to give the effect. Some lovely Crotons were here displayed on straight stems. C. Johannis, fully 6 ft. high, was clothed with its highly-coloured foliage right down over the rim of the pot. Fine Cocos Weddeliana, variegated Eulalias, Pandanus, Cypripediums, Calanthes, and Asparagus tenuissimus were plentifully dispersed throughout this unique arrangement. A. Smith, Esq., was awarded the second prize, and Mr. H. Taylor the third.

For a dessert table, 8 ft. x 4 ft., completely laid out for six persons, only Chrysanthemums with any kind of foliage to be used in its decoration, brought six competitors, the first prize being £4 4s. in money, and a piece of Challenge Plate value £5 5s. This was awarded to Miss Fanny Topham, Hotham Hall, Brough, for a tasteful arrangement of single flowers with Eulalia, Smilax, and Selaginellas plentifully used to add to the effect. Mrs. H. Leonard, Ivy House, Preston, was placed second; Source d'Or mixed with Smilax, Ferns, and Asparagus were the principle features in her arrangement. Mrs. T. F. Judge, Helmsley, Cottingham, was placed third, but exhibited heavier blooms. A plentiful display of bouquets, Epergnes, crosses, wreaths, &c., were also exhibited and much admired, and taken collectively the show throughout was a most excellent one. The Hon. Secretaries, Messrs. Harland and Dixon, are to be congratulated on their marked success. Everything that possibly could be done, both for the comfort of exhibitors, visitors, or judges, was done punctually to the moment, and the only drawback was the heavy rainfall on the opening day. We can only hope the executive did not suffer in consequence, for they richly deserved unqualified success.

CHURCHTOWN WINTER GARDENS.

Those of our gardening friends who may at any time pay a visit to Southport should not fail to run out to the Churchtown Winter Gardens, for they are remarkably well kept up, and the courteous superintendent, Mr. Bull, has at all seasons something of interest to show to visitors. At the present time his display of Chrysanthemums is very fine in the grand winter garden. On either side of the entrance are some hundreds of plants, well flowered, and including all the popular sorts. The plants, too, are much dwarfer than they are usually seen. Most conspicuous among them is a gigantic bloom of Charles Davis, fully 22 in. in circumference and 10 in. deep. There is also a bloom of Viviand Morel just under 9 in. deep and 22 in. in circumference, and better flowers than these I have not seen this season. Edwin Molyneux, Sunflower, William Holmes, Mdlle. Thérése Rey, Stanstead White, W. H. Lincoln, Lord Brooke, Lord Alcester, the old Jardin des Plantes, and Anna Hartshorn are all extraordinarily well done. The groups are edged in front with well-grown Isolepsis gracilis, which makes a splendid finish.

The fernery is now one of the most natural looking that I have seen, and the gigantic tree ferns and nobler specimens of Woodwardia radicans are in grand condition. The vineries have yielded enormous crops of fine fruit, and judging by the samples still hanging they would have done honour to their grower at any exhibition. Mr. Bull is certainly to be congratulated on the success of his efforts in all departments.—*Rusticus.*

MUSHROOMS AT GUNNERSBURY HOUSE.

Reference has been made in a previous issue of the Gardening World to various places in which the successful cultivation of the Mushroom, other than the regular Mushroom house has been conducted. Amongst other places allusion was made to an old wine cellar in the vicinity of London. Such a place is utilised with the best possible results at Gunnersbury House, which is the property of the Messrs. De Rothschild, the gardener, Mr. Hudson, being very well known in the horticultural world as an able and successful practitioner. Throughout the whole of the year abundant supplies of the coveted esculent are obtained from beds made upon the floor of the cellar in question.

At the period of my visit, Saturday, November 17th, several of the beds were in full bearing, and seldom, indeed, is it that one sees such a sight as these beds afforded. Countless numbers of Mushrooms of all sizes and in all stages of development were thickly sprinkled over the surface of the beds, evidently guaranteeing sufficient supplies for some time to come, whilst other beds had been spawned or were in process of construction, to form suitable successions. Needless to say, the culture of the Mushroom here is conducted upon regular and systematic lines, each bed being furnished with a label bearing the date of spawning and other information of a like character. As there are no means of applying artificial heat to the cellar during the prevalence of severe frosts, it is supplemented by a regular Mushroom house furnished with such conveniences, so that between the two places there is but little fear of the supplies of this always appreciated article running short. We have seen Mushroom houses which have been constructed regardless of expense, and furnished with elaborate iron or slate beds where, from some cause or other, nothing like satisfactory crops have been obtained. Like many other things, Mushroom growing is a very simple and a very easy operation—when you know how to do it and at Gunnersbury House, at any rate, they are in possession of the secret of success.—*Agaricus.*

FERTILISERS AND FEEDING STUFFS.*

Although this small book is primarily intended for the use of farmers, it is full of information which would be equally suitable for the edification of gardeners, and would furnish plant cultivators generally with many a useful hint, particularly concerning the relative value of farmyard manure and artificial fertilisers, as well as certain crops which are benefited by special kinds of manure. In discussing the value of farmyard manure, the question of peat moss litter *versus* straw as absorbents of the fertilising matters in the stables of horses and cattle are discussed. The various classes of animals and what they are fed upon are also taken into account. Dung is merely dung with most gardeners, no matter what is its composition or how it is made. In many private establishments in rural districts the gardener is glad to get a moderate supply of manure of any kind from the stables, and very frequently he has no control over the making of it or the waste of the same when badly made or preserved. But on the other hand there are cases where he has the control of the same, and that opportunity should be utilised to the fullest extent.

The value of manure from cattle fed on linseed and other cakes is compared, and the fact is stated that linseed cake contains three or four times as much nitrogen as certain of them. It is also well known to many good farmers that the manure from cows that are turned into the fields during the day in summer and housed at night is far richer in fertilising elements than that made from straw and turnips in winter. The author gives some valuable hints as to the prevention of the waste of the virtue of manure by covering the heap with earth, thus saving the loss of 20 per cent., calculated by that of nitrogen, its most valuable constituent. Failing this precaution during the process of making, the author considers that the sooner the manure is placed on the land the better.

Farmyard manure must always constitute the most important means of recuperating the land, for various reasons which the reader should find out from the book itself; but the question of artificial manures will even then be of burning importance, because in returning the other to the land some of the constituents removed by plants must be withheld, however, well the manure is made. The chief or leading complaint against artificial fertilisers, perhaps, is their readily available character, so that their value is soon over. To this the writer replies that it means capital returned again in the first crop; whereas in the case of long lasting manures the capital must lie idle in the land for a number of years. As an illustration of this fact the case of coarse crushed bones is compared with fine bone meal. So far as annual crops are concerned this argument is forcible; but half inch bones for vines in the garden and hops in the field, furnish a supply of available plant food at hand for many years. It is true, however, that fresh applications are most effective the first year only, and that year by year they become less valuable as they lie in the soil.

On the other hand it is claimed that artificial manures improve the value of the land inasmuch as the heavier the corn and turnip crops the greater the amount of manure to be made from them, while the increased forage crops, the leaves and roots of turnips, mangel, and others left on the land to be ploughed or dug in, must in the nature of things increase the fertility of the soil by so much. The various kinds of artificial manures are discussed and the observant can derive useful hints for their practical application according to the particular purpose they are intended to subserve. The large demand for artificial manures has encouraged the discovery of plant foods from what at first sight would seem unlikely sources. A chapter on the application of fertilisers discusses the plant foods which are more specially beneficial to particular crops. An Appendix to the book gives the substance of the Fertilisers and Feeding Stuffs Act, 1893, with notes thereon, and some may find it useful, and to others it may prove interesting.

* "Fertilisers and Feeding Stuffs; their Properties and Uses," by Bernard Dyer, D.Sc. (Lond.) "Notes on the Act," by Alex. J. David, B.A., LL.M. (Cantab) London: Crosby Lockwood & Son, 7, Stationers' Hall Court, Ludgate Hill, 1894.

STRANGE TROPICAL PLANTS.

Lecturing at the London Institution, on the 5th inst., on some vegetable curiosities that he or other botanists have tested and found to be genuine, Dr. Morris, the Assistant Director at Kew, said there is, for instance, the Cocoa-nut Pearl. More than a century ago an old Dutch botanist described large pearls which he asserted were found in the milk of the Cocoa-nut. But the statement was derided at the time and ultimately forgotten. The pearls, however, are what our American cousins would call a solid fact. The Cocoa Palm has a fondness for taking up lime salts in its sap, and occasionally seizes the opportunity to deposit some of the mineral in the milk cavity of the fruit precisely as does the oyster within his muscular coat. The Cocoa-nut pearls are a little duller than the mussel pearls, but otherwise their composition is identical. Pearls are reputed by ancient writers out of the buds of the Jasmin and Magnolia, but there is no confirmation of this yet. Concerning that industrious reed the Bamboo, Mr. Morris had a good deal to say. One of its eccentricities is that it deposits true opals in its joints. These vegetable opals are much prized by the natives of the Celebes for charms against disease.

Other trees deposit their mineral matter in rougher and less elegant fashion. Sir F. Abel found a tree in India with a slab of naturally deposited limestone in its trunk 8 ft. in length. A good deal of the Indian teak which comes to this country has to be rejected on account of the stony matter it contains, which plays sad havoc with saw blades and edge tools. There are many tropical shrubs and herbaceous plants which possess medicinal and chemical properties that are still a puzzle to science. What, for instance, can be made of the Gymonemia or "taste-spoiling" plant of Southern India? If you chew the leaves there is a slightly sweet taste in the mouth. But the next moment you find that the palate has become absolutely dead to the taste of sugar or other sweet substances, while quinine

tastes like chalk. Then there is what we may call a "taste improver" in West Africa (Sideronglia), a second cousin to the gutta percha family, which heightens the sensitiveness of the palate, especially to acid fruits, for several hours.

In tropical America, at a certain season of the year, the natives turn a bright yellow all over. This means that they have been drinking of the vintage of the Moritia Palm, which is obtained from the pulpy fruit, and constitutes the principal native drink for the whole of the fruiting season. The wild Tamarind of Jamaica, which is largely browsed by horses, has the startling effect of causing their manes to drop off and their tails to become barren of hair. But the natives take no notice of the scarecrow appearance of the horses, to whom this novel food is otherwise quite nutritious. Jelly making plants are common in the tropics. The leaves of Cyclea if placed in water speedily convert the fluid into a solid jelly. They abound in "pectose"—a sort of mucilage. But one of the most serious characters is the Pisonia of New Zealand, which is shockingly carnivorous. It hangs out seed pods covered with a sort of bird lime, which first attracts flies to their doom, and then fixes the birds which come after the flies. It may be remarked that cats are fond of studying the phenomena here presented. These are only a few of the curious facts Mr. Morris vouched for in his interesting lecture.

PLUMS ON SANDY SOIL.

A RATHER careful inspection of the plum wall, with the view to ascertain (before pruning and nailing begin) whether any varieties may be the better for lifting or root pruning, has led to a few notes which may be of interest with the planting season at hand. The notes, it may be added, are from trees growing on an easterly wall, soil a light sandy loam, subsoil a damp sand. There is a wonderful difference in the habit of different varieties here, some making hardly any growth, whilst others are inclined, unless kept within bounds by occasional root pruning, to be far too strong. Of dessert plums on this wall the most serviceable are Oullin's Golden, Greengage, Transparent Gage, and Coe's Golden Drop. Growth on three of these is very evenly balanced, plenty of wood made, but small, firm, and of the right sort. The old Greengage is the exception. This makes hardly any growth, and is rather inclined to gum. Reine Claude de Bavay and Deniston's Superb are also grown, but neither is quite satisfactory, unless root pruning is practised every second year. Jefferson's is also grown a fine plum; but it does not bear with me quite so well as the Gages and Golden Drop. The most profitable cooking plums, to take them in the order of ripening, are Early Prolific, Czar, White Magnum, Victoria, Pond's Seedling, and Imperial de Milan. There is no mistake about the cropping qualities of Early Prolific, and the trees seldom fail. The annual growth is proportionately lacking in vigour; indeed, a shoot anything over 6in. in length is quite exceptional. Both for annual growth and crop, Czar and Victoria leave nothing to be desired. In speaking a short time back to a gardener whose experience dated from 1840, he told me that he was working in the Brixton nurseries when Victoria was introduced to the public, and that Denyer always claimed it as a seedling of his own—a statement which, as one gathers from the "Fruit Manual," was not strictly true. All one can say in the matter now is, that whoever was responsible for raising Victoria, deserves the hearty thanks of the fruit-growing community, as a more useful plum, whether for the large or small garden, does not exist. The only old trees left on our plum wall (all the rest having being planted in 1888) are White Magnum Bonum, a great and consistent cropper, and useful where a pale fleshed cooking plum is in request. I have seen Pershore strongly recommended. Is this any better than White Magnum? Imperial de Milan is a capital late plum, the tree free growing and a great cropper, necessitating, as in the case of early Prolific and Victoria, rather severe thinning to get fair size fruit. Besides Pond's Seedling, I have a couple of trees each of Prince Engelbert and Diamond, both apparently good croppers, and the fruit above the average in size. The least satisfactory plum on this soil is Washington, a rampant grower, but very shy, not really worth the room on the wall.—*E. Burrell, Claremont, in The Field.*

GLASGOW BOTANICAL GARDENS.

THE citizens of Glasgow are under considerable obligations to Mr. D. Dewar, the Curator of our Botanic Garden, for inaugurating what are called "Chrysanthemum days" in the gardens. The City Councillors provide excellent music for the thousands who throng the Kibble Palace where the Chrysanthemums are set up, and the success achieved testifies to the wisdom of the new departure. Last year a very fair start was made, and as many as 17,000 persons visited the gardens on the gala day. This season Mr. Dewar, having now everything in good working order, has been able to provide a display that would be very difficult to surpass. The City Council recognising this, provided a band on the second day, so that large numbers who had not had an opportunity of seeing them on November 10th, could do so on the 17th. It is computed that between Saturday and Sunday something like 30,000 people visited the gardens, and last Saturday and Sunday the crowd was nearly as great.

The principal group consisted of 800 plants, the majority of which were "cut backs," and carried from three to seven blooms. They were arranged in pyramid form under the entrance dome, and had a most inspiring effect. The blooms were large and well coloured, and the varieties were well up to date. Among Japanese the following were very fine:—Gloire du Rocher, Louis Boehmer (white), G. C. Schwabe, Sunflower, Wm. Tricker, Beauty of Exmouth (very fine), Viviand Morel, and Col. Wm. B. Smith. The incurved sorts were most effectively arranged in the main transept. Trained up the roof, the golden balls of Mr. Bunn, Mrs. Dixon, and G. Glenny, hang very charmingly, being well set off by the introduction of numerous pretty heads of Mrs. G. Rundle. On either side of the door at the entrance were the Anemone forms of Old Gluck, Lady Margaret, Mrs. Laing, and Miss A. Corrie. The single sorts were well represented in grand bushes of Gus Harris, Scarlet Gem, and Miss Rose. The collection is made up of about 300 varieties, and 2,500 plants were grown. The show Mr. Dewar had of the Desgranges varieties in September was superb, and filled two large span-roofed wings of the Kibble Palace. The crowds of people that visit the gardens now are of themselves a tribute to the excellent condition of all the various subjects that flower during the season, and this must be very gratifying to Mr. Dewar.—*R.*

CULTURE OF THE CRANBERRY.

THERE are two species of Cranberry, namely, Oxycocus palustris, inhabiting marshy woods, particularly in the north of Britain, and O. macrocarpus, a native of America. The fruits of our native species are gathered in the wild state, but the American species is extensively cultivated in the United States and occasionally upon a small scale here; but the fruit comes regularly into Covent Garden market during autumn. The two species are often included under Vaccinium, of which there are about 100 species, but they are fairly distinct in habit and the flowers are structurally different. Mr. William Saunders, the inspector of Agriculture at Washington, published a small pamphlet recently on the culture of the large-fruited Cranberry (O. macrocarpus), which grows wild in the marshy lands of the northern States of the Union, in some parts of Canada, as well as the coast-line marshes and in the forests of the Alleghanies, as far as Virginia, and the north of Carolina. It is a dwarf, trailing, shrubby, evergreen plant with acid and edible fruits, of which the colour varies from red to rose and deep purple.

Its culture, Mr. Saunders says, was commenced in the first quarter of this century; for about forty years it was done on a very restricted scale. To-day it spreads into New England, New Jersey, the neighbourhood of Cape Cod, Michigan, Wisconsin, Minnesota, Iowa, the north of the Ohio and Indiana, American Cranberries are the largest of their kind, the richest in colour and the most perfumed arriving in the markets of Europe. In a wild state the plant chooses humid localities and a peaty soil, sometimes silecious, always devoid of lime. Peat favours its development, but the presence of silex is necessary for its fertility and the production of better fruit. That ingredient aids the hardening of the wood by preventing too vigorous growth. Its cultivation is effected with the greatest success between the 39th and 42nd degree of latitude. Yet those limits can be much extended to the south on the flanks of the Alleghanies, and for 13° at least towards the north on the west coasts where the oceanic currents exercise a beneficial influence upon the climate.

Once established in good condition, a plantation of Cranberries endures for years, and gives returns as regular as any other culture. It demands much labour and money as well as patience to wait for the produce; but once it commences to bear, the owner can think himself happy to have a culture so desirable and remunerative. The preparation of the soil depends upon its nature. The best ground for it is a silecious sand overlaid with a bed of 12 in. of peat, itself covered with grass. It will be sufficient to dig it, bringing to the surface about 4 in. of sand. If the peat bed is deep and covered with grass, it will be sufficient to turn the soil just under the roots of the grasses and to spread on the top a bed of 5 in. to 12 in. of silecious or quartzose sand. The employment of sand counteracts the development of bad weeds, which render the plantation partly unproductive. Earth on the margin of springs, or upon the banks of rapid water-courses, contains much sand of light weight and may serve for this plantation.

Lands which are inundated during certain periods of the year, as the Savanahs, about to be utilised, are surrounded with a sort of Irish wall 4 ft. to 4½ ft. wide and high. The soil is worked and cleansed. On the inner side a ditch is made; bordering upon these ditches, and traversing the ground, ridges are dug parallel, and these permit the irrigation of the same in winter and summer, and to drain it rapidly when necessary. Even the marshes can be utilised for this culture, provided that dams or continuous ridges can be established at regular intervals. The expense of these works naturally differ according to the place as one finds it and according to the materials employed. Cultivators attach the greatest importance to the quality of the sand. That must be clean and large in the grain to suit Cranberries. It is necessary also that the ground be permeable at least for 12 in. under the surface.

The methods of planting are various. Originally balls of turf lifted with the plants, the moss and the peat from the place of origin, were planted in a soil whether it was prepared or not. Following that came the plantation upon knolls. Several plants put together in trenched spaces of 2 ft., but those tufts had a tendency to dry up and hardly succeed. When it is not necessary to add sand and the ground can be worked, the best plan is to turn up by means of the plough spaces at a yard apart. Plants are distributed in the hollow along the furrows, one or two at a place. They are inclined somewhat, leaving a portion of 4 in. to 6 in. above the surface, then the furrows and the roots are covered up. On other better prepared lands lines are made with a tracer; at a foot apart in these lines one or two plants are placed at an equal space of a foot, and they are covered with earth by the spade, leaving the top exposed. Elsewhere, again, the Cranberry plants are passed through a chaff-cutter to cut them in pieces and sow the cuttings in very small pieces, as Oats are treated. Then the whole bed is covered with a shallow bed of sand. This method of proceeding is only applicable in spring and upon a humid soil, otherwise the cuttings are not well rooted before the advent of the heat of summer. Much attention is given to the choice of plants, and those are rejected which do not give sufficiently large berries, and whose colour leaves nothing to be desired.

The planting can be done at any season; yet it is better to operate at the beginning of spring to ensure success. It is recommended to irrigate the plantations from the first of November to the first of May; 16 in. to 20 in. of water are sufficient. After that period the water is allowed to run away, and the plants, under the influence of the moisture and the heat, cover themselves presently with their whitish-rose flowers, and the fruits show themselves not long after. At Cape Cod, in Massachusetts, the cultivators take advantage of the winter to cover their irrigated plantations with sand while under the ice. The sand is spread upon the latter in a uniform bed. Naturally, when the ice melts, the sand covers the Cranberries. Guano is considered an excellent

manure for the Cranberry. It is employed in conjunction with bone meal, at the rate of 56 lbs. to 225 lbs. per acre. The harvesting of Cranberries is effected in October, and is best done by hand.

EDINBURGH CHRYSANTHEMUM SHOW.

The citizens of Edinburgh must feel deeply indebted to the Scottish Horticultural Association for the enterprise it displays from year to year in promoting so charming an exhibition as that which was opened on the 15th inst. in the Waverley Market by Mr. Henry Irving. November is proverbially a gloomy month, and amid its rains and fogs and dark days we are all the better to have our eyes gladdened by such a feast of floral beauty and colour as was spread out for exhibition on the tables of the Market Hall. The Society may be wished much continued success in this as in all its other enterprises. This year the committee were fortunate in securing the services of Mr. Irving, who is at present playing in Glasgow, to perform the opening ceremony, and his presence drew out one of the largest and most influential audiences which have been seen at such a show on the opening day; and as *The Scotsman* observed, with the Lord Provost in the chair, Mr. Irving to make a speech, and the Royal Marine Band in the orchestra, the proceedings passed off in the most successful manner.

The show itself was quite up to the standard of its predecessors in respect of the number of entries and the quality of the exhibits. This was all the more creditable, as there were several months in the year not at all favourable to the growth of this favourite winter flower. The competition in almost every class was exceedingly keen, especially in the classes set apart for the Japanese variety, with their picturesque forms and admirable colours. The exhibits in this class were shown in a remarkably fresh condition. There are those who are always on the look-out for novelties in the Chrysanthemum as in other flowers. The novelty yesterday was a Japanese Chrysanthemum called The Duchess of York—a rich yellow, with long, stringy-like petals; and there were several beautiful examples shown of a product of last year. The Countess of Hamiiton—a fine flesh pink. The best flower in the show was adjudged to be an example of Charles Davis--a bronze flower which appeared in the stand which was placed second for the Corporation Cup. The weak point in the show was the incurved Chrysanthemums, which are not grown so largely in Scotland as they are in the south,

For the Corporation Cup, which is the "blue ribbon" of the meeting, there was a good entry; but Mr. Beisant, Castle Huntly, had a tolerably easy win with forty-eight splendid blooms. The others were close. The Scottish Challenge Cup for thirty-six blooms was rather easily won also by Mr. William Rutherford, Bridge of Allan; but in the nurserymen's class there was a severe tussle for the prize between Mr. W. Wells, of Redhill, Surrey, and Mr. Robert Wood, of Carnoustie. Victory ultimately rested with the former, largely owing to the presence in his lot of forty-eight of a number of incurved blooms. In this stand the premier incurved bloom was also found. There was a lack of entries in the single Chrysanthemum classes, and this is to be regretted, as the flower deserves to be encouraged for decorative purposes. Nothing could have been prettier of its kind than the variety called Purity, which suggested the apotheosis of the field Ox-eye Daisy, itself a humble member of this great tribe of flowers so widely distributed over the world. In the judging of the cut blooms Mr. E. Molyneux, of Swanmore Park, Hants, though one of the best experts on the flower that could be found, had no easy task; but it was performed most impartially, with great patience and skill, and generally to the satisfaction of the exhibitors. In his round of the stands several had to be disqualified for the lack of care which had been shown in including Chrysanthemums which were not white into classes where absolute purity of tint was required.

There were also shown numerous groups of Chrysanthemums in pots and vases which lent their own attractions to the show. As usual, there were classes for other flowers. Among the most charming of these at this season were the Roman hyacinths and Chinese primulas, which, for the period, were really marvellous. There was an excellent, if small, display of fruit, and seldom before has such a splendid display of vegetables been seen. It was creditable to the gardeners of Scotland. To the nurserymen the exhibition was, as usual, indebted for some attractive features. Mr. John Downie, 144, Princes Street, had a splendid display of artistically arranged flowers in varied forms; the Chrysanthemums, of course, predominated. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had also gone to considerable expense to fit up a stand at the east end of hall, in a most attractive way; and splendid exhibition tables, on which were all the newest varieties of Chrysanthemums mixed with fine foliaged plants, were sent by Messrs. Thomas Methven & Sons, and Messrs. R. B. Laird & Sons, Edinburgh. Mr. F. Foreman, Eskbank, exhibited a collection of a new variety of Japanese Skimmia, covered with red berries, which had a fine decorative effect, and which are said to last on the plant for a couple of years. Mr. John Forbes, nurseryman, Hawick, showed a new begonia, Gloire de Lorraine; Messrs. James Dickson & Sons, a nice collection of conifers; Messrs. Thomson, Clovenfords, a spledid basket of grapes, for which they were awarded a cultural certificate; and there were many other interesting features in the exhibition too numerous to be mentioned in detail.

The following special awards were made by the council:—Mr. Andrew Miller, Edinburgh, for table of ferns; Mr. John Forbes, Hawick, for collection of Begonias; Mr. H. J. Jones, London, for display of Chrysanthemums; Mr. John Downie, Edinburgh, for floral designs; Mr. F. Forman, Eskbank, for Skimmias; Mr. Wm. Wells, Redhill, Surrey, for Chrysanthemum blooms; Messrs. M. Todd & Co., for dinner table decoration; Messrs. Fletcher & Son, Edinburgh, for ornamental wirework; Messrs. T. Methven & Sons, for table of plants and flowers; Messrs. J. & R. Thyne, Glasgow, for table of plants and flowers; and Messrs. R. B. Laird & Sons, Edinburgh, for table of plants and flowers.

TRENCHING IN THE KITCHEN GARDEN.

It is a noteworthy fact that most good growers of vegetables believe in trenching, and there can be no doubt that where vegetables have to be grown for exhibition purposes this is an important and a necessary operation. At this season of the year after the lifting of the root crops, and the removal of the summer class of vegetables; there is as a rule more vacant ground in the kitchen garden then at any other period of the year. Accordingly it is high time that the gardener should be making preparations for the conducting of this important operation, for upon its proper performance rests in a great measure the quality of next year's crops.

Trenching is of the greatest service in adding to the depth of the garden soil, but where the sub-soil is very poor it is an operation the practising of which requires a considerable amount of judgment and discretion, for as may readily be supposed, the bringing to the surface of a poor and barren sub-soil may for a time be attended with anything but beneficial results to the crops immediately following, although the ultimate effect will inevitably be good. Where the soil is very shallow, and the sub-soil poor, and, as is often the case where digging has not been thoroughly performed for a number of years, hard and stony, it is advisable to double dig in preference to trenching. Working in a thorough dressing of manure into the lower soil. By this means the object in view, viz., that of deepening the soil is attained without running any of the risks consequent upon bringing a very poor comparatively worthless sub-soil to the surface.

The manure heap should receive the first share of attention, as it is not a good plan to dig too raw material into the ground. That it should have reached a certain stage of decomposition is advisable, and a certain amount of preparation will, therefore, be necessary. In most establishments the gardener claims the whole of the manure resulting from the stables, and this brought at intervals to the manure heap soon amounts to a respectable quantity. The heap should be thoroughly turned and shaken up at least twice or thrice; and if, as is often the case, it is desirable to mix a quantity of leaves with it, this may be done at the same time. A good sized heap of manure thus obtained, preparations should be made for wheeling or carting it upon the ground to be trenched or double dug. This may, of course, be done during hard and frosty weather, and is by most gardeners, who study economy of labour, put off until this time.

A trench at least three feet in width and two spits in depth, should be dug at the end of the ground at which it is proposed to start, the soil taken from the trench being wheeled back to the extreme end of the ground where it is intended to finish off. A good layer of manure may be spread roughly over the ground and the digging commenced. The top spit of the ground being pitched into the bottom of the trench, the second spit dug out, roughly broken up and placed on the top, the manure being thoroughly incorporated with it. This plan should be followed throughout the entire length of the ground. By this means the upper and the lower strata of soils are made to change places, the lower, of course, being brought to the surface, and exposed to the influence of the weather. It is not necessary to break up the surface of the soil at all finely, for if thrown up roughly the frosts of winter will pulverise and sweeten it, and besides these fertilising influences, they will materially assist in destroying grubs, caterpillars, etc., that would otherwise exercise a baneful effect upon any crops, for the culture of which the land may be intended.—*Bêche.*

HOLLY HEDGES.

The Holly of all the plants used in the formation of hedges has the right to be considered the best, carrying the palm alike for appearance and effectiveness. In our own experience we have noticed the immense difference there is in the relative cost of maintenance of wooden fences and those formed with Holly. Oak fencing, considered by some as next in durability to a brick wall, will generally, after a very few years, entail no inconsiderable outlay for repairs, whereas the Holly, if kept clipped annually, instead of deteriorating, improves as the years roll on, and requires no barbed wire strained along the top to prevent the encroachment of marauders. A first-class Holly hedge, 6 ft. or more in height, is the most impregnable fence one can conceive of, and one more point in its favour is that it may be freely planted without that fear of fatal consequences to cattle which attaches to its only rival as a hedge plant, namely, the Yew.

The general objection to the use of the Holly for hedges is its supposed slow growth. We say supposed, because after plants have grown to 3 ft. their progress in some soils is comparatively rapid. In a few miles drive out into the country many instances of partially decayed park fencing will be seen entailing a heavy expenditure to keep in order, which, had their owners been better advised, might have been avoided by the substitution of this living fence, and in some instances a saving of many hundreds of pounds would have been effected. And yet the supposed heavy cost of plants has been the objection urged against their use. True it is that for a few years the Holly fence when planted will often require for a time another fence of some kind to guard it against being broken through or trodden down, but this seldom need be more than of the cheapest description.

Some lay claim for the Holly that it is not liable to the attacks of any insects, but this is not in accord with our own experience, having had our wrists and face frequently stung with midges, the perfect insect of the larva which often renders unpruned Holly trees more or less unsightly by burrowing among and eating much of the fleshy texture of the leaf Happily hedges and pruned plants in the more ornamental portions of an estate are comparatively free from the pest, but where it exists in any quantity a short stay in the vicinity of trees infested with it is to some attended with most disagreeable and irritating consequences.

Now respecting the slow growth complained of, we have always found that where the soil had been well prepared and the planting carried out under suitable conditions, and at the proper time, there has been no just cause to complain. It is as regards soil a most accommodating plant flourishing on light sandy and peaty soils; indeed, on some descriptions of these it makes almost rampant growth. On most kinds of clay the growth made is slower and closer jointed, but with this exception they do equally well on either light or clayey soils, the only unsuitable staple being bog or soil saturated with water. When preparing the ground for a Holly hedge mark out

the site and trench the soil fully 3 ft. in width and two good spits deep, breaking up the bottom of the trench with a fork and working in some good rotten manure between the bottom and top spit. This is better done six or eight weeks before planting time, so as to let the ground get partially settled and mellowed. The deep trenching and manuring will raise the soil above the surrounding level, but it will in time sink down, and none of it should be removed.

As to the time to plant, we have found that, providing the soil is in suitable condition, it may be done any time from November to the end of May. Our own most successful planting of a Holly hedge was done during the first week in May, during some bright sunny weather with drying winds, and though we planted a good many there was not a single failure, the cause of success being the care taken of the plants. Having to get them from a distance we sent a conveyance with instructions to water the roots well and cover them up secure against getting dry on the way home. We had the holes all dug and watered in readiness and the planting all done before night. These did far better than others from the same source on the same soil, but planted in the autumn. Ever since that time our advice has been to plant Hollies in April or May if you can, and choose a moist still day on which to plant, because the less they lose through evaporation during the process the sooner will they recover the effects attending the disturbance of the roots. This is of great importance, because the Holly among evergreen plants is one of the worst to remove if subjected to rough treatment.

For the formation of hedges, plants which have been removed the previous year should be chosen. These often will not look so fresh and well as others which have remained in one place for three or four years, but as there will be few or no failures among them, a consideration which counterbalances the objections against their unthrifty appearance. Plants not less than six years of age are preferable to younger ones, because these are slow in growth, but after seven or eight years of age growth becomes more rapid. No pruning of either tops or roots should be practised till after two or three years, and then only with a knife or sécateur, just shortening the leaders and any side branches which may be taking a start of others. After a few years, by persistently going over them in this way, which takes but little time, the hedges will gradually thicken, and clipping with shears must be resorted to.

This question of hedge-clipping is not generally understood or carried out as well as it might be. Too often all living hedges are cut straight up and left square on the top, resulting in a poor bottom growth, and eventually gaps are produced, mainly as the result of this weak and dying growth. Hedges, to be healthy and effective, ought to be wide at the bottom, and gradually taper to almost a point at the top, whereas, too often they are actually wider at the top than on the ground. This simple question of hedge management will never be put right till the rising generation of labourers, on whom the labour of attending to hedges will devolve, receive some technical instruction in the leading principles of arboriculture during the time they are at school. Prejudice and custom have too strong a hold on the present generation to make any alteration in their methods of working an easy task.

When planting a hedge, mark out a straight line and cut a trench open with the spade deep enough to allow of the plants being inserted just a little, say an inch—not more—than they were. Set them upright close to the wall of the trench, the distance apart being regulated by the size of the plants, from 12 in. to 18 in. apart. Let the roots be first covered with fine soil, and tread gently and adjust the plants by holding them at the top and treading the roots at the same time. By these means they can be made to form in a straight line; beyond the annual clipping, which is best done late in September and during October, little else is required after a few years, because the Holly after a time almost keeps itself clear of weeds, but till then two or three hoeings of the ground about them is necessary.

Those who can afford to wait for plants of their own growth should collect the seeds during November and December, and mix them with an equal quantity of sand, and then bury them in the open ground till the December following, giving them several turns over during the time to hasten the decomposition of the pulp. Sow during open weather on a piece of ground shaded from the hottest sun. The plants will be showing through in May and June; keep clean from weeds; during the second year transplant into rows 12 in. apart, and set the plants 4 in. apart in the rows; let them remain at that for two years, then transplant into rows 18in. apart, and 8 in. from plant to plant. Before finally planting for hedges, transplant again into rows 2 ft. apart and one asunder, and let them remain for one year, when they should be fit for any hedge-making which may be required, being bushy, fibrous rooted plants.—*W. B. G.*

POTTING SOILS.

There can be but little doubt that the selection of suitable soils for potting purposes, and their proper storage and manipulation when selected, play an important part in the achievement of success in the cultivation of many of our favourite plants. And I doubt not that if it were possible to arrive at anything like a correct conclusion the want of success experienced by many growers in dealing with certain plants, is largely attributable to the scant trouble which is often taken in the preparation of the soil for potting purposes. As "W. B. G." says, it is a great mistake to allow the soil to remain exposed to all the rain that likes to fall upon it. In such cases, the nutritive principles it contains are certainly in very great danger of being considerably lessened, if not washed out of it altogether.

What can be more suggestive of want of foresight upon the part of the gardener, than to have to take his soil straight away from the heap in the open air to the potting bench, and to use it at once, wet, and of clay like consistency, though it may be. Certainly, it is small wonder that so many plants refuse to thrive in such a sticky mass. If the potting shed is large enough, it is always advisable to have a quantity of loam always ready for immediate use, and, if possible, the stack outside should have some protection from the rain. A few boards placed over it, while not costing very much will throw off a lot of water, that would otherwise penetrate.

With regard to leaf soil, too, how seldom is it that much trouble is taken with it. The leaves connected in autumn, mixed with sticks, stones, and all kinds of rubbish are thrown up into a heap to ferment, with the result that, in far too many instances, the whole is permeated to a very considerable extent with fungoid growths, which incorporated with the potting compost cannot fail to have a harmful influence upon the roots of tender plants. Too much care cannot be exercised in the selection of leaf soil for the potting bench, and a store of suitable material should always be under cover, available for use at any time. As "W. B .G." remarks, it is a great desideratum to have the potting compost in a suitable condition, with regard to moisture, and this is a point upon which, I think, every gardener will agree with him, and certainly, the best way to get the suitable medium between too wet and too dry soils is to pass the lot through hands, for even, althought it takes a little extra time, it is true economy.—*G.*

KALE.

As the natural result of the wet and sunless season the growth of most of the members of the Brassica section of vegetables is abnormally strong, and, it might be added proportionately tender. Some plantations of curled Kale which came under my notice on Saturday last were as crisp and succulent as it is possible for them to be. A sudden spell of dry frosty weather now, and this is by no means a far-fetched or improbable occurrence, would mean injury to a very large proportion of this class of plants. This would indeed be a calamity that would be felt as much by the cottager as by those gardeners whose duty it is to cater for the requirements of large establishments, for as a rule the spring supply of greens is furnished by these invaluable vegetables, and in the event of their being unable to survive the winter an awkward blank will be experienced. Besides their value as vegetables, many of the crisped and curled varieties are of great service for garnishing purposes, and as we all know the cook or the chef is inclined to create a disturbance if ample supples are not forthcoming, the condition of the weather, of course, not entering into their calculations in the slightest degree. A very ornamental variegated variety sent out by Messrs. Sutton & Sons, is very useful for purposes of garnishing, and if a few plants of it are grown they will be found to come in very handy. Although most of the varieties of Scotch Kale are exceedingly hardy the palm in this respect must, I think, be given to a sort known as the Arctic Purple curled.—*Y.*

GARDENING MISCELLANY.

CLAVIJA ORNATA.

A well-grown and profusely-flowered specimen of this beautiful plant is at the present time making a brave show in the large Palm house in the Royal Gardens, Kew. The racemes of orange coloured flowers are produced in considerable numbers at intervals along the upper portion of the simple stem, which is destitute alike of leaves and branches, and is crowned at the top with a tuft of the long lanceolate leaves. Being of such a distinctly ornamental character, as well as easy of culture, it is rather wonderful that it is not better known among gardeners than it is, for it is deserving a place of honour amongst any collection of stove plants.

APHELANDRA NITENS.

Although the Aphelandras are not so much grown as they might be, nor, judging from the intrinsic merits of which they are possessed, so frequently as they ought to be, they have without doubt much that should recommend them to the gardener. The usually brilliant colours of their flowers, which are produced at a season of the year that renders them of particular value, is well nigh unapproachable. The above pretty little Columbian plant boasts of an exceedingly attractive appearance, although like the rest of its congeners it is best when grown as small specimens. Cuttings consisting of the young shoots taken with a heel, inserted in light friable soil and plunged in a brisk bottom heat in spring, will root very readily, and if potted on as occasion requires will make nice shapely little plants in 4 or 5-in. pots by autumn, when they may be expected to bloom. The flowers are produced in simple terminal spikes, and are rich vermilion-scarlet in colour. Several pretty little plants of it are now in bloom in the stove at Kew.

CHRYSANTHEMUM DAMPING.

Taking into consideration the saturated state of the atmosphere that we have been favoured with for the last few weeks particularly, it is not to be wondered at that great complaints are afloat concerning the wondrous rapidity with which so many blooms have damped off, with a quickness in fact that savours strongly of collapse. But still I am inclined to think that bad as the weather has been, it has not been entirely to blame for this much to be regretted state of affairs. Strong and indiscriminate feeding of plants whilst the blooms have been opening has much to answer for, and this in conjunction with the unfavourable climatic conditions has undoubtedly been principally concerned in the exceedingly short life so many of our best blooms have enjoyed. Gross feeding of Chrysanthemums, when under glass is a mistake in more ways than one, for, to start with its unnecessary application is a waste of good materials, besides doing the blooms positive harm. The application of manure is an operation that to say the least of it requires a great deal of judgment in performing, and one that can easily be overdone.—*Mum.*

THE THREE BEST POLYANTHA ROSES.

In the opinion of a writer in the *Rosen Zeitung*, a German periodical wholly devoted to Roses and everything that pertains to the same, the three best Polyantha Roses for cutting are Mdlle. Cécile Brunner, Madame Marie Pavic, and Perle d'Or. The first named is bright rose or scarlet-rose as described with a pale yellow centre. It grows vigorously, flowers all the summer and autumn, and is sweetly scented. This, as well as Perle d'Or, at least, have been introduced to this country, and are now widely distributed north and south. The flowers of Perle d'Or are golden-yellow or orange-yellow according to the German writer, and freely produced in clusters of twenty to thirty. The dwarf habit of the plant makes it very suitable for cultivation in pots, and the profusion of bloom is a source of wealth to the cut flower basket, and the enthusiastic German speaks of thousands of blooms. Madame Marie Pavic is comparatively more recent, having only

been sent out by Allégatière in 1888, and has not yet found its way into into many of the collections on this side of the North Sea. It is also a cluster Rose of a whitish-rose hue, and apparently valuable not only in summer when other Roses are plentiful, but it produces hundreds of blooms in October, and in that respect is valuable. Probably, many of the so-called modern varieties of Polyantha Roses are of hybrid origin, being influenced by the China Rose or some form of it, for the original type (Rosa multiflora), is essentially a summer-flowering Rose.

CHRYSANTHEMUM SHOWS.

SOUTHPORT.

This annual exhibition was held on the 15th inst., and was a good one all round. The competition was very strong and exceedingly close in many of the classes. The groups were very attractive, and in the cut flower classes the lion's share of the prizes fell to Mr. Woodhall, gardener to Mrs. Mayhall, Birkdale, who was first for twelve Japanese and the same number of incurved (very good indeed), and had the premier blooms in both sections in Etoile d'Lyon and Lord Alcester, both being fine examples.

A nice feature of the show was the class for six plants of Richardia aethiopica, a competition that might well be introduced at other shows of a similar character, their bright foliage and noble white spathes, which do duty for flowers, being singularly attractive. Compilers of schedules would certainly do well to bear this plant in mind. Primulas were well shown and Cyclamens fairly so. Some good stove and greenhouse Ferns and Lycopodium were exhibited, most noticeable among them being a grand specimen of Todea superba measuring 3 ft. across. The Orchids were indifferent, with the exception of Cypripedium insigne.

The fruit display was also fair only both as regards quantity and quality. The Muscats from Mr. Woodhall, who was first for a single bunch and a pair, were the leading feature; while Mr. Schofield, gardener to Mr. Blackham, with very good Alicante, was first in another class. Mr. Woodhall was also first with a nice collection of six dishes of vegetables, and Potatos and Celery were also well shown. The show was neatly arranged and well managed, and deserved to be well supported; but we might urge in the interests of visitors that the Committee should in future more rigidly enforce the rule that all exhibits shall be legibly named.—*Rusticus.*

BIRKENHEAD.

THE eighth annual show was held in the Hall of the Young Men's Christian Association on the 16th inst., and included over 150 entries, the quality being well sustained with the exception of the fruit. The cut flowers were a good all round lot, the incurved varieties showing a considerable improvement on those staged at St. George's Hall the previous week. For eighteen Japanese varieties, Chas. Procter, Esq. (gardener, Mr. James Williams), Nocturum, staged an excellent lot, the best being Viviand Morel, Stanstead White, Charles Davis, Avalanche, Edwin Molyneux, Lilian B. Bird, Mr. E. Clark, etc.; second, Mr. G. Blockburn (gardener, G. Burden), Claughton. The best twelve Japanese came from Mr. F. Jevons, Claughton, and the best eighteen incurved from H. Tate, Esq. (gardener, Mr. J. Edwards), Allerton, his best flowers being of Lord Alcester, Miss Haggis, Mad. Darrier, Lucy Kendal, Mrs. Heale, and Violet Tomlin.

In the local competition Mr. C. Gatehouse, Nocturum, took the lead for twelve Japanese; Mr. C. J. Procter for six varieties; Mr. W. G. Leete for a second six Japanese; and Mr. G. C. Moses, Bebington, for a dozen incurved varieties; Mr. J. E. Grayson had the best six. For six incurved and six Japanese Mr. J. Heap, Claughton, took first honours. In the 40 ft. group class there was a considerable difference of opinion as to the awards, of which Mr. C. Procter took the first.

Numerous other subjects besides Chrysanthemums were well shown, and special awards of merit were granted to Messrs. Dicksons, Chester, for decorative plants; to Messrs. R. P. Ker & Sons, Aigburth, for Cyclamens and Ferns; to Mr. S. Johnson, Oxton, for Chrysanthemums and Ferns; to Mr. W. Henderson, Oxton, for Palms, Ferns, Chrysanthemums, and wreaths: to Mr. G. Jones, Birkenhead, for Callas, Roman Hyacinths, etc.; to Mr. T. W. Graham, Birkenhead, for plants, bulbs, and Potatos; and to Mr. H. Middlehurst, Liverpool, for Potatos. The show was well patronised during the afternoon and evening, and the arrangements were well carried out by Mr. W. Bassett, the secretary, and his committee.

BOLTON.

This was an excellent show, and in the quality of the blooms, especially of the incurved section, showed a well marked advance on all previous efforts. The groups arranged for effect were very imposing, and would be much improved by the introduction of some graceful Palms to break up the stiff, formal character, especially as the class referred to admits of fine foliaged plants being introduced. In this competition the prizes went to Mr. Henry Shone, gardener to J. W. Makant, Esq.; Mr. F. Pownall, gardener to Martin Musgrove, Esq.; and Mr. G. Pawson, gardener to J. Heywood, Esq., in the order named. In the cut bloom competitions, the first prize for twelve incurved and twelve Japanese went to Mr. G. Dutton, gardener to G. Thomas, Esq., Liverpool; Mr. J. Kirkman, gardener to John Stanning, Esq., Leyland, being second; and Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Liverpool, third. Mr. Pennington, gardener to Mr. Banner, Liverpool, secured the premier awards for the best twenty-four Japanese, reflexed and Anemone flowered, and the best dozen incurved; while Mr. Kirkman had the best dozen Japanese. Fruits were fairly well shown, and the vegetables were exceedingly meritorious.

WALLASEY AMATEURS.

The second exhibition under this authority was held in the Concert Hall, Liscard, Cheshire, on the 15th. Considerable improvement was observed throughout, the entries numbered 150, and many of the classes were closely contested. In the open competition Mr. C. Finnegan, Egremont, secured the chief honours for the group of Chrysanthemums. For twelve distinct incurved blooms Mr. Henry Howard, gardener to A. S. Mather, Esq., Woolton, was well to the fore, and followed up this success in the class for twelve Japanese. In the class for five bunches of Black Grapes Mr. J. Bounds, gardener to A. L. Jones, Esq , Aigburth, staged the best, and was likewise allocated the first position for the pair of White Grapes. Mr. J. Goodfellow took the lead for three stove and greenhouse plants and for one dish of Apples and Pears. Mr. J. Salisbury had the best Roman Hyacinths.

QUESTIONS AND ANSWERS.

CHRYSANTHEMUM SPORT.—*F.W.*: Only that portion which bears the sported flowers can be expected to prove true to the new character which has arisen. It would probably be useless, therefore, to take cuttings from the base of the plant. There are various ways of fixing the sport, namely by taking off the flowers to encourage side shoots which may be taken off and rooted in the ordinary way, by layering the top or tops of the shoot and by small cuttings or eyes, each consisting of a small portion of stem with a leaf. The latter method is frequently practised, because it furnishes a large number of plants at once, and gives the cultivator several chances of securing the sport, which must generally be accomplished by rooting the upper part of the plant only, namely that which bore the sported flowers.

FIRE-ON-THE-MOUNTAIN PLANT.—*G. Read*: The plant you have been reading of under this name is Euphorbia heterophylla, a native of North America, and although it grows fairly well in this country during the summer months, it does not attain that perfection which it does in its native country, and may not flower at all in cold wet seasons. We have seen it about a foot high, but at home it grows 3 ft. to 4 ft. high, and produces scarlet bracts on the top after the same fashion as Poinsettias, but on a smaller scale. On account of its size it would not be a satisfactory plant to grow in pots under glass unless you have a considerable amount of space at command. If perfectly hardy it would be useful for planting in shrubberies as well as herbaceous borders.

CARNATION MAGGOT.—*H. B.*: The evil you complain of was doubtless contracted while the plants were still in the open border and before they were potted up. Insecticides are of no avail, and the only thing you can do is to cut off the tops of all affected shoots until you find the maggot. There may even be two in the same shoot, so that no rubbish or cuttings should be thrown away, but burnt at once. It may seem a sacrifice to cut off the tops of injured plants, but if left to their own resources they would die back, and probably the whole plant in many cases would share the same fate. It may still be possible to save the bottom part of the more valuable varieties, which will throw out side shoots, and in many cases bloom next summer.

JERUSALEM ARTICHOKES.—*J. Wallis*: The best way of preserving the tubers in their best condition is to allow them to remain in the ground until required for use. Should severe frost appear imminent, you can either lift a supply for immediate use, or cover the ground with leaves collected last autumn, or with straw to keep out the frost, so that you may be able to dig up the tubers at any time. In the event of the ground being required so that the tubers must be lifted at once, then you can store them in small heaps or ridges, or in a flat layer of no great depth, and cover them over with soil. This may be done in some out-of-the-way place, till they are all used or planted out again. Here they may easily be covered with some material which will keep out frost and enable you to get at them at any time when wanted for use.

COMMUNICATIONS RECEIVED.—T. M.—E. W. & S.—H. & S.—L. H. C.—C. G.—O.—R. A.—T. I.—W. J. N.

TRADE CATALOGUES RECEIVED.

W. ETHERINGTON, Swanscombe, Kent.—New and Select Chrysanthemums.

DICKSONS, The Nurseries, Chester.—Forest Trees, Ornamental Trees, Evergreens, etc.

EUG. VERDIER, 37, Rue Clisson, Paris.—Gladiolus, Amaryllis, Begonias, etc.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.—Forest Trees, Fruit Trees, Roses, &c.

LONDON SEED TRADE.

November 20th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk enquiry for Red Clover at an advance of 2s. per cwt. No change in value of White Clover, Alsike or Trefoil. Ryegrasses steady.

COVENT GARDEN MARKET.

November 20th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per harrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Coh Nuts and Filberts, per 100 lbs.	22 6	25 0	Plums .....half Sieve	0 0	0 0
Grapes, per lh.	0 6	1 6	Strawberries, per lh.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lh.	0 6	1 0	Lettnces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. hasket	1 0	1 6
Cahhages ... per doz.	1 6	2 6	Onlons.....per hunch	0 4	0 6
Carrots ... per hunch	0 6		Parsley ... per hunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Caulliflowers, Eng. dz.	3 0	5 0	Seakale...per hasket	2 0	2 6
Celery.....per hundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumbers .....each	0 6	0 8	Splnach per hushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lh.	0 6	1 0
Herbs .....per hunch	0 2	0 6	Turnlps .....per hun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Ferns, invar., per doz.	3 0	8 0
—specimen plants, each	5 0	15 0	Ferns, small, per 100	3 0	6 0
Cyperus .....per doz.	4 0	12 0	Foliage Plants, doz.	12 0	60 0
Chrysanthemums, per doz.	4 0	15 0	Marguerltes, per doz.	6 0	12 0
Cyclamen, per doz....	9 0	22 0	Mignonette, per doz	6 0	0 0
Dracaena term., doz.	18 0	36 0	Palms in variety, each	2 6	10 0
Dracaena viridis, doz.	9 0	18 0	Palms, Speclmen ...	15 0	63 0
Erica Hymalis, per doz.....	12 0	18 0	Pelargoniums, scarlet per doz...	3 0	6 0
,, Gracilis per doz.	9 0	12 0	Primulas, per doz. ...	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Solanums, per doz. pots	10 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Arum Lllles, 12 blms.	3 0	5 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Azalea.....doz. hchs.	6 0	12 0	Pelargonlums 12 sps.	0 6	0 9
Bouvardlas, per hun.	0 6	1 0	Pink Roses...per doz.	2 0	4 0
Carnations...per doz.	1 0	2 0	Pyrethrum doz. hun.	2 0	4 0
Chrysanthemums, doz. hlooms	2 0	6 0	Primula, douhle, hun.	0 6	0 9
,, doz. hunches	2 0	9 0	Roses, yellow, dozen	2 0	4 0
Eucharis ...per doz.	2 6	4 0	— Red..... doz. blms.	1 0	1 6
Gardenlas 12 hlooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Hellotropes, 12 sprays	0 6	0 9	Scarlet Geraniums, doz. hchs.	4 0	6 0
Hyacinth (Roman) doz. hch.	6 0	9 0	Tuheroses, per doz	0 4	0 6
Lilac (French) per hch.	3 0	5 0	Violets (French) Parnu, per hch.	2 0	3 6
Lllium Harrisil, doz. hlooms	6 0	9 0	Violets (French) Czar, per hch.	1 3	2 0
Maldenhair Fern, 12hs.	4 0	6 0	Violets (French) doz. hch.	1 0	1 6
Marguerltes, 12 hun.	1 6	3 0	Violets (English) doz. hch.	1 0	2 0
Mignonette... 12 bun.	3 0	4 0			
Narciss (French) doz. hch.	1 6	3 6			

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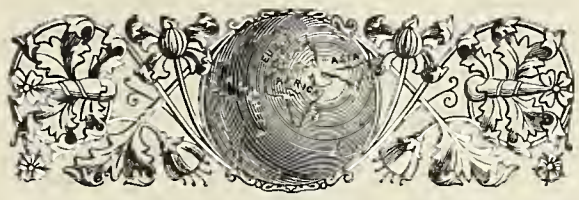

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Dec. 3rd.—Bulb Sale at Protheroe & Morris' Rooms, and every day.

Special Sale of Hardy Perennials at Protheroe & Morris' Rooms.

TUESDAY, Dec. 4th.—Early Winter Chrysanthemum Show at the Royal Aquarium, Westminster (3 days).

Sale of Imported Cattleyas at Protheroe & Morris' Rooms.

WEDNESDAY, Dec. 5th.—Sale of Japanese Lily Bulbs at Protheroe & Morris' Rooms.

FRIDAY, Dec. 7th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 1st, 1894.

HARDY FRUITS AND THE MILD, MOIST WEATHER.—On the face of it, theoretically, it would seem that mild and equable weather would be conducive to the welfare and keeping of hardy fruits in fruit and store rooms, but, unfortunately, such is not the case. The month which has just ended witnessed a large proportion of the Pears, both in bulk and variety, fast hurrying to ripeness or to destruction, that is, rottenness. To a great extent this is so in average seasons, and we have been accustomed to look upon it as natural, but the early part of November saw this process being effected at an abnormal and phenomenal rate so that the regular supplies were bound to fall short before their accustomed time. Some of the best varieties of Pear remained firm to the last on the outer surface while decay, proceeding in the centre, soon rendered them valueless for the table, and at best they could only have been fit for cooking or stewing purposes if taken in good time while the core was soft and brown. This, of course, applies more particularly to dessert varieties, although it may ultimately affect culinary Pears unless we have a decided change for the better in atmospheric influences.

The absence of home-grown Apples from the markets may mean one of several deductions—either that the short supply has all been sold out, that it has suffered the fate of the Pears, or that there is no demand for them. The latter surmise we can hardly accept as the true one, considering that home-grown fruit, when the better varieties are brought forward, is admitted to be of superior quality and flavour to any foreign samples. Apples certainly do not exhibit that soft, spongy and tasteless condition which characterises the bulk of American Apples when kept till a little past their prime, and which invariably happens before they are all retailed to the public. To some extent, the home-grown product has decayed prematurely. The third presumption that the short supply of fruit has been sold, is yearly growing in weight as the public comes to recognise its high standard of quality. There are exceptions in the case of small and inconspicuous-looking varieties, which fail to enjoy that appreciation they deserve, simply because they fail to catch the eye by reason of their lack of colour. We look to education to remove both the ignorance and prejudice which prevail in the case, and also to the improvements that are yearly being effected both in the size and the appearance of the varieties grown and offered for sale. The question remains whether any home-grown Apples will appear in the Christmas markets as in former years. When late-keeping kinds are stored in quantity, it often happens that the heaps are made too deep, and are then covered with mats, hay or straw to exclude the frost, with the result that decay sets in wholesale owing to the undue retention of moisture amongst the fruits and the difficulty of removing decayed ones without a great deal of labour, and the injury inflicted as a result of too much and careless handling. Hardy fruits in private establishments fare much better in being kept drier and in very shallow layers without any covering. Foreign Apples now being sold, are rotting at a very unusually rapid rate, the decay commencing where the fruits have been injured at the points of contact in the barrels and packing-cases, and when this reaches the centre the fruit collapses. The result must be that in a short time both Apples and Pears will become comparatively scarce and prices will run up accordingly. All this decay, precocious ripening and loss may be due in part to the wet summer and autumn which failed to bring the fruits to proper maturity; and in the second case to the mildness and moisture of autumn and early winter since the produce was harvested. Mild weather naturally hastens maturity, and moisture induces decay, particularly in the case of worm-eaten and bruised fruit from whatever cause.

ANOTHER PHASE OF THE MILD WINTER.—The boisterous winds and heavy rainfall have done much to spoil the appearance of many shrubs and herbs now flowering in the open air; yet notwithstanding that fact many plants would appear to have mistaken the season. Where bedding and other summer flowering subject were not pulled up in October last, many of them still continue to bloom. Tropaeolums are amongst the more tender of the subjects put out in the open and are amongst the first to succumb to frost, but the foliage is still fresh both in the case of old plants and seedlings, while Fireball and the Canary Creeper are flowering on trellises and fences not only in some suburban districts of London but at some distance farther north. Ivy-leaved and other Pelargoniums in boxes and on the window sills present a wonderfully fresh appearance and in many cases are in bloom. In cottage an other gardens, pompon and even large-flowered Chrysanthemums are flowering away freely, and are quite fresh in appearance except where they have been lashed about by the wind. Such as it is the flower

ing of the above might be looked upon as a continuation of the summer and autumn display, but there are other cases where the seasons have been forestalled. Huge bushes of Laurustinus are as conspicuous as they could be in spring; but this happens so frequently that we look upon the phenomenon as natural in the south of England. Noisettes and certain other garden Roses are more or less laden with buds and blossom owing to continued growth. Spring has been anticipated, however, by beds of Polyanthus and by Auriculas in frames. The Rush or Spanish Broom flowers normally from July to September, but a large number of bushes in a shrubbery at Taplow, Berks, would appear to have dropped seven months out of their calendar for they are now conspicuous with golden blossom. Many wild plants are in a similar condition including the white and purple flowered species of the White Dead Nettle.

Royal Botanic Society's Shows, 1895.—The following are the dates as at present arranged for the Royal Botanic Society's Shows next year:—Spring shows, March 20th and April 24th: summer show, May 15th; special floral fête, June 12th; evening fête, July 12th.

The Decoration of Railway Stations.—The Midland Railway Company annually distribute £150 among the stationmasters throughout their system as prizes for the best kept platform flower beds and borders. This year the first prize has been again awarded to Matlock Bath, the popular Derbyshire health resort.

Edgerston Horticultural Society, Jedburgh.—The members of the committee of this Society, and a few friends recently met and presented their Secretary and Treasurer, Mr. Richard McAndie, with a family Bible handsomely bound in Morocco, in acknowledgment of the valuable services he has rendered to the Society. The presentation was made by the President, Mr. McNair, and suitably acknowledged.

Yew Trees in Churchyards.—Many have wondered, says the *South Wales Daily News*, why Yew Trees are always to be found in parish churchyards. It is because the old long and cross bows were made of Yew, and the parishioners got their wood from the parish acre. The Welsh of the Middle Ages were very expert with their bows, which, in the twelfth century, however, were made of wild elm. It was in the reign of Edward III. that most of the Yew trees were planted. The Welsh bowmen did yeoman service at Crecy, Poictiers, and Agincourt.

Flowers for the Queen from New South Wales.—By the Peninsular and Oriental steamer, the "Arcadia," which arrived in dock on the 17th ult., the Sydney National Horticultural and Pomological Society have sent some fine specimens of native flowers for presentation to Her Majesty the Queen. They comprise Clematis, Rock Lily, and Waratah. They were set in a vase and fastened with plaster of Paris, and were frozen by the Sydney Fresh Food and Ice Company in a block of ice weighing almost 7 cwt. In this state they were packed in an insulated box and placed in the refrigerating room of the steamer, and have arrived in splendid condition. They were sent on to Windsor on the 20th. No specimen of these flowers have previously been sent to Her Majesty, and they are the first of their kind which have ever left the colonies in a frozen state.

Manuring of Hops.—It is proposed to hold a conference at the South Eastern Agricultural College, Wye, near Ashford, Kent, on Wednesday next, on "The Manuring of Hops." The object in calling the conference is twofold:—(1) To enable growers and scientific men to exchange opinions and experience on Hop cultivation. (2) To consult with the growers in what directions scientific work is likely to be of most service, and what investigations would be most useful. At the meeting, Mr. Monson, who has been carrying on experiments on Hops under the Kent County Council for the past two years, will give a summary of the results obtained, and the growers on whose Hops the experiments have been conducted will be invited to give their experiences. Professor Percival will also describe his recent investigations into the cause of the disease known as "Nettle-headed Hops." The conference commences at 3 p.m.

National Auricula and Primula Society (Southern Section).—We learn from the Secretary that the annual general meeting of this Society was held in the room of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Saturday, Nov. 24th, Edmund Charrington, Esq., presiding. The President, Vice-President, etc., were re-elected, and the members of the Committee were re-elected with the exception of Mr. Lakin, who has withdrawn from the Society, Mr. M. Rowan being elected in his place. Mr. G. W. Wheelwright was elected one of the auditors. The financial statement by the Treasurer showed a balance in hand of £20 9s. 4d.

The National Carnation and Picotee Society (Southern Section).—The annual meeting of this Society was held at the same time and place. Edmund Charrington, Esq., presiding in the unavoidable absence of the President. The President, Vice-President, and office bearers were re-elected with the exception of D. Bogue, Esq., Vice-President. J. S. Hedley, Esq., being elected in his place. Mr. J. Lakin and Mr. H. Headland having withdrawn from the Committee, Mr. Aubry Spurling and Mr. Ben Simonite were elected in their place. The financial statement by the treasurer was considered eminently satisfactory. The amount of £107 was paid in prizes, and the balance in favour of the Society is £159 3s. 7d.

The Lincolnshire Flora.—Writing to the *Spalding Guardian*, the Rev. E. Adrian Woodruffe-Peacock, Cadney Vicarage, Brigg, appeals for help for his "Flora of Lincolnshire." "In working out the distribution of our common plants—to say nothing of the rarer ones—I find there are huge gaps in my 'register of localities' for the Kirton, Donington, Pinchbeck, Spalding, Holbeach, and Long Sutton neighbourhoods and the Parts of Holland lying between these places. Will any local botanist send me a list of the flora, including the commonest plants and trees, and where the specimens are at all rare giving the parish and date. A sketch also of the flora of the Wash shore in the parishes of Holbeach and Gedney would be most valuable to me. No botanist seems to have made a study of the neighbourhood since John Ray passed through it in 1660; and since the drainage the flora has changed considerably. Next season, I hope to study the district personally with a view especially to its rarer species; but lists such as I have suggested would be most valuable to determine the direction of future work.

Damage to Plants by Parasitic Fungi.—The third of a series of lectures on horticulture for gardeners arranged by the Lancashire County Council was given in the Memorial Hall, Manchester, on the 22nd inst., by Professor Weiss, whose subject was "Damage to Plants by Parasitic Fungi." Mr. A. Stansfield presided, and in introducing the lecturer said the subject was of great importance to horticulturists, for the enemies of plant life were numberless. Professor Weiss remarked that in his first lecture he dealt with injuries done to plants by climatic conditions such as fog. In his present lecture he desired to speak of the injuries caused by vegetable parasites to plants and to crops. Fungi, he pointed out, attacked living as well as dead tissues, animal and vegetable. On that occasion, however, they had to consider more particularly the fungi which attacked the living tissues of plants and absorbed their nutriment. The lecturer proceeded to draw attention to some parasitic forms and to suggest means for their extinction or modification. He urged that it was of the greatest importance to horticulturists to know the life history of any particular fungus from a scientific point of view, and remarked that in supplying this knowledge the botanist was in a position to assist the horticulturist.

At the Middlesex County Sessions on the 24th, William Kemp, gardener of South Norwood, was indicted for obtaining by false pretences divers sums of money from his employer, Mr. Alexander, of Teddington, and goods from Messrs. Protheroe & Morris, of Cheapside, and Messrs. John Laing & Sons, of Forest Hill. The jury found the prisoner guilty, and Mr. Loveland-Loveland sentenced him to twelve months hard labour.

AN EARLY GARDENING BOOK.

I HAVE just come across a very interesting article in an old gardening work, entitled: "The Earliest Gardening Book," published in the city. This was *Paradisi in Sole Paradisus Terrestris*, of which, no doubt, many of the readers of THE GARDENING WORLD have heard, as copies of it can still be purchased, though it commands a good price, as it is very scarce. This book was written and published by a citizen of London, namely, John Parkinson, apothecary, of London, in 1629, and printed by Humphrey Lownes and Robert Young at the Starre in Bread Street Hill. In addition to the Latin title of the book, it is termed, "A garden of all sorts of pleasant flowers, which our soil will be allowed to be nourished up with, a kitchen garden of all manners of herbs, roots, and trees, for meat and sauce used with us; and an orchard of all sorts of fruit-bearing trees and shrubs fit for our land, together with the right ordering, planting, and preserving of them, and their uses and virtues; with an engraved title page representing the Garden of Eden; In 612 pages, and with 100 wood cuts of flowers and fruits, 17 wood cuts of gardens, and a portrait of the author, dedicated to the Queen (Elizabeth)." What an important book this must have been, and, indeed, still is. And the London of that day! If this old citizen gardener could come to life again and see London as it is in our times, he would be as nonplussed as Rip Van Winkle was when he awoke from that long sleep upon the Catskill Mountains.

I am always deeply interested in the representation of the Garden of Eden. Adam is there, apparently gathering a fruit from some standard tree, and Eve is busy tending some flowering plant. How quaint the scene is, and the prospective utterly disproportionate. Various trees are there, and in the centre one laden with fruit—does it represent the Tree of Life, or the tree of Knowledge of Good and Evil? There is a Tulip in the foreground, apparently half the height of Adam; there is the Pineapple, Colchicum Lily, Dogtooth Violet, Cacti, etc. A vine bearing fruit has twined itself about a tree, and the Baromete or Vegetable Lamb. The serpent which beguiled the woman has not yet appeared upon the scene, the grand old gardener and his wife have not yet "by man's disobedience and the fruit of that forbidden tree" gained the fateful knowledge of good and evil. Adam was told he might eat freely of every tree in the garden excepting only the Tree of Knowledge. We may, therefore, suppose that he would be sure to partake of the Tree of Life, which from its prominent position "in the midst of the garden" would naturally attract his attention. Like the sacred Soma Tree of the Hindus, the Tree of Life probably yielded heavenly ambrosia, and supplied to Adam food that invigorated and refreshed him with its immortal sustenance. So long as he remained in obedience, he was privileged to partake of this glorious food, but when yielding to Eve's solicitations he disobeyed the Divine command, and partook of the fruit of the Tree of Knowledge, he found it had given to him the knowledge of evil—something of which he had hitherto been in happy ignorance ("Folkard's Plant Lore"), and so the story of a traditional fall goes.

This we do know—that gardens were cultivated in England at an early period, and Fitz Stephen, the historian, who flourished about the time of Henry II, (1154), informs "that those citizens who dwelt in the suburbs of London, had large and beautiful gardens surrounding their villas," but we also learn that these paradisi are rare instances and contained scarcely anything besides a few useful herbs and medicinal plants, or a profusion of trees frequently cut and tortured into fantastic shapes, so that gardens approximating to our present ideas and for the cultivation of rare and beautiful flowers, scarcely can be said to have existed prior to the reign of Elizabeth. About that time fresh impulse was given to their cultivation, and a number of elegant exotics were brought to this country by merchants and travellers from all parts of the world. Sir Walter Raleigh introduced a variety of new plants from the countries he visited:—from Flanders, the South of France, and also from Virginia, and South America, and many persons of learning and distinction directed their attention to the subject, and among these none were more celebrated than the Duke of Northumberland, at Sion House, under the care of Dr. Turner.

Edward Lord Zouche, under the management of L'Obel; Hugh Morgan, apothecary to Queen Elizaheth; James Cole, of Highgate; Gerarde, in the suhurbs of Holhorn; and Nathaniel Leat, a wealthy merchant, and Alderman of the city, who is stated in Girarde's Herhal, published in 1597, "to have procured from Poland, Carnations, Cloves Gilliflowers with yellow flowers," for wrote he, "he gave me some thereof for my own garden, which before that time were never seen or heard of in this country," so that, the citizens of London, according to his testimony, which, moreover, is corroborated by the Archives of the Ironmongers' Company, of which Alderman Leat was once master, may pride themselves on the fact that these beautiful and fragrant specimens of the floral kind were introduced into this country by an Alderman of the city, and a freeman of the Guild of Ironmongers.

But what was the Gilliflower of Gerarde's days? Scarcely the Carnation probably, unless it was some of it that bore yellow flowers. Gilliflower is regarded as a corruption from the Latin Carophyllum, a clove, and referring to the spicy odour of the flower, and the name was originally given in Italy to plants of the Pink tribe, especially the Carnation, but has in England been transferred of late years to several cruciferous plants, and is now more closely referred to Mathiola incana—the Stock.—*R. D.*

LARGE GRAPES.

It is very generally admitted that Grapes, whether for private family consumption or for sale, are valued most when the bunches are of medium size with large herries of fine colour. While very large bunches are not in such demand—and are only valued for special purposes—growers for sale tell us that bunches of extra size are not profitable, hut those with berries of fine appearance command a ready sale. We have put in practice many schemes for growing large herries, and often have proved that frequently drenchings of liquid manure aids the swelling of the berries very materially, but too often gives bad flavour to the fruit; and so connoisseurs of Grapes are quick in detecting the inferior quality of fruit grown under gross feeding, especially with latest Grapes.

And there is a danger in supplying liquid manure late in the season, as it is not only injurious to the flavour of Grapes, but the Vines readily suffer hy the roots being continually under such unnatural conditions. This I have proved more than once; and some friends who also admire large berries are aware of what I have indicated. On the other hand, when Vine manure has been judiciously applied during the growing season and watered down after it has been lightly forked into the soil the best results are obtained.

At the "Mum." show held the other day in Edinburgh, admirers of fine Grapes crowded round an exhihit from Clovenford's neatly set up in shallow baskets. The Gros Colmans especially were superb, and grown under the system adopted by the Messrs. Thomson and many other leaders among fruit growers of applying the Vine manure of that firm when the greatest impost was on the Vines, the best results are obtained. Some of the best bunches in the grand exhibit referred to were about 4½ lb. in weight; 4½ in. was the circumference of the berries which were quite black with fine bloom.—*M. T. Stirlingshire.*

THE GENUS ANGIOPTERIS.

Noble as is the appearance which these heautiful Ferns present, it is very seldom, indeed, that we see them grown, and still rarer do we find them good representatives of their class. This is, of course, owing to the enormous size they attain, much more than to any difficulties appertaining to their culture. Like their nearly allied relations, the Marattias, they need an abundance of water at all times. Like them, too, they hail from the swampy districts in the tropics of the Old World, where they enjoy rather a wide range of geographical distribution.

Widely different are the opinions of various authorities with regard to the number of distinct species contained by the genus. De Vriese defines sixty distinct species; Presl, on the other hand, could only find sufficient warranty for ten. The authors of the Synopsis Filicum are of opinion that there is not sufficient evidence to make more than one clearly defined and distinct species, considering all other kinds as forms more or less widely differentiated of this one species. I suppose it would be hard to find a genus of Ferns containing only one species which shows so great variation amongst its nearly related members. The texture of the pinnae, the disposal of the veins, and the number of the capsules, are all extremely variahle, and cover a considerahle range.

The type, Angiopteris evecta, attains to enormous sizes, and although possessed of no mean share of heauty, is not the sort of plant suitable for houses where room and space are restricted. The great length of the fronds which often reach a length of from 12 to 15 ft.; and the stout stipes supporting them, with the two characteristic persistent auricles at the base, take up, as may well he imagined, an enormous amount of room. The gigantic specimens of A. evecta and A. e. Brongniartiana, which are growing in huge tubs in the Aroid house at Kew afford very good examples of the great size of some of these Ferns when they are allowed anything like sufficient room in which to expand themselves, and are thus enahled to assume more nearly their true appearance and to exhibit their peculiar characteristics.

A. e. hypoleeuca.—This variety is remarkable for the great number of pinnae which the frond carries and which overlap each other to such an extent as to give the fronds a peculiarly double appearance.

A. e. Teysmanniana.—This is one of the most beautiful forms with which we are acquainted, and when in fairly good health is one of the most handsome of stove Ferns.

One peculiarity characteristic of the whole of the Angiopterises is that they will grow and thrive with less light than many other of the Ferns. An example of this may be seen in the tropical fernery at Kew, where many of them are grown in a portion of the house, which is still glazed with the, at one time, much fussed over green glass, with the result that during the winter, except, of course, on very bright days, that part of the house is in a condition of semi-darkness which effectually prevents the rest of the inmates from looking as well as they might otherwise do, hut which seems to exercise no appreciable effect upon the Angiopteris.—*Filices.*

CHRYSANTHEMUM NOTES.

From Maidenhead.

While floods are prevalent along the valley of the Thames and the lower part of the town, especially along the river frontage, including houses and gardens, has presented a drowned and uncomfortahle appearance, the nursery of Mr. Rohert Owen, at Castle Hill, Maidenhead, standing as it does on the highest point of the hill, has never been affected by the water at all, except so far as relates to atmospheric moisture. A very large percentage of the Chrysanthemums in his houses consist of this year's seedlings or the products of previous seasons of a promising nature and still upon trial. The sunless character of the season has made them late, consequently they are still in prime condition, making the houses gay.

Seedlings of this Year.

A large number of the seedlings which Mr. Owen raised last spring are so promising in form, richness, or new tints of colour, and in size, that they will be grown for another year to test their capabilities. They have been grown in a free and easy manner to determine the natural habits of the plants, so that very few of them have been given names. Amongst the purely Japanese varieties we noted a pure white and very promising seedling from Viscountess Hamhleden with reflexed florets. An orange-crimson sort on a yellow ground with a yellow centre is also very promising as a novelty in colour. Another with crimson-red and loosely spreading florets is very hrilliant, contrasting with rich rose and silvery-rose varieties of similar form. The same may be said of a scarlet-crimson, one of a brilliant tone. Near by was one of a crimson hue overlying yellow with spreading florets. Very distinct and telling in the way of colour is a yellow one, tipped with red, and striped and splashed with the latter hue. If it realises its promise next year it will be something distinct. Blush, crimson, crimson with old gold reverse, and golden-buff with pale red outer florets, are other shades of promise when the plants have been grown in exhihition form. A reflexed Chinese variety in the style of Putney George, of a bright crimson lined and edged with gold, is very floriferous, and when disbudded may constitute an acquisition to the show boards. Other Japanese types of promise have hlooms of such shades as pink, rosy-lilac tipped with white, crimson and old gold reverse, rose-amaranth with spreading florets, and yellow edged with crimson, the latter heing a heautifully soft and distinct colour.

We have already mentioned a white flowered seedling from Viscountess Hamhleden, but another from the same parent has reflexed yellow florets with a reddish edge. Neither belong therefore to the same section as the parent. A decidedly superior variety is that which has just heen named Black Prince, and certificated on Tuesday last. The florets are of a rich, dark, and glossy crimson and spreading. There is no maroon ahout, and we do not remember anything approaching the variety in brilliancy even in the Japanese section to which it belongs. Very distinct is a crimson-cerise variety spotted with white. Pretty also is a soft canary-yellow sort with solid hlooms. Others are pink with a white centre, rosy-pink and toothed at the tips of the florets. A seedling from Robert Owen shows a wide diversity from the parent in having reflexed yellow florets, and two seedlings from Golden Wedding are not yet in bloom. A hearded Japanese variety with crimson florets and an old gold reverse is very promising. Mr. Owen has succeeded in raising several very fine Japanese Anemones, but some have not yet heen named, including one with narrow rays and a clear yellow disc. It will be a beautiful sort for market.

Incurved Varieties.

Considerable success has attended the raising of new varieties belonging to the Chinese or true incurved section. Wm. Tunnington has large and massive, bronzy-chestnut hlooms that require no dressing, and was certificated last year. Curiously enough it was bred from the incurved Japanese Esmeralda. Mr. Owen has also some seedlings from Princess of Wales, one of which closely resemhles the parent except in foliage, while another has closely similar foliage, yet the florets are hroad, massive, and deep rosy-lilac with a white edge. Both were raised in 1891. Of this year's acquisitions, Owen's Crimson, which has just been certificated, heats all others of this section for richness of colour. The broad, massive florets are deep crimson, with a slightly paler reverse. Blooms from crown and terminal buds are of the same colour, hut those of the former are fuller. Other seedlings are golden-hronze, rosy-pink in the style of Venus, and chestnut, edged and tipped with gold; the last was raised in 1892. The Bride is one of the purest of whites, and being moderate in size and very floriferous it is well adapted for market purposes. Mons. Lemaille is a golden-chestnut French variety.

Japanese Varieties.

Of this section Mr. Owen has raised a large number of varieties that take their places on the show boards, while some are yet on trial. A prominent sort is the pure white Niveous. H. M. Pollett produces huge, rosy-lilac blooms tipped with white, and the florets are incurved. Pearl of Maidenhead belongs to the same type as the latter, but the huge blooms are much flattened and pure white when fully developed. The florets of Col. Bourne are spreading, then drooping and red. Graphic is a huge hloom that hehaves differently according to circumstances. The flowers from crown buds are broad, spreading, slightly serrated at the tips, disposed in a confused mass and very pale, or in other cases pale lilac. This would he a Japanese type, but the terminal buds give rise to the incurved Japanese form, and the florets are rosy-purple, with a silvery-white reverse lined with rose. The blooms should therefore be secured from terminal huds. Energy is a charmingly distinct flower of a brilliant crimson with spathulate florets, having a long, slender shaft, and herein lies a distinctness which is very seldom represented amongst cultivated varieties, and perhaps never appears on the show hoards. A rich velvety-crimson of the true Japanese type is John Dugdale. Wm. Mease is a rosy incurved Jap., with a silvery-pink reverse. Mrs. Seebohm is like a huge Elaine. On the contrary, Madame Rosaine is after the style of Viscountess of Hambleden, but silvery-lilac, with long, whorled florets and quite distinct. Pure white and massive is Pride of Maidenhead. Mr. Vilmorin is in the style of Avalanche, hut golden-yellow and longer in the florets. Mons. Charles Molin from the terminal bud is hright, golden-chestnut, tinted and tipped with yellow. John Lightfoot, recently certificated, is a massive, light pink variety. Mephisto is

bronzy-gold, with incurved florets. Bride of Maidenhead is white and reflexed, while Dr. Grange is golden-yellow, massive, and belongs to the incurved Japanese type. Princess is a bushy variety with stout, quilled and white florets, and being very floriferous is useful for market purposes, as is the Bronzy-gold Mrs. C. Orchard.

OLDER SEEDLINGS ON TRIAL.

Some of these date as far back as 1891, including a rose-cerise Jap., and a reflexed one of the same type with white and rose blooms that are yellow and rose in the centre. Another of 1892 has broad, white florets, and is superior to Elaine. A handsome sort is an incurved Jap. with broad, massive, pure white and slightly bearded florets. A reflexed Japanese form has large red blooms. A rosy-lilac Jap with a white reverse has massive blooms. Very curious is that which is white, lined and tipped, or splashed with rose. Interesting and beautiful is a seedling of the Japanese type with globular white blooms in its last stages. When the flowers first expand they are flat with a sulphury centre, and when half developed they begin to whorl and twist at the base, then develop into a complete ball of beautiful contour with the tips of the florets variously interlaced with one another. It is a seedling from Avalanche, and once more illustrates how different from the parent seedlings may be, as in the case of those from Robert Owen and Viscountess Hambleden. Other Japanese seedlings raised here have white flowers with loosely interlacing and narrow florets, yellow tinted with buff and closely incurved florets, and rosy-purple reflexed florets with a white tip, making a huge bloom like a mop. Another true Jap. has huge flowers made up of a spreading, twisted mass of long pink florets. A promising one has salmon-rose flowers on a yellow ground. A rose-cerise variety has drooping petals and another has regularly interlacing crimson petals with a nankin reverse. Others are yellowish-fawn, white from Viscountess Hambleden, a mulberry shade with incurved florets, pink, tinted with yellow in the centre and quilled, bronzy-yellow, deep rose-amaranth like an intensely coloured Viviand Morel, and a lilac, promising incurved Jap.

FOREIGN VARIETIES.

Interocean is a massive bloom with reflexed blush florets in the style of Viviand Morel. Ivory is a white-flowered market variety, and an orange one named Frank Wilcox is used for the same purpose. Country Gold is a yellow Japanese variety with pointed, divuricate florets; Minerva is also yellow, but very different in form; and Autumn Glow is of the same form and colour as Madame Cambon. All of the above are American sorts. A number of French and other Continental varieties may be seen, including Ville de Nimes, warm rose, in the way of Violetta, Vice-President Boutreux, a Jap. with rosy-lilac fimbriated florets, and Guiseppe Grudici, yellow and bronze; the latter is a promising Italian variety. James Lynch a crimson, reflexed Jap. comes from Tasmania. Pride of Launceston also comes from the Antipodes, and is a very promising and massive Jap. of a rich amaranth with a silvery-white reverse.

SOME PRETTY CRAB APPLES.

THE planting season is again with us, and the time is suitable for calling attention to a few choice flowering trees in the hope that some at least will plant them. When orchards are gay with bloom, and the Crabs in woods and copses are a mass of lovely colour, then we should see and enjoy those pretty kinds which are not wild with us, but hardy, easy to grow, and ornamental in the truest sense. From Japan comes one of the finest Crabs which gardens small or large should have. This is known as

PYRUS MALUS FLORIBUNDA, but unfortunately the true thing is not always sent out under this name. In growth it is very different from any European Crab, having slender horizontal branches, and the diameter of branch spread of a tree 6 ft. high is quite double that amount. Allowed to grow naturally, it branches freely from bottom to top. The flower clusters are produced all along the graceful half drooping branches, and the tree is a perfect mound of blossom, the buds crimson, the expanded flowers pink. There are now several distinct forms of this pretty tree, and all are worth growing by those who have room for them. A variety named atrosanguinea has flowers of a decidedly darker shade, as the name implies. One of the choicest Crabs, however, is a form of floribunda which was first called Halleana, but is now being distributed under the name of

P. PARKMANNI FL. PL. When it has attained greater dimensions, there is no doubt it will then be one of the most beautiful of the many ornamental Crabs. It is said to make a tree about 12 ft. high, but even young bushes commence to flower freely the second year from planting. It has a slender, spreading growth; its leaves are of a very deep dark green colour, and hang upon the tree long after those of other kinds have fallen. The flowers come in clusters along the entire length of the shoot, the buds being a rich carmine-red, becoming a little lighter as they expand. They are large, and, owing to their semi-double forms, last rather longer in perfection. Yet another form of the Japanese Crab, but as yet hardly known in this country, is one named

P. SCHEIDECKERI. It was raised by L. Spath from seed, and is the result of a cross between floribunda and prunifolia. It is said to be more beautiful and more vigorous than floribunda, but having only been in commerce about five years, there has hardly been time to prove what the raiser claims for it. Its habit of growth is more erect than that of floribunda, and the few flowers that our young tree produced this spring showed it to be distinct. After another year or two we shall be able to judge it better, and for the present those who plant will do best to confine themselves to the preceding kinds. The fruits of the Japanese Crab are exceeding small, being scarcely larger than a pea.

The CHINESE CRAB has been in the country long enough to have become a common tree, but whilst most planters deluded themselves into the belief that only evergreens were suitable for the surroundings of houses and gardens it is no matter for surprise perhaps that we only now and then meet with a good specimen planted probably by someone to whom its beauty specially appealed. There are few prettier flowering trees than the Chinese Crab, only it wants rather more room to develop, being a larger tree altogether than its Japanese relative. Full grown specimens are from 25 ft. to 30 ft. high, and have a considerable branch spread. Happily its flowers freely when young, and therefore soon repays the planter, gaining in beauty year by year as it increases in stature. It has large semi-double flowers of a light reddish-pink colour, the buds before opening being of a deeper red tint. There are several forms of this now obtainable, the best being that named Kaido, whilst the others lately planted, but not proved, are said to produce double rose and double white flowers respectively.

P. TORINGO, also Japanese, must not be forgotten. It is little more than a spreading shrub, but very pretty, having distinct toothed leaves, small pink flowers, succeeded by tiny fruits hanging in thick clusters. A form of this name, Ringo, is more dwarfish still, and bushes barely a yard high are a sheet of flowers in early spring, whilst the leaves that come later on are more like those of a Hawthorn than a Crab.

The AMERICAN SWEET-SCENTED CRAB (P. coronaria) is to be found in a few old gardens. It has been introduced more than 150 years, but has so long been neglected that it would be difficult to obtain it in English nurseries. It has large single pale pink flowers, which appeal to and gladden other senses besides that of sight, as they possess a delightful scent like that of Violets.

The larger-fruited SIBERIAN AND OTHER CRABS are better known, and some of them, like the Dartmouth, John Downie, Fairy, and others are becoming popular. A striking addition to this race is one named Elisa Rathke, a weeping kind, with this tendency so decided that its lateral branches grow downward almost perpendicularly. It is said to have a large, handsome fruit, and without a doubt as the trees grow older and larger their effect will be curious and pretty.

There is no more trouble involved in planting such trees as these than is necessary to plant the conventional mixture we see everywhere in nearly all gardens, and even old gardens might be greatly beautified by piecemeal renovation of the shrubberies. A little grubbing and planting each year might be done at small cost, and a good way to avoid confused mixtures is to take a family of trees or shrubs adapted to the spot, and make a good bold group of the best of them.—*The Field.*

THE VEGETABLE GARDEN.

Taking Stock.

MOST gardeners will now have their hands full in protecting any that are not capable of withstanding the frost, which we may expect to set in at any time, and would seriously cripple them if left uncovered. This is also the season to take stock as it were. Those gardeners who have paid attention to the various crops as they became ready for use, and noted down every particular concerning them, should have no difficulty in making out their seed lists another season. There are many, however, who do not go to this trouble, and are therefore often puzzled when the season comes round to know what to order. To such a few remarks on some of the best varieties may not be out of place just now, as we shall soon be having the Seedsmen's catalogues, which will almost bewilder us with the long list of novelties which are of course all the best. We all know how good vegetables are appreciated therefore it is the duty of the gardener to try to get the best even though the seed be a little more expensive.

About Turnips.

EARLY Milan Turnip is no doubt very good as it turns in so quickly, it must however be used quickly as it soon gets strong. Early Snowball is not far behind and is of much finer quality. A very early kind is Sutton's Scarlet Perfection and its Counterpart Yellow Perfection, but these are after the early Milan stamp and therefore not equal to Snowball. For summer use we have found nothing to equal Veitch's Red Globe. It is perfect in shape, handsome in colour and delicate in flavour. Green top Globe is also a good variety for summer use, but we have found none to equal Chirk Castle, Black Stone, for withstanding the winter. To grow this variety well requires rich soil.

Potatos and Peas.

POTATOS also call for some remarks, for having grown some scores of varieties we are able to speak with some confidence about these. For Earlies we have found none yet to equal the Ashleaf kinds as their tubers are usable when quite small. There are earlier kinds it is true, but they are not so well flavoured till fully grown. We must next give the palm to Sutton's Supreme. This fine new Potato ought to soon find a place in every garden, for it is without doubt the finest second early in cultivation and with us withstood the disease better than any other. It produces short robust haulm, tubers kidney-shaped of even size and perfect in form. No garden ought either to be without Windsor Castle for it is an enormous cropper, of truly pebble shape, and free from disease.

Peas are another vegetable that requires carefully dealing with, there are so many fresh varieties in the market. We may safely say that one of the coming varieties is Veitch's Main Crop. This is a large type of the Chelsea Gem, with dark green curved pods; grows about 4 ft. in height. Of Onions, none that we have grown are equal to Sutton's strain of Ailsa Craig. It is a globe-shaped variety, of quick growth and fine flavour. Of French Beans, there is nothing in our opinion for summer use to equal Sutton's Triumph; the pods in shape are more like those of the old Scarlet Runner, being broad and rough. The plants are dwarf and branching. Seakale Lily White is certainly an improvement on the old purple kind. It forces easily, is of better colour, and produces better crowns.

Salading, &c.

LETTUCE, for early use, there is nothing to equal Golden Ball or Golden Queen, and for summer, Mammoth Cos or Balloon. There does not seem to be so much competition in the way of new varieties of Parsnips, the old ones still holding their own in the field. Carrots, however, are very numerous, some of the stump-rooted kinds turning in very early. Of both Cauliflower and Broccoli there have been numerous introductions of late years. Both Autumn Mammoth and Early Forcing are two grand additions. Savoys.—The best of these are Sutton's Tom Thumb and Late Drumhead. Brussels Sprouts have also much improved; there are, however, so many good varieties of these that it would be very difficult to say which of them was best. Perhaps of all our kitchen garden crops none have improved to snch an extent as the Tomato. Year by year we are having new varieties or improved forms; the only thing to be attained now is flavour. We have

various shades of colour, perfection as regards shape and fruitfulness, but if we could have them with a more hardy constitution it would be better.

Vegetable Marrows.

There is also an improvement in the Vegetable Marrows, for instead of having those large coarse kinds we have now a more perfect shaped form with delicate flavour. Horticultural societies have doubtless done much towards improving the quality of vegetables shown at exhibitions, but it has been left to the enterprise of a few of our leading seedsmen and enthusiastic growers to produce better strains of the numerous varieties that find a place in our gardens at the present day. To them all honour is due for their untiring zeal, and let us hope that they may be rewarded for the pains they have taken to supply us with the many new and choice varieties now cultivated in our gardens.—*Kitchen Gardener.*

THE FLOWER GARDEN.

Work in this department must in all cases be guided by the state of the weather, and this remark, while it is applicable all the year round, specially applies to the operations conducted during the next few weeks. If very hard frosts prevail, or if we are visited by a fall of snow, the work will be considerably hindered; if on the other hand a continuance of the wet weather occurs, the gardener will also be hampered to a very great extent, especially if the soil be of a heavy and retentive nature. Advantage must therefore be taken of every favourable opportunity now to get the work as well in hand as possible, for hindrances will be sure to occur presently.

The herbaceous border should receive a thorough dressing of well-rotted manure after the last vestiges of the last season's vegetation have been cleared off it. A light forking in may be given, the greatest care being taken not to disturb its occupants, particularly the bulbous subjects, any more than is absolutely necessary. This done, see that all labels are neatly inserted in the soil, and take note of those which need to be re-written, to serve as employment on wet or snowy days. Any flower beds and borders that are empty should be dug up roughly in readiness for the ensuing spring, manure, of course, being applied if the state of the soil they contain and the requirements of the plants that are to fill them next year necessitate its application.

Beds which it is proposed to fill with Zonal Pelargoniums next year should not have a too rich soil, or this will inevitably cause rank growth and a proportionate scarcity of flower among plants of this class. A soil of medium richness, which tends to produce a dwarfer sturdier habit in the plants growing in it, and a resulting abundance of bloom, is what is needed. On the other hand, in situations where it is intended to plant Cannas or other subtropical plants given to deep and heavy feeding, the soil should be enriched with a liberal addition of good manure.

Continue the planting of deciduous trees and shrubs as long as the weather continues mild and open, and keep a sharp eye upon rotten or broken branches from the larger trees, which should be removed as soon as seen. Any extensive operations in the flower garden should be forwarded without delay, but if much wheeling has to be done it should be performed upon planks laid down for the purpose or the walks will suffer, except, of course, in the case of very frosty weather prevailing.

Roses.—These may be pruned as soon as time can be found, unless the winters in the locality usually prove severe, as is often the case in the North of England and in Scotland, in which instance it is advisable to defer the use of the pruning knife until spring. In districts in the South of England it will, however, be found that plants pruned in late autumn usually start away more vigorously in spring than when pruning is put off until the later season.

Steps should be taken to ensure the security of ornamental flower vases that are standing in exposed situations. Indeed, in many cases where their weight does not render it inadvisable to shift them, they should be brought indoors out of the way of the frost, which often does them a deal of harm. Before being returned to their original situations, they should be washed, and this of course will afford a "job in the dry" during bad weather when outside work is impossible.

THE HARDY FRUIT GARDEN.

Continue the planting and shifting of all kinds of fruit trees, as advised in the last calendar if the state of the weather permit, and the soil is in proper condition. Planting during wet or frosty weather is not to be recommended, as to bury masses of wet or frozen soil in close proximity to the roots of the young trees is very likely to cause them to sustain serious damage.

The pruning knife and the saw must also be kept vigorously at work, commencing of course with those trees in which the wood is the best ripened and coloured, which will naturally, all things being equal, be those trees which have enjoyed the greater amount of direct sunlight.

Old trees, which it is intended to regraft, may be headed back in readiness for the performance of that operation. During wet weather shreds should be cut up, so as to be in readiness. All nails, too, before being used may with advantage be heated and dropped whilst hot into linseed oil. Preparations thus made serve the great purpose of economising valuable time, and enable the gardener to take advantage of every favourable opportunity to vigorously prosecute the nailing of wall trees, an operation that is usually accountable for a great deal of time during the winter months, and which always forms a more or less serious item in the winter's work.

FRUIT UNDER GLASS.

The late fruit houses should be kept as cool as possible, so as to allow their occupants to enjoy the perfect rest so beneficial to them. Ventilate freely during the day and apply fire-heat by night only to a sufficient extent to exclude frost.

The Early Peach House.—This should receive a thorough cleansing, glass and woodwork being washed, and the back wall (if it is a lean-to house), whitewashed. This done, the trees should be pruned without delay, and the shoots neatly tied in. If thought advisable, the stem and the main branches of the trees may be painted with the mixture as recommended for Vines on page 151 of a previous issue. The loose surface soil upon the borders should be raked off, carted away, and a top dressing of rich loam given. A temperature of 45° Fahr. by night, rising to 50° or 55° by day will be amply sufficient at first, for if too hard forcing is practised, the blossoms will very likely drop to a considerable extent. The trees may be syringed twice daily with tepid water until the flowers begin to open when it must be discontinued.

Vines.—The temperature of the houses that were shut up for forcing at the beginning of the past month, should be kept slightly on the increase. The minimum night temperature should now be about 55° Fahr. with a proportionate rise during the day. Continue the regular syringings as previously advised, and thus insure a moist and growing atmosphere.

Figs.—When early crops of this favourite fruit are looked for, a few trees in pots are well nigh indispensable. These may be plunged to the rims of the pots in the same fermenting materials as are the pot Vines, for the same treatment that is accorded these latter will suit Figs admirably.—*A. S. G.*

Gleanings from the World of Science.

The Carnation Maggot. — While Carnation growers dread this pest, they may still have patience to read and think of its remarkable structure, even if they do not examine and study the actual specimens for themselves. The eggs are said by some to be laid upon the leaves towards the base or sometimes near the upper end, and that the newly-hatched maggot penetrates the tissue and works its way down the interior of the tissue of the same. However that may be, it is contrary to my observations upon a large number of specimens. The examinations were made too late in the season to find the eggs, but they seem to be laid upon the unopened leaves forming the long central bud of layers put down in August last. The entrance hole is made in this bud, and when the leaves expand, it is seen that a number of them have been bored through, and the holes are either round or oval. The grub seems to eat its way out by mistake sometimes when trying to find its way into the pith of the shoot, and probably tries again or goes on to another to repeat the experiment. When once in the pith it often turns aside and goes up the leaf from the base, eating away the soft tissues and separating the two skins, which die. I found a specimen nearly full grown, about 3 in. from the base of the leaf, and still boring its way up, lifting the skin in the form of a ridge. When a number of the top leaves have been destroyed in this way, the grub may and does often go down the centre of the pith of slender shoots, and should it come to a thick portion, it gnaws its way round the outside of the pith close to the wood, where food is probably more plentiful. When disturbed or taken out of a burrow it will commence to gnaw its way down the soft part of the stem again as if nothing had happened. It is therefore very hardy, and probably destroys more than one layer or shoot if so inclined in order to get better food. Finally it gnaws its ways out and evidently pupates in the soil.

The exterior of the Maggot.—In structure this is very similar to various other larvae or grubs of other root-eating and stem boring diptera or two-winged flies whose operations the gardener and market grower have often to deplore, because they cannot apply wholesale remedies to stop the mischief of the maggots. The latter in this case are cylindrical, tapering to the head, cut short at the tail, legless, and yellowish. Round the edge of the truncate tail are numerous, blunt, tooth-like processes with which the maggot keeps itself pushed up to its work when excavating. On the flattened end of the tail are two colourless protuberances tipped with brown. On the front of the head are two others, each furnished with three little elevations tipped with brown and resembling so many facets or lenses of imperfect eyes. What corresponds to the jaws consists of a black process, forked at either end. The whole, or nearly the whole, of the head is capable of being drawn into the body, leaving only a small funnel-shaped opening. The outer ends of both forks are hooked at the end and furnished with a large tooth-like process at the base of each. The opening of the small mouth is between them. This horny black process is the structure with which the creature effects all the mischief.

The interior of the Maggot.—While alive, the whole creature is fairly transparent, so that much of the interior can be examined under the compound microscope. The intestines and their movements can be seen when the maggot moves or contracts its body. The muscles and their arrangements are singularly curious and interesting. What seems a strong bundle of cords firmly united into one, runs along each side of the body towards the dorsal aspect, from the shoulders to the tail. From these two strong cords numerous smaller ones are given off to various parts of the body, and their arrangement is peculiar. Between or inside of these again are other, finer threads, spirally twisted and both curious, beautiful and extremely interesting, looking as they do like loose coils of electric wires. The strong bundles already mentioned doubtless enable the creature to bring up the hinder part of its body when the fore end is stretched out, or *vice versa*. The ends of these bundles protrude outside the body. The ends on each shoulder become spread out into eight, clubbed and radiating finger-like processes, which are capable of movement and possibly serve some useful function in the economy of the animal when moving its body along. At the tail end the thick cords end in a flat-topped circle of short, blunt knots.

Eel Worms and the Maggot.—The injury caused by these is generally discussed separately, but the two plant enemies would seem to have some connection with one another. I have found eel-worms in the same leaves that have been destroyed by the maggot and apparently living upon the decaying matter in the interior. They taper slightly towards the head, and become suddenly narrowed and then elongated at the tail end; or, in other words, the tail is slender. About a dozen eggs may be seen in the interior of the creature by the aid of the microscope. The eel-worms are so large, however, that they can be detected by the aid of a simple lens only. In another case I have found them in the stems of Phloxes in company with the maggots of another dipterous fly.—*J. F.*

OPEN AIR FLOWERS FROM QUANTOCK LODGE.

THE mild winter has been general over the south of England at least, but some places seem to have been more particularly favoured in this respect. The Quantock Range of hills runs inland at right angles from the Bristol Channel, and then curves round towards the east. Quantock Lodge, Somerset, the residence of E. J. Stanley, Esq., M.P., is situated on the western side of the range on the curved portion, and in such a position that it faces the Bristol Channel, and at an elevation of 150 ft. if we rightly remember. The gardener, Mr. Bousie, sent us a collection of flowers, seasonable and unseasonable, through the hands of Mr. John Grandfield, whose home was originally in that neighbourhood. After assorting them we found that the flowers represented 35 natural orders, 70 genera, 83 species and 101 in all, including species and garden varieties. Of the above, ten were British wild plants, to which we may add four evergreen Ferns, growing in the woods and valleys, namely, Polypodium vulgare, Scolopendrium vulgare, Aspidium angulare, and Asplenium Adiantum-nigrum, all highly prized British Ferns. The last-mentioned is sold in the market under the name of French Fern, and we hope the dealers will always go to France for their supplies, unless they actually grow them.

Of seasonable flowers we may mention the Christmas Rose (Helleborus niger), which may be had in thousands, also Ivy now in full bloom, Laurustinus, Garrya elliptica with great bunches of long drooping catkins like necklaces in structure, the Cornish Heath (Erica vagans), Pieris floribunda, and the Strawberry Tree (Arbutus Unedo). The latter is laden with its large red berried fruits and white flowers for next year's crop. Amongst shrubs that may be considered unseasonable from the open air, hybrid perpetuals and Tea Roses are plentiful, and when the two outer petals of the latter are removed they are as fresh as they might be in June and fragrant. Five different varieties were sent us. The white flowers of Hydrangea Dr. Hogg and H. japonica are still very clean and pure. Escallonia macrantha, with its leathery, glossy foliage, is flowering freely, and so is the white Passion Flower Constance Elliott. The waxy, orange flowers of Desfontainea spinosa are 2 in. long, and as fresh as they might be under glass in summer. The foliage of Kalmia glauca is bronzy above, glaucous beneath, and accompanied by deep rose flowers. The massive white blooms of Magnolia grandiflora continue to open, and are accompanied with fine foliage. Berberis Darwini keeps green the memory of its great namesake with deep golden flowers even in winter. Flowers of Hypericum calycinum are very unusual at this period, yet here they are. Rosemary and Lavender refuse to go sleep; and the bunches of bracts, red and black berries of Leycesteria formosa are marvellous for the period. The common Myrtle is flowering, and so are a large number of Fuchsias, including F. Ricartoni, F. fulgens, and several garden varieties with large red and also light coloured flowers. The wild Bramble is also flowering and fruiting, and to this list the Greater Periwinkle may be added.

Hardy herbaceous annuals and perennials are pretty plentiful, including three varieties of Godetias still fresh and beautiful. The same applies to the closely allied Oenothera fruticosa, also to Myosotis dissitiflora, the common Borage, Pentstemons, Antirrhinums, Veronica longifolia, Digitalis lutea, the Ivy-leaved Toadflax and Salvia azurea grandiflora (Pitcheri); the rich blue flowers of the Salvia were quite fresh, and it seems that S. acuminata Betheli and S. splendens are also flowering grandly in the neighbourhood. The spring-flowering Polyanthus seems to have mistaken the season. The spikes of Polygonum affine are deep red, fresh and showy, and the same may be said of the popular annual Love Lies Bleeding. The massive spikes of the black, pulpy fruits of Phytolacca decandra are as fresh and conspicuous as they might be in September. The orange flowers of Montbretia Potsii still continue to expand their blossoms, Anemone japonica alba has not yet given over, and A. coronaria keeps it company. Honesty (Lunaria biennis) is flowering and fruiting as are sweet-scented Violets, Virginian Stock, Corydalis lutea, Carnations, Pinks, and many-hued Pansies.

Composites are well represented, including the black-centred Rudbeckia speciosa, the Pot-Marigold (Calendula) in variety, Helenium pumilum, Coreopsis lanceolata, C. tinctoria, the red, mountain Cornflower (Centaurea montana rubra) essentially an early summer flower, and the Heath-like Aster (A. ericoides). Here also may be mentioned Matricaria Parthenium and a double form of it as well as the wild Milfoil. The Ragworts are represented by Senecio erucaefolius and the showy S. pulcher with numerous, large, rosy purple flower heads. Chrysanthemums are well to the front with numerous varieties of C. sinense, also C. frutescens (Marguerites) C. lacustre and C. Leucanthemum or Ox-eye Daisy. The wild Strawberry is flowering and fruiting as if it were August instead of the last week of November.

The condition in which bedding plants continue is remarkable. Having never been cut down by frost, they were left undisturbed, and at present cut flowers of scarlet Cactus, and rose and purple pompon Dahlias are being obtained in clean and fresh condition. Armfuls of Gladioli have been cut for many weeks past and still they come. The beds are still yellow with Calceolarias, and a crimson variety is equally fresh, Petunias and Phlox Drummondi continue to develop flowers; and the freedom with which Cuphea ignea (platycentra) and bedding Lobelias continue to blossom is something to bear in mind in the severe winters of the future. The foliage of Cineraria maritima is perfectly fresh. Mignonette looks healthy and its fragrance has not lost its force, while its wild congener Reseda luteola is flowering and fruiting. The bronzy yellow blooms of a variety of Wallflower are large and sweet, while single white, double white and purple Stocks prolong their season. Pelargoniums were also left in the beds and both zonal and Ivy-leaved kinds continue to put forth scarlet and semi-double pink flowers respectively. Their wild relative Herb Robert also declines to go to rest in such mild weather. Variously coloured Tropaeolums, notwithstanding their susceptibility to frost, also remain in flower. Mr. Bousie has not yet had to fall back upon his indoor stock for a supply of cut flowers, and is to be congratulated upon his highly favoured situation in sight of the Bristol Channel.

KITCHEN HERBS FOR WINTER.

PARSLEY.—Steps should be taken without delay to lift a number of roots of Parsley, and to plant these in a frame or pit near the glass. In most gardens during the winter there is a great demand for Parsley, and in very many cases the supply is anything but adequate to the demand. It is not a particularly pleasant operation to delve amongst a foot or more of frozen snow, a bitter wind blowing the while, to obtain the requisite leaves. Besides the personal discomfort attending this task, in very many instances it is directly responsible for the death of such a large proportion of the plants during winter. If indeed, the plants are not killed, they at least sustain such a severe check that the spring is well advanced before they recover themselves sufficiently to yield anything like a supply of this much esteemed herb. Plants treated in the way described will furnish all that is necessary during hard and inclement weather, of course the plants left outdoors will supply sufficient quantities whilst the weather continues mild.

MINT.—In most cases mint is needed in the kitchen long before the spring is sufficiently advanced to admit of the plants out-doors furnishing it. Roots should therefore be lifted in autumn, and placed in shallow boxes or pans with a covering of light soil. These may be introduced into heat according to the time at which the young shoots are required. If a hot bed is available they will break away very readily if the boxes or pans are plunged in it. Care must be taken however, that sufficient quantities of water are given, for if the roots are at all stinted in this respect the produce will be tough and leathery.

TARRAGON.—Winter supplies of this may be obtained in much the same way as are those of mint. The roots should be lifted in autumn and placed close together in boxes, and forced as occasion requires. Supplies of the herbs most used in each establishment should be dried annually and stored away for use during winter. These dried herbs will answer the same end as fresh ones for many kitchen purposes, and will therefore eke out the supply obtained by forcing to a very considerable extent.—*Foreman.*

HERBACEOUS BORDERS.

THERE can be but little doubt that there are fashions in horticulture, as indeed there are in anything else, and the extensive cultivation of the herbaceous element in gardens has of late years become an exceedingly fashionable phase of gardening. Taking it altogether, upon its merits as it were, we cannot but admit that it is a more natural system of plant culture, and although the herbaceous border will perhaps never be able to vie in brilliancy of display with the gorgeous mass of colour afforded by a bed of the tenderer and more fugitive summer subjects, still it has a beauty of its own that is of quite as distinct a character as that of these gay children of summer. For purposes of practical, utility too, the herbaceous border fairly runs away from the more formally arranged parts of the flower garden. From the immense variety of the plants which may be grown in it, seldom, indeed, is it that there are not some attractive features present.

To the gardener who has to furnish quantities of cut flowers for bouquets, or for the filling of vases and the decoration of the dinner table, an herbaceous border, or, at least, a collection of herbaceous plants, is a horticultural necessity. From January to December, excepting, of course, in the event of hard weather, and supposing that suitable subjects are planted, a supply of flowers may be obtained, and this in itself is no small recommendation. Accordingly, the gardener may well hail with delight the fact that fashion is once again proclaiming that herbaceous perennials are the correct things to grow.

It is a great pity that so much confusion among the plants exists in so very many gardens. Each subject should have its own allotted place in the border beyond which it should not be allowed to ramble. Where Narcissi, Cyclamen, Scillas, Snowdrops and subjects of a similar character are planted in the border, the place should be marked in some way, or else harm will be surely done the bulbs when digging around them, for with curious certainty the the digger will be almost sure to drop across them. Where the positions of the bulbs are carefully marked, however, the operator is enabled to avoid the undue disturbing of these plants. With regard to the annual digging I do not consider it is advisable to use the spade annually, but a good dressing of well rotten manure applied in autumn, and forked well in should be the regular practice each year, but in any case the roots of the plants should not be disturbed too much, or they will experience a proportionate check. In fact anything like a serious disturbances will infallibly result in the death of many tender subjects.

As a rule it is by far the wiser plan, as "Stirling" suggests, to devote a place wholly to the cultivation of Alpine subjects. Many odd and what might otherwise be ugly corners may be furnished and rendered exceedingly attractive by the planting of a few specimens of this class of plants. Besides, when planted upon rockwork these humble and lowly, but still beautiful plants, are enabled to exhibit themselves in their true colours, and to show themselves off to advantage, which they could not possibly do if surrounded and over-shadowed by the taller and stronger growing plants, a state of affairs that exists in far too many instances.

CRINUM ASIATICUM.

FROM their large size and the resulting great amount of space they occupy, Crinums do not readily (with one or two exceptions) recommend themselves to the gardener who has not large and commodious houses wherein to grow them. When it is possible to accord them such a position, however, their beauty and effectiveness is beyond all question. C. asiaticum is one of the finest plants of the whole genus, and the large, many-flowered umbellate inflorescence, supported upon the long peduncles, which often attain a length of 2 ft., present a truly magnificent appearance. Like all the rest of the Crinums, C. asiaticum needs plenty of water during the growing period, and occasional supplies of liquid manure will also be of value. When potting them, a rich compost of good loam, manure and a little sand and charcoal should be used, and care should be taken that the thick fleshy roots are injured as little as possible. From the quantity of water needed it will necessarily follow that good and efficient drainage is also a most important consideration.

SAINTPAULIA IONANTHA.

Since the advent of this beautiful Gesneraceous plant in the gardens of Europe, about a year ago or a little over, it has found its way into a large number of gardens, both Continental and British. It was discovered in the district of Usambara, Central Africa, and being different from everything else known, a new genus was made for its reception. It has very much the habit of Ramondia pyrenaica, but the radical rosette of leaves is not so dense, although it completely covers the soil of the pot in which the plant is grown. The leaves themselves are heart-shaped and of a metallic green, and from amongst them the short flower scapes are produced almost or quite continuously while the plant continues to grow, and it commences to bloom while yet small. The accompanying illustration shows the habit of the plant and the form of the flowers, but the plant must be seen to realise the beautiful blue shade of the flowers. Some of the first that appeared were rather pale, but as other plants continue to be raised the blue becomes more and more intensified. Exhibits have appeared in public from time to time, and a First-class Certificate was awarded a group of ten plants of various sizes shown by Sir Trevor Lawrence, Bart., at a meeting of the Royal Horticultural Society on the 23rd October last.

Saintpaulia ionantha.

WAYSIDE IRELAND.

With your kind permission, and asking your sympathy for Ireland, I thank you so far for the lengthy notice given in your last issue of my wayside trip in our "Western Highland." I regret that you, in the first instance, made any reference to me as the Daffodil trader, and must take exception to your first paragraph from two points. First, my surname happens to be other than Ireland. [An inadvertent slip.—Ed.] And then the trip was not performed through the south western portion (this I purpose next year), but was altogether, from the geographical position, confined to Clare, Galway, and Mayo, and we ignorant Cork-folk call this western from Dublin. I am also sorry you do not know the country better. [So are we.—Ed.] Then, as regards the second paragraph, my entire object when leaving home was to see for myself the actual state of Connemara and Achil Island, and do some good from the purely agricultural point of view, and if I happened to notice the district rich and magnificent in scenery and flora, I could not help recording it. But, to be candid with you, it only came into the work incidentally, not intentionally.

To many pleasure-seekers, you know too well, Primroses by the wayside of either England or Ireland are simply Primroses, nothing more. Scenery much the same. Indeed, I once heard an American gentleman compare the sun making a glorious dip into the blue ocean, when coming down Channel from Liverpool on board one of the Guion Boats, as "for all this 'ere blessed world so tarnation-like a bronze Swede Turnip." Sunset being to many after this fashion. The generality of tourists going to Scotland from London, or even condescending to reach Ireland, getting out on the "doing business." It is some years since I was amused at a friend—I won't mind where he hailed from—that took it into his head to visit Edinburgh. Arriving there late one summer evening he parted at once from his friends sauntered out, reached to the top of Calton Hill, got back soon again to his hotel, and wanted the entire party to get on farther next day, as, indeed, he saw all the city from the height, as if there was no more to be seen.

I am afraid a great many sympathetic people in London only know "Wayside Ireland" from the great world of *altitudes*, and am sorry for this.

"The oftener they come here, the more we'll adore them."

Yet if my weak effort at truth-telling, and noting by rail, coach, and steamer will but increase the visits that up to this are that of angels, "few and far between," won't it be some recompense, and not one will be more welcome than your worthy self. It will be the "wynning" of gold and wearing of it. Yes, agriculture is our main stay; we have no such thing as "three rents," coal and iron, ground rent, and that on the surface; we have to stick at Adam's calling, the latter sadly neglected, particularly since we lost our population. And, Sir, I have not exaggerated one iota with my description of the efforts that exist on Achil Island to make manure. "Agriculture," you say, "does not seem to have improved during the last thousand years in certain districts." No indeed! Galway, Mayo, and the river Shannon being all at the wrong side of Ireland. And, Sir, Turnip Seeds and Mangels in the towns of Westport and Clifden are bought in penny and twopenny worths, and even half-pennyworths. Peat turves are likewise not only put on the top of chimneys to catch the smoke, but are also stuffed down the apertures to get impregnated with soot, and to get potash and ammoniacal manure, and even "stones" have been "planted" on the slobs to become a basis of attachment for seaweed, the latter to be afterwards cut with hooks and brought inland, on women's backs, as manure. The Countess of Aberdeen, for a while in Ireland with her husband, the Queen's representative, who is now filling a higher position in Canada, visited Achil Island last July, and said through the public press that what she beheld was a disgrace to the British Empire if allowed to continue, and it was on account of this expression of feeling coming from the lips of so good a christian lady that made me visit Achil Island and see for myself, so that you see the shame is with the Empire, and not with you or the writer.

Yes! Birds do play queer pranks with seeds, and even with bulbs. Here the editorial chair again in distant London gets into error over rural observations on bird-life in Ireland. To give some illustrations, we all remember how remote from man, even from that intelligent botanical portion, and this for years, and undiscovered, yet counted by thousands when first written about. I mean the discovery of the Tenby Daffodil in Pembrokeshire, and not traced as yet to any other part of Europe. I got a lot for planting at once and in 1887 lifted the crop Two years after we noticed in Beaumont domain one-and-half miles distant, Tenby Daffodils in flower at the far end on the ditch side, and where trees overhung, and in good quantity, no doubt carried away at early morning during the lifting period by foolish young crows mistaking them for small potatos, and dropped from the trees when discovering the error into the long grass, through which the roots worked and are now to be seen quite established. To prevent this robbery, as we now lift, each row is covered overnight with corrugated roof iron, as it not only keeps the birds off, but also shields the bulbs from the hot sun, and the action of rain.

Again, I am old enough to remember the severe spring of 1855, (Crimean War times), when the poor birds lived for a great period on anything, and everything but worms and grubs, when the ground for months was covered with six feet of snow, and when they lived chiefly on the seeds of trees. Anyone that has ever shot a rook or wood pigeon in hard weather and, for information's sake, opened the gizzard, would notice the queer things taken up to support nature. A tinker's travelling budget is nothing in comparison. Indeed, I have seen rooks picking at a chestnut, and this in mild weather; same with oak-nuts, and if foolish over Daffodil Bulbs, and fancy them small Potatos, I cannot see why they would not play like pranks with all sorts of nuts. Rhododendron seed, or any seed, is liable to be attacked and partaken of by birds, when at the sprouting or vegetating period. With my own eyes I have seen this, particularly in hard weather.

Another instance. At our summer meeting last June (Agricultural Society), a gentleman member approached the writer, saying that he had a field of Ley Oats that had not been tilled for over a hundred years, and that now when the Oats were getting on to maturity, the field—a large one—was as much a

crop of Potatos as Corn. I guessed at once the cause and where the seeds came from. There was a good gathering of members and, of course, foolishly, I at once offered a sovereign and shares in a bottle of champagne to the one that would solve the query, press men, writers, and all, and this within five minutes without any result; and yet, how simple, as the querist, the year previous, had a large Potato garden within three fields of this pasture land; the foolish crows brought the sets, dropped them, they got ploughed in during October and November, and by all accounts appeared in full bloom after. With this explanation all laughed, none more loudly than the press men.

Yes, there are no ploughs, harrows, or carts, on Achil. Simply because the fields are too small, the horses would scarcely have room to turn, and to get to Westport for food, during a period when there was no bridge over the Sound, a horse and panniers at sides could wade where a cart could not venture. Aster Maritimus seen from the train was on slob land near the sea, as a maritime plant. A good result since the pamphlet appeared. Clare Island, off Westport in Clew Bay, has been purchased by the State Commissioners for sub-division and improvement. Let me hope for more of your sympathy and ready pen to help so good a cause as wayside, neglected Ireland.—*W. H. Hartland, Cork.*

ROTATION IN PLANTING WALL TREES.

This subject often escapes the attention of those under whose charge the management of wall fruit trees is placed. The walls, having been planted, it may be several generations back, during which time frequent renewals have taken place, would now, if the first plants of them were present to have a look along the walls, be found, as far as the dispositions of the various kinds of trees now existing upon them, to differ but little from the original arrangement, owing to the prevalent practice of replacing a Peach, Pear, Cherry, or Plum tree by another of the same family. Now as the importance of rotation in vegetable crops is almost universally recognised and understood it is difficult to understand the complacency with which many pursue an opposite course in fruit tree management.

In my own opinion there are few soils that will grow kitchen garden crops successfully, which if handled properly will not grow fruit trees equally well. But if, for example, a Peach tree has ouccpied a border for a period of twenty or thirty years, it is idle to expect that another one put in to replace it will do equally well in the same soil. No amount of trenching will suffice to meet their requirements, and if new trees must be put in the same spot to replace others of the same character, fresh soil in abundance should be provided. This in many instances proves a somewhat costly proceeding, and might often be avoided by filling up the gaps created on the walls from the decay of any particular trees by others of a different kind.

South walls, generally reserved for Peaches and Nectarines, may in some instances present some difficulty to the carrying out the principle here advocated, but having frequently ripened good crops of both on east and west walls, I should never hesitate in the south of England to plant a portion of the space on walls having those aspects with them, and leave a portion of the south walls for the choicer Pears which ripen during the winter months, and some of the earliest Cherries, as by so doing opportunities will offer on the removal of a tree to replace it by one of another character. On my own opinion a somewhat disproportionate space is allotted to Peaches and Nectarines, and too little to Pears.

The first are, when well ripened in the front rank, among dessert fruits, but who wlll say that a first-class Pear is much behind them in point of flavour, and in some instances of appearance also. Again, the season during which out-door Peaches can be had in satisfactory condititition, is somewhat limited, whereas Pears from a good collection can be had from July till March, and sometimes even later. These winter ripening fruits do not generally meet with the attention which their intrinsic merits should entitle them too, and if they had the advantage of a south wall better fruit would be obtained.

At this season, when the trees are leafless, advantage should be taken of every opportunity to give the walls the necessary attention in repointing them and repairing damages. Old walls which are much defaced by repeated nailings, would be far better wired and faced over with Portland cement. The old nail holes are lurking places for insect pests of all kinds, and render the task of keeping the tress clean more difficult than it should be. A dressing of lime and soot wash, with a portion of soft soap, will do much to keep the aphides in check, but where there is scale on the trees, I advocate spraying them during the winter with benzoline, using any one of the various contrivances sold for the purpose, but not an ordinary syringe. This would be a dangerous and too expensive proceeding, just the faintest spraying over with benzoline will kill the scale and cost a mere trifle in time and material, and can be accomplished almost without soiling the hands, and with no chance of doing injury to the trees. I have used carbolic acid in the same way on Gooseberry bushes to preserve the buds from birds.—*W. B. G.*

THE FORMATION OF GARDENS.

The prevailing idea in the minds of many to whom the formation and planting of pleasure grounds is entrusted would seem to be, from the way in which the work is often carried out, to make them look pretty enough to catch the eye of a would-be-purchaser or prospective tenant, rather than the production of enduring effect consistent alike with the well-being of the plants, their artistic distribution, suitability of soil, and adaptability to the space and surroundings. A very general error is the planting of quick large growing subjects in too close proximity to the house, whether villa, cottage, or mansion, so that in a very few years they are hidden in by a dense mass of foliage, rendering them dark, gloomy and damp, and in some instances unhealthy, especially where the sanitary arrangements are such as to discharge the unwholesome gases from the house drains beneath these dense masses of foliage, which, especially, during damp heavy atmospheric conditions, impede the rising of noxious vapours into the higher regions of the air.

A fashion still too prevalent is the planting of coniferous plants in places far too small, where they soon fill up all the open space and darken the windows; our allusion is to those of larger growth, there being among coniferous plants a large number of varieties of small and moderate growth, the adaptability of which for the purpose indicated is unexcelled by any class of tree and shrub which can be mentioned. The selection of trees should be governed largely by the style of house around which they are to be planted. For the generality of villa residences light ornamental trees planted among a mixture of evergreen shrubs with a few free-flowering deciduous ones will produce the most satisfactory and pleasing results. The Silver Birch, Acacias, Rhus, Scarlet Thorns, Laburnums, Almonds, double-blossomed Cherry, Siberian Crab, Mespilus canadensis, and others, are available for comparatively small places.

In grounds of larger extent the Ailanthus glandulosa, Tulip tree, and Copper Beech, a note in connection with which may be of service to intending planters is, be careful to purchase only grafted plants, a great many badly-coloured specimens are to be seen about. These are seedlings imported from France, and many of them are dear at any price, because an ordinary green-leaved Beech is far preferable to most of them. There are other copper leaved trees, notably Prunus Pisardii and the purple leaved Nut, Corylus Avelaena purpurea, but the Beech is still the best thing of the kind we have, and where there is only room for one or two dark-foliaged trees, it should have the preferance. As regards the Acer Negundo variegata it is often used too freely, for although when at its best a first rate and most effective tree, it is too often rather unsightly than ornamental.

Where there is ample space the Catalpa, Horse and Spanish Chestnuts, among flowering trees are among the handsomest thing there are and may be used with a free hand. Poplars, with the exception of the Lombardy, are out of place in the more dressy parts of the pleasure ground. The Lombardy planted either singly or in threes is a most effective object in a landscape. In large places, The Elms, Oaks, Planes, Scotch, Spruce, Weymouth and Silver firs if the soil is suitable, may be freely used, but when planting any place, either large or small, a study should be made of the variations in the colonr of the foliage and the planting done with a view to bring out as many variations in contrast as can be done consistently with the size of the place.

The flowering plants retain their floral garniture for a more or less limited period, so that as the foliage is retained for a more lengthened one, the different shades of green and the colours should be so blended and contrasted that the most pleasant results attainable from the material at hand may be arrived at. The perspective of a landscape may be apparently added to by the manner the trees in a plantation are arranged, thus apparently increasing the dimensions of the grounds. For instance, those with small foliage and light feathery growth, when planted in front of others with larger foliage and denser growth, as for instance Chestnuts and Sycamore will sensibly add to the seeming distance from the beholder; a similar result is attainable in the diversity of shade by the under growth in plantations contrasting with either lighter or darker shades among the trees towering above them,

In planting a place it ought always to be remembered that the individual beauty of any plant cannot be shown to advantage without ample space being allowed for its natural development. For this reason open spaces ought to be provided for the more beautiful and uncommon subjects, where they can be seen to the best advantage. Where immediate effect is desirable, and close planting is resorted to, the sites for prominent specimen trees should be determined and others planted, so that they can either be removed or cut away after a few years without marring the effect. Where space admits of a large variety being planted, the disposition of many of the rarer plants will require the attention of the planter as regards exposure to gales and frost. Among Conifers, for instance, there are those which will pass through severe winters unscathed in certain positions within a somewhat narrow compass, when specimens within not many rods away will be severely injured.

Among flowering shrubs the most beautiful ought to be more prominently displayed, beds and projections from the plantations being provided for them, Rhododendrons and allied plants requiring peat-soil being planted in masses; Berberis, Laurustinus, Arbutus are better distributed among Laurels and Hollies. Variegated forms of these and Aucubas are valuable for dotting about among the more sombre hues of other evergreens. The Irish and variegated Yews, Thujas, Retinosporas, and Cupressus are among the best subjects for planting small places, and invaluable for single specimens on lawns and the front lines of shrubberies. There are few more effective plants in ornamental grounds than the Yuccas; forming a most striking contrast to other plants they might often be made freer use of to advantage. The same applies with almost equal force to the hardy Bamboos, Arundo conspicua, and the hardy Fan Palm. Weeping trees, unless standing out by themselves, seldom show to advantage, so ought not to be crowded in among other things.

The commoner flowering deciduous shrubs in which we include Lilacs, Thorns, Guilder Roses, Syringas, Deutzia scrabra, some of the Spiraeas where space admits of it should be planted in batches among evergreens kept low that they may tower above them. This prevents naked spaces being seen so much during the winter months. In a well planted shrubbery provision ought to be made not only for the gratification of the sense of sight, but that of scent should in a walk around the place meet with sources from which its exercise may be gratified. Among the best things for this purpose are the American and Ghent Azaleas, most gorgeous and floriferous, and deliciously scented. Then the various Honeysuckles trained loosely up the naked stems of trees afford a double source of interest, and if Lonicera fragrantissima is used there will rarely be a time in the depth of winter when a spray of this, one of the most delicious of scented flowers, may not be obtained. It were easy to swell the list of both flowering, fine foliaged, and sweet scented trees and shrubs; but with the mention of one other winter flowering scented shrub I forbear, that is Chimonanthus fragrans, a much hardier plant than many suppose —*W. B. G.*

PLANTS RECENTLY CERTIFICATED.

Certificates according to merit were awarded by the Royal Horticultural Society on the 27th to the undermentioned subjects.

PRIMULA CAPITATA LOXWOOD VAR.—The flowers of this variety are borne in dense capitate heads on scapes 6 in. to 14 in. high, and are of a dark violet purple. The leaves are white and mealy beneath. The plants were lifted from the open ground. First-class Certificate, C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham.

CHRYSANTHEMUM BLACK PRINCE.—The blooms of this Japanese variety measure from 5½ in. and upwards in diameter. The spreading florets are broad and of a brilliant, rich crimson, and slightly paler on the reverse. Award of Merit. Mr. Robert Owen, Castle Hill, Maidenhead.

CHRYSANTHEMUM MONS MEG.—This Japanese variety measures about 6½ in. in diameter, and has crimson-red interlacing florets, with an old gold reverse, very much shown in the centre. Award of Merit. Mr. Robert Owen.

CHRYSANTHEMUM OWEN'S CRIMSON.—For description of this grand new incurved variety, see next column. Award of Merit. Mr. R. Owen.

CHRYSANTHEMUM MADAME CARNOT.—The outer florets of this white Japanese sort, are quilled and spathulate at the tips while the central ones are much more flattened. The flower is the best in its section and measures about 8 in. or 9 in. across, owing to its spreading character. Award of Merit. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham; also Mr. W. Wells, Earlswood Nursery, Redhill.

CHRYSANTHEMUM DUCHESS OF YORK.—The blooms of this Japanese sort measure about 7 in. across. The florets are bright yellow, most remarkably interlaced, and paler on the reverse. Award of Merit. Mr. H. J. Jones.

BEGONIA SANDER'S WINTER QUEEN.—This and several other sorts were raised by fertilising B. socotrana with the pollen of several varieties of B. Rex. The leaves in this case are olive-green in the centre, speckled with gray. This is surrounded by a broad, but irregular gray band, and that again by a light green margin, speckled with gray. Award of Merit. Messrs. F. Sander & Co., St. Albans.

RUELLIA MACRANTHA.—The flowers of this species are larger than those of any other in cultivation, funnel-shaped, five-lobed, and of a deep rose, beautifully lined and netted with a much darker hue in the tube, which narrows very suddenly below the middle. They are subtended by a wealth of lanceolate, large and dark green leaves. Award of Merit. Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

REINWARDTIA TETRAGYNA.—The leaves of this species are ovate-lanceolate, slightly serrate, dark green, and very much larger than those of R. trigyna. The flowers are also somewhat larger, freely produced in large, terminal corymbs, and clear bright yellow. Like the Ruellia, it is a very useful winter flowering subject. Award of Merit. Sir Trevor Lawrence, Bart.

NEW CHRYSANTHEMUMS.

THE following new varieties received First-class Certificates from the Floral Committee of the National Chrysanthemum Society on November 21st:—

MR. C. HARMAN PAYNE.—The bloom of this massive Japanese variety measures 6 in. to 7 in. wide, and 5 in. to 6 in. deep. The florets are long, drooping, more or less twisted, moderately broad, sometimes revolute at the sides, and often distinctly ridged; they are of a rich shade of reddish-purple, more or less marbled or spotted with white, especially towards the centre of the bloom, and silvery-white on the reverse. Mons. E. Calvat, Grenoble, France.

DIRECTEUR E. CISSERAND.—Here again the bloom is very massive, 6 in. to 7 in. wide, 5 in. deep, and belongs to the Japanese section. The florets are long, reflexed, revolute at the edges, somewhat twisted, and ultimately rising up in the centre. The outer ones are yellow overlaid with pale crimson-red, which fades considerably as the bloom develops, but the central ones seem to retain their colour to the last, making the flower distinct. Mons. E. Calvat.

CHARLES COX.—At first this seems to be an incurved Japanese variety, but when fully developed the bloom assumes a globular form with the florets pointing in various directions, and would simply be referred to the Japanese section. It measures 5 in. to 5½ in. in diameter, and the florets are fairly broad and of a clear soft yellow. Mr. Charles Cox, The Gardens, Brickendon Grange, Hertford.

JOHN FULFORD.—This is an incurved variety somewhat after the style of Wm. Tunnington, and measures 4 in. to 4½ in. in diameter. The florets are very broad and blunt, and the outer ones are pale chestnut-red, while the central ones are more of a buff-yellow on the reverse, which is the only surface shown. Mr. R. Owen, Castle Hill, Maidenhead.

OWEN'S CRIMSON.—This is one of the darkest incurved or Chinese Chrysanthemums in cultivation of any size. The bloom is 5 in. in diameter, and the very broad, blunt florets are of a brilliant dark crimson on the upper face, giving a shade to the reverse or exposed surface, which we should still describe as crimson paler. Mr. R. Owen.

ENFANT DES GAULES.—This French variety belongs to the incurved, hirsute, Japanese type, and measures 4½ in. to 5½ in. across. The florets are broad, buff-yellow, and prominently hirsute with short, stiff bristles. Mr. R. Owen.

MISS GERTIE WATERER.—Here we have a pompon, a sport from Snowdrop, with unusually diminutive blooms of a soft pink, or occasionally almost white. The florets are relatively broad, blunt, and more or less fluted in their early stages, but ultimately flat, and rising up slightly in the centre of the flowers. P. Waterer, Esq., Fawkham, Kent.

PLANT LIFE.*

THE history of a plant is the history of protoplasm and its covering. When we trace plants to their lowest limits, we find that all plants begin with a simple cell. That cell consists of a microscopically small mass of colourless, jelly-like matter, which is termed the protoplasm. It may or may not be covered with a cell wall, for many of the lower organisms live for a longer or shorter period in water or damp places, but at another stage of their existence they do secrete a cell wall or covering, for that is one of the fundamental characteristics of a vegetable. The fact must not be overlooked that the organism is considered a cell, even when devoid of a wall. Many of the lower organisms live separately or crowded together in masses, or in other cases form simple or complicated colonies held together by jelly-like matter formed by the degradation of their old cell walls. Others are truly united by their ends forming a plant like a necklace or a thread according to the shape of the individual cells. Higher up the scale they form a true tissue of varying shape according to the kind. Here it may be noted that the fungi, even the highest of them, such as the Mushroom, never form a true tissue, but simply an interlaced and complicated mass of threads.

The higher or flowering plants, such as an Apple tree, commences in the same way with a single cell, namely, the germinal vesicle, which has no wall of its own, being merely covered by one large cell of the mother plant termed the embryo sac. After fertilisation its first work is to secrete a wall of its own; then it is termed the embryo which forthwith commences to divide into numerous cells and grows in its own peculiar way. Each of the cells is filled with protoplasm in their early stages, for it is the physical basis of life. The secret of life, however, is still a mystery, for no one has yet discovered what it is. Chemists are able to make protoplasm, or what they are pleased to term such, in their laboratories, but they cannot make it live, feed, nor grow.

By cutting up a tree—an Apple tree for instance—and examining the different parts of it minutely under the microscope, we can see that every part of it is made up of cells of many distinct forms, each kind of which is located in a particular part of the tree according to the function it has to perform. By chemical analysis the composition of the tree can be determined, so that we have a clue to the food upon which it lives. A large number of elements has been found in various plants, but certain elements are common to all so that one would readily infer that they were essential to the life of the plant. Experiments with what are termed water cultures have proved that only ten of the elements found in plants are absolutely necessary to their life. The others are accidental, or are frequently taken up from the soil in chemical combination with essential ones. These are carbon, oxygen, hydrogen, nitrogen, sulphur, phosphorus, potassium, calcium, magnesium, and iron.

The object of this paper is to sketch in a rough, general way the sources from which the tree obtains its food, and how it collects the various ingredients, as well as incidental phenomena of plant life in connection therewith. All the thicker roots of the tree consist of a mass of wood surrounded by a layer of cork and have little or no pith at all. Between the wood and the cork is a layer of cambium by which the roots thicken. These thick roots simply serve as a holdfast to fix the tree in the ground, and as channels to convey water and the elements of plant food, with exception of carbon, to the trunk and upper parts of the tree. They themselves being covered with cork, which is practically impermeable to water, cannot be feeders. The very youngest portions of the fibrous roots and the root hairs with which they are covered are the true feeders. There are no openings in them anywhere, so that nothing solid can pass into the interior. The food is taken from the soil in the form of salts in a state of solution, and filtering through the thin membranous wall of the root hair or youngest roots is said to be absorbed. Some of the salts are soluble in water, others in carbonic acid, and the roots themselves are very agressive. It has been demonstrated that they can corrode the surface of polished marble, and for this reason it is quite certain that they are capable of attacking various other ingredients in the soil, and of rendering them fit to be absorbed. This they are able to do by virtue of the acid sap that permeates the walls of the root hairs and younger roots which are in actual contact with the substances from which they draw their supplies. According to a natural law there must always be more of the salts in the soil than in the interior of the root hairs, otherwise the latter will cease to absorb. It must not be supposed, however, that they will or can absorb these salts in unlimited quantity, should the cultivator choose to supply them. Many cultivators have proved this for themselves, to their great dissatisfaction. Notwithstanding their eagerness to get large Apples or large blooms of Chrysanthemums, let young aspirants beware not to give too strong a dose of nitrate of soda, guano, "Flor Vita" or other highly concentrated manure, otherwise they are certain to pay dear for their reckless extravagance by the death of their favourite plants. Some would then say that the plants were poisoned, others that the roots had been burned. The simple facts are that the ingredients of highly concentrated manures have a great affinity for water, and when they come in contact with roots, they abstract the water from the latter causing them to perish, and soon after the rest of the plant dependent upon the roots likewise.

(*To be continued.*)

* A Paper read by MR. J. FRASER at a meeting of the Chiswick Gardeners' Mutual Improvement Association on 14th November.

GALVANIZED WIRE ON WALLS.

WHERE fruit trees on walls are tied to galvanized iron wire, some amount of care will be necessary, or the wood will suffer. Many good gardeners make it a point to untie the trees from the wire at the approach of winter, and tie the growths into bundles to keep them from direct contact with the wires. From whatever cause resulting, it is very certain that the wood of the trees if left in contact with the galvanized wire during winter stands a great chance of being injured, and very often killed outright. I remember once seeing a number of standard Rose trees, to which the labels had been attached by means of a galvanized iron wire, with the result that seventy or eighty per cent. of the branches that the wire touched died. In many cases where fruit trees on walls are tied to wire of this kind and no injury has been sustained by the trees the wires have become rusted completely over, in which state they do not seem to exercise the evil effect upon the wood of the tree so frequently noticed in cases where the wire is comparatively new. When looking round the gardens at Gunnersbury House last week I noticed that a num-

ber of Peach trees on a wall had been untied and treated in the way I have described, to guard against any evil effects that might otherwise have resulted.

RICHARDIA AFRICANA.

Among the many useful and noble-looking plants that we possess, none have a greater share of intrinsic merit than this old friend. The large handsome leaves and the distinct and elegant flower spathes have without doubt made the plant very popular with all classes. It is looked upon by the gardener as an indispensable subject for the decoration of the greenhouse and conservatory, and it is a by no means infrequent occurrence for us to come across it flourishing in the window of the cottager, where it is every whit as great a favourite as it is in the gardens of the wealthy. The plants are exceedingly easy of culture, and can be readily propagated from suckers. These are best taken after the flowering season is over, in springtime. They may then either be grown in pots or planted out in the open air.

With regard to the former method of treating them, it is our own experience that the blooms are produced earlier from plants thus treated than they are when the latter method is adopted. After division, therefore, they should be potted up according to their size, taking care not to over-pot, for this is a great mistake. Two parts of good loam and one part of good leaf soil, with a little river sand, will suit them very well, but care should be taken not to pot too firmly in this initial potting. The plants should be placed in a frame or pit and kept pretty close for a day or so, a light dewing over with the syringe being of the utmost service. A second potting may be given when they have filled their first pots with roots. The soil used on this occasion should, however, have a quantity of dried manure in it, as Richardias are heavy feeders and cannot well be treated too generously.

When it is elected to plant the young suckers out in the open ground, it is advisable to defer the process of dividing up the old roots until all danger of frost is past. A light open position should be selected, and the ground well prepared previously by the addition of a thoroughly good dressing of manure, which should be dug well in. Here the young plants may be neatly set out in rows, a good watering in being given as soon after planting as possible. When treated in this way but little trouble is given. All that is necessary is to keep the beds clean and free from weeds, and if the ensuing summer turns out to be a dry one, an occasional watering may be necessary. A sharp watch must be kept in the autumn for frost, for Richardias are extremely sensitive to its attentions. Preparations should therefore be made for lifting them as soon as there appears to be any likelihood of frost making its appearance. After potting, the plants should be kept rather close and shielded from the direct rays of the sun for a few days, until they recover themselves in a measure from the check, which should, however, not be very great if the plants have been lifted with good balls of earth attached, and the roots disturbed as little as possible. As the pots become filled with roots supplies of liquid manure must be given them to assist in the production of large fine flowers. If green fly proves troublesome, as it often will during the spring months, light fumigations must be conducted. This may be done without fear of injury provided the leaves are dry at the time and the atmosphere as free from moisture as possible.—*G.*

SNOWFLAKES.

Considering the close resemblance there is between these and the Snowdrops, and their being equally hardy and accommodating, as regards both soil and situation, many who do not know them when seeing them for the first time, take them for an enlarged form of Snowdrop, but their distinctiveness will soon be recognised by any one accustomed to observe. The foliage is much broader and wanting that glaucous hue which is so characteristic of the Snowdrop. Then the blotches of colour on the edges of the petals are first yellow and shade off to green as the flower reaches maturity. Again, the flowers are scented. The older Herbals describe it as the bulbous white violet in reference to its scent.

Leucojum vernum, the spring Snowflake, flowers generally about the middle of March, fully a month later than the Snowdrop. We have had it in a wild garden where springing up among other things it was a gem of the first water. The flowers are produced singly on stems, nearly six inches in height. They grow well in any ordinary garden soil, and being one of the most beautiful hardy flowering plants we possess, it certainly merits more extended cultivation. It is a native of South Europe growing in moist upland meadows and woods.

L. aestivum, the summer Snowflake, produces two and three flowers on a stem, and like the spring Snowflake, it will grow readily in any free loam or sandy soil. Neither of them should be disturbed but seldom, and better never, unless wanted elsewhere. In the wild garden referred to they had not in all probability been disturbed for fifty years. This was under the shade of large Elm trees, but they succeed well among the ordinary herbaceous plants, among grass, and in shrubberies.—*W. B. G.*

GARDENING MISCELLANY.

ASPLENIUM FRAGRANS FOENICULACEUM.

In further reference to the correspondence respecting Asplenium fragrans var. foeniculaceum, you may be interested to know that in response to an advertisement inviting nurserymen to offer us this plant we have had only one communication. The letter we received (which I enclose) contained two fronds. It is from one of the leading London nurserymen. I wrote informing him that the fronds were not the true Asplenium fragrans foeniculaceum but Asplenium fabianum, which Moore and Smith both make synonymous with Asplenium foeniculaceum Hort, which is so common in nurseries. I then sent the largest of the two fronds received to Mr. Baker, at Kew, asking him to say what it was and to be good enough to send us one of their fronds of Asplenium fragrans foeniculaceum. I enclose you his reply and the specimens he sent us. You will perceive the difference between the Asplenium foeniculaceum of nurseries, which is a good basket Fern, and Asplenium fragrans foeniculaceum, which is not. The former is no doubt a form of or variety of Asplenium bulbiferum, and corresponds with Asplenium bulbiferum var. tripinnatum in Hooker's "Flora of New Zealand," and in Field's "Ferns of New Zealand." Anyone who should succeed in obtaining Asplenium fragrans foeniculaceum would be disappointed with it as a basket Fern.—*J. Birkenhead, Sale, Nov. 24th.*

CHRYSANTHEMUM MISS MARY ANDERSON.

Single Chrysanthemums are undoubtedly slowly but surely working their way into public favour, if we may judge by the quantities that are grown now. The above beautiful variety may, without doing the least injustice to the other members of the section, be described as the "Queen of Singles." It is of dwarfish and compact habit, and the flowers are large and of a delicate pinkish-white shade. An important point in its culture is not to over-pot it, for it always does better and blooms more profusely when grown in rather small pots and liberally fed with liquid manure.

HEDERA MADEIRIENSIS VARIEGATA.

From their graceful trailing habit, many of the Ivies are very useful subjects for growing in pots for the furnishing of the greenhouse and conservatory. If the growths are allowed to hang over the edge of the stages very pretty effects can be obtained. Hedera madeiriensis variegata is one of the very best for the purpose, and its beautifully variegated leaves trailing over the stage of the greenhouse in the way suggested look exceedingly graceful. Plants of this kind are well worth growing and amply repay any little trouble they may give, as they constitute a pleasing variety from the plants usually seen in plant houses.

PEAR LOUISE BONNE OF JERSEY.

In the smallest collections this old favourite should find a place, being hardy and prolific, and succeeding well either as a standard, a pyramid, and an espalier, or against a wall. There are many larger sorts, but none more handsome when well grown, and its flavour is distinct from that of most other Pears. Coming into use soon after the latest of the Williams, it is a general favourite where known, a good dessert Pear, and in our estimation second to none for stewing, its pronounced flavour rendering it a most enjoyable delicacy when stewed. The ordinary stewing Pears, such as Uvedales, St. Germain, and Cattilac, as regards flavour, are not fit to be mentioned in the same category.—*W. B. G.*

HOYA IMPERIALIS.

A specimen of this noble plant is at present in flower in the stove at Kew, and there can be no doubt that it possesses a no mean share of beauty. The waxy flowers are reddish-brown in colour and are produced in large pendent umbels containing from six to ten flowers in each. The flowers are very large in comparison to those of the rest of the members of the genus, and are, in fact, quite 3 in. in diameter. Although Hoya imperialis was introduced from Borneo as far back as the year 1847, it is as yet but little known in gardens—certainly not so much as its merits entitle it to be.

FORCING SEAKALE.

The method adopted for the forcing of this useful and highly-prized vegetable at Gunnersbury House, is worthy of imitation. Above a large tank of hot water in the Mushroom house a receptacle is placed to hold the soil or manure in which the Seakale crowns are planted out in the usual way. A steady gentle bottom heat is, of course, afforded by the water below, in which the crowns can scarce fail to break strongly and well. Thus by taking advantage of the existence of the tank in question, abundant supplies of Seakale are obtained with exceedingly little trouble, and scarcely any labour at all.

TRACHELOSPERMUM JASMINOIDES.

The plant commonly known in gardens as Rhynchospermum jasminoides is next to the Stephanotis, the most favoured among white-flowered climbing plants with exhibitors. Beautifully white and sweet-scented, it has many admirers, but like many other climbing plants, specimens of it grown in pots compare unfavourably with those planted out in warm conservatories and trained up pillars. Here they present a more natural appearance, and the full beauty of the plant is shown to better advantage. It is far hardier, I think, than many are aware of, for I confess to being much surprised to find it flourishing under an open verandah during the summer of 1893, it having been planted out during the previous summer and gone through the winter months with but little protection other than that of a glass roof, the sides of the verandah being open to all weathers. At the time I saw it it was in full flower and looked quite at home, being clothed with healthy foliage, and making vigorous growth. This was some time during September, 1893.—*W. B G.*

SOCIETIES.

Royal Horticultural, *27th Nov.*—Chrysanthemums were again in great force on Tuesday last, and Orchids also made a good display considering the cold state of the weather. Collections of Cyclamens, Potatos, and Apples, also served to fill the central tables of the hall. A mixed and varied collection of Orchids was staged by Messrs. F. Sander & Co., St, Albans. The varieties of Dendrobium Phalaenopsis Schroderianum were numerous and attractive, as were the Calanthes, Coelogyne Gardneriana, Catasetum Christyanum, and some others were also noticeable. A group of Orchids set up with Palms and Ferns was exhibited by Mr. P. McArthur, The London Nursery, Maida Vale, W. The Cattleyas and Cypripediums were the most numerous, but the yellow flowers of Catasetum Bungerothii aureum in the centre of the group were very conspicuous. Cattleya Percivalliana is already in bloom as was seen in this collection (Silver Banksian Medal). A small collection of showy varieties of Calanthes was exhibited by N. C. Cookson, Esq., (gardener; Mr. Wm. Murray), Oakwood, Wylam-on-Tyne. Calanthe Harold, and C. Clive, were two of the darkest, the others being paler or white. Cypripedium insigne montana var. was shown by Henry Tate, Esq., Liverpool. The lower sepal was like the upper one, but larger. A large

plant of Cattleya labiata Peeter's var. was brought over by Mons. A. A. Peeters, St. Gilles, Brussels. Odontoglossum macrospilum was shown by Mons. Jules Hye, 8, Le Coupure, Ghent. He had also some fine Cypripediums, including C. triumphans. Odontoglossum Insleayi splendens aurea was staged by C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham. Calanthe Exquisite, with almost pure white flowers, was shown by Earl Cowper (gardener, Mr. J. Fitt), Panshanger. Cattleya Victoria Regina and Odontoglossum praestans were shown by W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone. The Cattleya just mentioned was also exhibited by Hamar Bass, Esq. (gardener, Mr. James Hamilton), Byrkley, Burton-on-Trent. Cypripedium Zeus and C. insigne Richardii were shown by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, exhibited Phais-Calanthe Sedeniana and Cypripedium insigne Sanderianum. Laelio-Cattleya Decia and Cypripedium Milo, both hybrids, as well as Habenaria carnea alba, was shown by Messrs. J. Veitch & Sons, Chelsea. Heliamphora nutans is a rare and interesting carnivorous plant, and was also shown by the same firm. A small collection of Orchids, including fine specimens of Cypripedium Pitcherianum Williams var., Pescatoria Lehmannii, Coelogyne Dayana, and others, was shown by Messrs. B. S. Williams & Son, Upper Holloway. A good sized group of Cattleya labiata, Vanda caerulea, Cypripedium Shuttleworthii, and other Orchids, set up with Palms and Ferns, was set up by Messrs. Hugh Low & Co., Clapton (Silver Banksian Medal). A small group of Cypripediums, including a dark variety of C. Tonsum, C. Dautheri superbum, and a distinct new variety named C. insigne Lutwycheanum, was exhibited by S. G. Lutwyche, Esq. (gardener, Mr. Paterson), Eden Park, Beckenham. The last-named variety belongs to the same interesting group as C. insigne Sanderae and C. i. Ernestii, and has the spotting on the dorsal sepal more strongly marked than in the latter, but fades with age. Cypripedium Lucienianum superbum and C. Leeanum giganteum were shown by Thomas Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. Serrastylis modesta, representing a new genus, was exhibited by Major Joicey (gardener, Mr. Fred J. Thorne), Sunningdale Park, Sunningdale. A group of Cypripedium insigne was staged by Mr. J. F. Wilkinson, The Gardens, Highlands, Minchinhampton.

The exhibits of Chrysanthemums were fairly numerous, and those that were shown were in thoroughly good condition. Mr. W. Wells, Earlswood Nursery, Reigate, Surrey, staged six dozen blooms, principally of the Japanese section, in first-class style. Varieties like Madame Carnot, Lord Brooke, Mdlle. Thérèse Rey, Turido, Miss Annie Hartshorn, W. H. Lincoln, Robert Owen, Chas. Gibson, Mdlle. Thérèse Panchoucke were in very fine order; a few vases filled with some pretty single varieties, and a few sprays of the curious green sort, Ethel Amsden, being very noticeable (Silver Banksian Medal). Mr. Robert Owen, Castle Hill Nursery, Maidenhead, showed a few good blooms of M. Chas. Molin, Black Prince, Owen's Crimson, Mons. Meg, Mrs. Seebohm, and Ruche Lyonnaise (Anemone).

An imposing group of cut blooms of Chrysanthemums, stove foliage plants and ferns in pots was exhibited by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, for which a Silver Gilt Flora Medal was deservedly awarded. Many of the Chrysanthemum blooms, particularly Mrs. W. H. Lees, Niveus, Madame Carnot, Desdemona Lally Delevanti, Folichonne, Duchess of York, were of the finest. Three large epergnes at the back of the group, together with a number of large vases immediately in front of them, all tastefully filled with cut blooms of Chrysanthemums, and pieces of hardy fern, asparagus, etc., gave an imposing appearance to what was altogether a very fine group.

A number of nicely berried Pernettyas exhibited by Mr. Anthony Waterer, Knap Hill Nursery, Woking, Surrey, received a Bronze Banksian Medal. A couple of pans of Narcissus monophyllus shown by Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, were well worthy of mention, as were also some well-flowered specimens of Reinwardtia tetragyna, and Ruellia macrantha, which were exhibited by Mr. Bain, gardener to Sir Trevor Lawrence. Messrs. Hugh Low & Co., Bush Hill Park Nurseries, Enfield, staged a quantity of Cyclamens. The plants carried a lot of exceedingly fine flowers, white, dark red and several shades of rose being well represented, (Silver Banksian Medal). A similar award was made to Mr. W. Salmon, Elder Road, West Norwood, for a group of cut flowers suitably arranged for table decoration, also in the form of wreaths, sprays, buttonholes, etc., in the construction of which considerable taste was displayed. Messrs. F. Sander & Co., St. Albans, staged some nicely grown Begonias of hybrid origin obtained by them by crossing B. socotrana with varieties of B. rex, Winter Charm, Winter Cheer, Winter Marvel, and Winter Queen being some of the best sorts shown.

Vegetables were represented by an extensive collection of potatos exhibited by Messrs. H. Cannell & Sons, Swanley, Kent, for which a Silver Banksian Medal was awarded. Schoolmaster, Supreme, Bedfordshire Hero, Come to Stay, and Beauty of Hebron were some of the best sorts of the highly-prized tuber staged here.

As was the case with the vegetables so with the fruit—the exhibits were exceedingly few. Messrs. Charles Lee & Son, Hammersmith, exhibited upwards of fifty dishes of Apples in first-rate order. The samples of such sorts as King of the Pippins, Mere de Menage, Dumelow's Seedling, Warner's King, Golden Noble, Lady Henniker and Worcester, Pearmain were of good size and shape, and exceedingly well coloured. (Silver Banksian Medal). Messrs. H. Lane & Son, The Nurseries, Berkhamsted, Herts, staged six bunches of Gros Colman Grapes for which a cultural commendation was awarded by the committee. The bunches were of fair size and good shape, and the berries were large and very nicely coloured.

Obituary.

We much regret to learn of the death on November 21st, at his residence, 91, Leslie Terrace, Aberdeen, of Mr. James Cocker, Jun., of the firm of Messrs. James Cocker & Sons, nurserymen and seedsmen of of that city. The cause of death was erysipelas. Deceased was born in Aberdeen in 1855, so that he was only 39 years of age. After leaving school he was apprenticed as a seedman to the well-known firm which bears his name, and which then consisted of his grandfather, his father, and his uncle. After serving his time he proceeded to London, and entered the employment of Messrs. Hurst & Son. Returning to his native city in 1878, he joined the firm, and undertook the management of the seed department. His was a well-known figure at local horticultural shows, at which, as well as in the ordinary course of business, he came in contact with many members of the trade and of the general public, by all of whom he was highly respected and esteemed, alike on account of his personal qualities and business abilities. Mr. Cocker is survived by a widow and a family of five young children.

Questions and Answers.

Chlorophyll in Seeds.—*A. T.*: In fully ripened seeds of the Pink and Spindle tree we usually find that the cotyledons are not green but white. The cotyledons or seed leaves of a large number of plants will be found to be green in their younger stages, while they become pale yellow or white by the time the seed has reached maturity. While the seed vessel and seeds are young we believe the interior is not entirely dark, particularly when the sun is shining brightly. Under those conditions there seems no reason why chlorophyll should not become fully developed, even if it should lose its colour when the seed vessel thickens and the interior becomes dark. We often come across pale green seed leaves, however, in the fruits of the Maple, some of the Orange family, and others. Some good authorities, however, admit that chlorophyll may be formed in complete darkness in certain plants, such as Ferns, Selaginellas, and in the cotyledons of some Conifers, provided the temperature be sufficiently high. Light of moderate intensity, a sufficiently high temperature, and the presence of iron are the three requisite conditions necessary for the development of chlorophyll in plants generally, and the above exceptions may one day be explained.

Names of Plants.—*C. L. Newark*: 1, Adiantum pedatum; 2, Pteris longifolia; 3, Habrothamnus elegans; 4, Calathea Kerchoveana, also called Maranta Kerchoveana in gardens. *G. W.*: 1, Chimonanthus fragrans grandiflora; 2, Viburnum Tinus; 3, Azara microphylla. *A. C. L.*: 1, Camptosorus rhizophyllus; 2, Asplenium Bellangeri; 3, Asplenium bulbiferum minus, also known as A. Colensoi; 4, Pteris scaberula; 5, Selaginella uncinata; 6, Aspidium angulare proliferum. *T. Herd*: 1, Abies Nordmanniana; 2, Abies concolor; 3, Juniperus Sabiniana.

Communications Received.—J. F.—W. B. H.—J. S.—T. G. P.—G. R.—W. J. G.—W. B.—R. S.—T. B.—J. Y.

Trade Catalogues Received.

Wm. Clibran & Son, Oldfield Nurseries, Altrincham.—Descriptive Catalogue of Chrysanthemums.

Herb & Wulle, Naples, Italy.—Seed Novelties for 1895, Bulbs, Roots, &c.

James Cairns, Bainbridge Holme Gardens, Tunstall Road, Sunderland.—Carnations, Picotees, Pansies, &c.

London Seed Trade.

November 27th, 1894.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report that best grades of Yearling Canadian and New States Red Clover sell readily at higher figures. Canadian Alsike is also in request at 2s. per cwt. advance. White Clover steady. Ryegrasses dull.

Covent Garden Market.

November 28th, 1894.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Coh Nuts and Filherts, per 100 lbs.	22 6	25 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 6	1 0	Lettuces ...per dozen	2 0	0 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Carrots,			Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 6	0 8	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Evergreens, in var. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	4 0	15 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	6 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica Hymalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
,, Gracilis per doz.	9 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	10 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	3 0	5 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Azalea.....doz. bchs.	6 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pink Roses...per doz.	2 0	4 0
Carnations...per doz.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Primula, double, bun.	0 6	0 9
,, doz. bunches	4 0	12 0	Roses, yellow, dozen	2 0	4 0
Eucharis ...per doz.	2 6	4 0	— Red..... doz. blms.	1 0	1 6
Gardenias 12 blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 6	0 9	Scarlet Geraniums, doz. bchs.	4 0	6 0
Hyacinth (Roman) doz. bch.	6 0	9 0	Tuberoses, per doz	0 4	0 6
Lilac (French) per bch.	3 0	5 0	Violets (French) Parma, per bch.	2 0	3 6
Lilium Harrisii, doz. blooms	6 0	8 0	Violets (French) Czar, per bch.	1 3	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) doz. bch.	1 0	1 6
Marguerites, 12 bun.	1 6	3 0	Violets (English) doz. bch.	1 0	2 0
Mignonette... 12 bun.	3 0	4 0			
Narciss (French) doz. bch.	1 6	3 6			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Dec. 10th.—Sale of Hardy Plants, &c., at Protheroe & Morris' Rooms.

TUESDAY, Dec. 11th.—Bulb Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Dec. 12th.—Annual Dinner of the National Amateur Gardeners' Association at the Guildhall Tavern, E.C.

THURSDAY, Dec. 13th.—Dutch Bulb and Lily Sale at Protheroe & Morris' Rooms.

FRIDAY, Dec. 14th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, DECEMBER 8th, 1894.

A PLANT DOCTOR WANTED.—For many years past the importance of feeding plants not only with natural but artificial foods has been well recognised and acted upon. In respect of the latter, supplies in many and varied forms have been forthcoming, and in order to determine the value of them as well as the requirements of the land upon which they were to be placed, a public analyst became a necessity. Whether acting as a private practitioner or supported by the State, his duty consists in determining by chemical means the actual value or nutritive qualities of any given sample of manure as plant food, as well as food stuffs for the feeding of cattle, and other matters of a like nature. In the case of plants, these important duties may be faithfully accomplished, and success might be looked for provided the weather or climatic conditions are favourable; but in practice we find that other difficulties have to be surmounted, namely, the combating of plant enemies in the shape of insects and fungi as well as other contingencies of a like nature, the cause of which we may not comprehend. In order to be a successful cultivator, it very often happens that the gardener has to contend against some or any of these evils. The methods of combating with insect pests are sometimes very obscure, and remedial measures against parasitic fungi are in many cases even more difficult.

The education of gardeners is a popular subject with members of mutual improvement societies, considering the frequency and earnestness with which the topic is discussed by men of widely varying opinions and experiences. We can well understand how those who are not well versed in the "ologies," or perhaps know nothing of them at all, must be appalled at the number of sciences which get added to the list of the gardener's requirements by different authors. The small amount of remuneration generally offered to the efficiently equipped gardener does not seem sufficient to stimulate young gardeners to climb the stiff hill of knowledge. To many it will seem impossible. Nevertheless, many will accomplish in a lifetime what they could hardly have expected in their early days. In these days of specialisation it would be *apropos* to the question to consider whether it might not be advantageous to gardeners generally, and to horticulture in particular, that some should devote their energies to the acquirement of an exhaustive knowledge of the life histories of insects and fungi that infest valuable cultivated plants, and also of the remedies for combating the same or preventing their attacks. What horticulture really requires is a plant doctor fully equipped with an up-to-date knowledge of the maladies to which plant life is subject, with appliances and apparatus to effect a remedy after the nature of the malady has been determined.

This is no new idea, for we have already been forestalled in this respect by America. During the past season a new movement has been effected in this direction in the United States. An Act has been passed, known as the Nixon or Experiment Station Extension Bill, by which certain of the State Experiment Stations receive a grant to be expended in experiment work. When the fruit growers and others of Western New York became aware of the existence of such a fund, there was no lack of application for a plant doctor to come and inspect their plantations to see what was the matter. Professor L. H. Bailey of the Horticultural department of the Cornell University Experiment Station, made personal inspection of plantations whenever serious complaints were reported concerning the fruit crops. About 500 acres of plantations have been sprayed either directly or indirectly as a result of these inspections and advice, or otherwise treated according to the nature of the malady or enemy from which they were suffering.

Doubtless these responses were more numerous than would happen, for a time at least, in this country, because there is not the same apathy nor prejudice to contend with, and the beneficial effects of spraying with fungicides and insecticides are better recognised in America. It is true that there are more plant enemies to contend with there than in this relatively small island, but that should not in any way act prejudicially upon measures undertaken to exterminate plant enemies or palliate the injury they do by reducing their numbers. Such experiments as have been made by competent persons in this country, have conclusively shown that preventive and remedial measures can be depended upon to reduce insect pests, and thereby secure comparative immunity to the crops.

It may be urged that small gardens would be handicapped for ways and means to cope with plant enemies, on account of the additional apparatus required and the labour in connection with the same. Were the plant doctor a standing and well recognised necessity in this country, it would be most convenient for all parties concerned, that he should be supplied with all the necessary apparatus for his calling, and also procure the fungicides and insecticides. Large establishments would doubtless provide their own requisites, and small ones might combine so as to lessen individual expenses, just as is done with some other kinds of machinery; but in the

long run it would appear most satisfactory in the latter case, at least, that the plant doctor should be supplied with apparatus and make a reasonable charge for the use of the same, or cover his expenses by the profits of his calling. All this is based upon the assumption that the work is to be carried on by private practitioners; but on the contrary, if advice is to be given gratis by the government, there would be no room for private enterprise, as the chances of a lucrative occupation would be seriously imperilled. In fruit and hop growing districts the experiment of having a plant doctor at the call of the public might well be tried.

The National Amateur Gardeners' Association.—The fourth annual dinner and presentation of prizes, medals, etc., of this Society, will take place on Wednesday evening, December 12th next, at the Guildhall Tavern, Gresham Street, E.C., at 7 o'clock precisely.

The Borough of Croydon Chrysanthemum Society's Show in 1895 will be held on November 12th and 13th.

A Warning to Gardeners.—We venture to caution those of our readers who may seek to obtain situations by means of advertisements, against parting with any fees to strangers who may write to them offering to obtain them situations for a cash consideration. We have a case before us in which a young gardener received a letter from a man, who gave a postal address in a Surrey town, stating that he had to engage an under gardener for Lord Blank's place, and that he would put him forward for the situation on the receipt of 5s. and the promise of a similar amount should he get it. The first 5s. was sent, and a second letter followed stating that the young man had been selected for the vacancy, when the second sum was honourably sent, and the swindle discovered, nothing more being heard of the assumed agent to the noble Lord, who quickly changed his base of operations. It is a very old dodge, but no one need be victimised if they will take the ordinary precaution to write to the person mentioned by the swindler before they part with their money.

London Pansy and Violet Society.—The general meeting of this Society was held at the Guildhall Tavern, E.C., on the 3rd inst., under the presidency of Mr. Wm. Robinson, F.L.S. There was a good attendance of members, and much enthusiasm prevailed, it being determined to hold a show in London next May or June, and a schedule of prizes was considered and adopted, each modern type of the Viola being represented. In view of the decision of the Viola Conference held at Birmingham in August last, classes for the miniature and rayless types are included. The President (Mr. Wm. Robinson) offers liberal prizes for the best baskets of plants of rayless Violas in blooms arranged for effect. Mr. Wm. Robinson was re-appointed as President for the coming year, Mr. Ranger Johnson as Hon. Treasurer, and Mr. A. J. Rowberry was appointed co-Hon. Secretary with Mr. Geo. McLeod, of Chingford. Messrs. E. R. Smith and G. W. Cook were elected to fill vacancies on the Committee. The Hon. Treasurer placed his balance-sheet on the table, showing that all prizes won at the last show had been paid, leaving a satisfactory balance in hand.

The Gardener's Company.—The Gardener's Company had a dinner on Monday evening, November 26th, in the Grafton Galleries, Grafton Street, Bond Street, the general invitations being to meet the Lord Mayor, the Lady Mayoress, and the Sheriffs. The Master, Mr. Beaumont Shepheard, took the chair. Besides the principal guests, the company included Lady Westbury, Archdeacon Farrar, Sir Forrest Fulton, Q.C., and Lady Fulton, Mrs. Samuel, Sir Trevor Lawrence (Past Master), Sir Albert Rollit, M.P., Mrs. Hand, Mr. Woodall, M.P., Mr. C. Ernest Tritton, M.P., and Mrs. Tritton, Mr. and Mrs. F. A. Bevan, Mr. Under-Sheriff Phillips, and Mrs. Phillips, Mr. W. H. Simpson, the Mayor of Croydon, Professor Fairbairn (Principal of Mansfield College), Mr. Sotheran (Master of the Loriner's Company), Mr. W. L. Thomas, Mr. C. Welch, F.S.A., Mr. Hepburn (Master of the Currier's Company), Lieutenant-Colonel George Lambert (Upper Warden), Colonel North (Renter Warden), and the Clerk, Mr. Gofton Salmond. Of mediaeval origin, the Gardener's Company was incorporated by letters patent in 1605, and again by charter in 1616. It was allowed to lapse in or about 1834, but was resuscitated four years ago. The Lord Mayor, in acknowledging the toast of his health, said that, as everybody knew, the Corporation was in the most perfect state of health. It had a shock a short time ago, but had sufficiently recovered from that. Sir Albert Rollit proposed the toast in honour of the Gardeners' Company, which, he said, was doing a good work in the way of awarding scholarships and other rewards in the matter of gardening. The Master briefly acknowledged the compliment. Lieutenant-Colonel Lambert proposed "The Ladies," for whom Mr. Tritton spoke. After the dinner there was a promenade concert in the galleries.—*The Times.*

CHRYSANTHEMUM NOTES.

GREENLANDS, HENLEY-ON-THAMES.

THE Chrysanthemums here, although at present rather past their best, have certainly been this year everything that could be desired. The Japanese section was most strongly represented, and many of the best varieties included in this section are grown at Greenlands with exceedingly good results, the blooms of many being large and well developed, and certainly reflect great credit upon the cultivators.

Conspicuous among the collection were some really splendid blooms of Robert Owen that for size and depth of bloom, as well as for form and colour, were everything that could be desired. Wilfred Marshall, with its fine, rich yellow flowers, is another incurved Japanese of sterling merit. Some excellent samples of Mdlle. Thérèse Rey, Viviand Morel, Viscountess, and Hambleden were all in praiseworthy condition. Good blooms of Rose Wynne, another very desirable variety, with its white florets of good size and substance prettily striped with pink or rose, were also noteworthy. Princess May, a white flowered Japanese sort, has the florets prettily tinted at the tips with pale lilac. It is also a strong grower, and the blooms are of a large size and good substance. Other varieties that were in excellent order were Golden Wedding, Primrose League, E. L. James, and Walter Surman.

Besides the larger plants which were grown for the purpose of obtaining large blooms, a number of small plants, each carrying a single flower and evidently obtained from very late struck cuttings, were also very noticeable, and considering the diminutive size of the pots, and the smallness of the plants, some nice blooms of Louis Boehmer and Rose Wynne were to be seen. Small plants of this kind are very valuable material for decorative purposes, and it is rather curious that greater quantities of them are not grown.

NOTES FROM PARK PLACE, HENLEY-ON-THAMES.

THE long immunity from anything like severe frost experienced by dwellers in the above locality has well nigh established a record. Situated as the gardens are upon the hills immediately overlooking the Thames, which winds its way through the valley beneath, the frost is never so severe as it is in the lower-lying and consequently damper situations. Thus, at the particular period of my visit, although the ponds and pools which are to be seen here and there in the meadows nearer to the river—vestiges of the extensive floods which have so recently covered the valley—were sheeted with ice, the frost appeared to be much less severe as the hill was ascended. Indeed, so mild has been the weather, that even as late as November 30th, a handful of Tropaeolum flowers were gathered from plants in the open air. Tea Roses, too, have been recently cut in excellent condition from plants outside. A dish of Scarlet Runner Beans, gathered upon Lord Mayor's day, were of excellent flavour and appearance. The Dahlia has been able to grow on and bloom away for nearly as long as its desires prompted it to do. As a natural result of this almost unprecedentedly mild weather for autumn, the leaves are still clinging to many of the hardy fruit trees, particularly Pears, with unwonted tenacity.

The plant houses at Park Place were looking very bright and gay, and this in despite of the large quantities of cut bloom of all sorts that are continually needed. Chrysanthemums are grown extensively, but chiefly in the bush form, although a few plants are also cultivated for the sake of large blooms. The bush plants were sturdy specimens of their class, rather dwarfer in habit than are many this year, and full of flower. Disbudding in these latter is not carried out to any great extent, with the result that the flowers, if a little smaller individually than usual, are produced in great profusion, and may be cut with long stalks in bold and conspicuous sprays that render them of the greatest value for decorative purposes

One small house in particular was particularly gay with a fine batch of the well-known Euphorbia (Pointsettia), pulcherrima, the flower heads being of good size, and the bracts large and exceedingly well coloured. Other houses held numbers of well-flowered plants of Cyclamen persicum, some finely striped and blotched varieties showing up very conspicuously from the pure white varieties which are here, as indeed they are everywhere else, held in great esteem. Primulas also were present in considerable numbers, both single and double sections being well represented. Some fine little plants of the new Saintpaulia ionantha raised from seeds sown in spring deserve honourable mention. The plants have been blooming away for a considerable period, and yet at the present are full of flower. One fine little specimen in particular had between thirty and forty blooms expanded, and from the number of flower scapes which are still making their appearance, the flowering period will yet extend for some time to come. The plants were in fact quite the best that we have yet seen. Stove plants, especially Codiaeums (Crotons), were well coloured and appeared to be in the best of health.

The vineries were cleared of fruit for the Grapes (of which a considerable quantity are grown), have all been cut and placed in bottles in a room specially designed for the purpose. Here they keep quite as well as they do upon the vines, and the houses are thus placed at liberty for the housing of any plants to which it may be necessary to afford protection. One vinery, which has this year afforded very satisfactory results, was a few years ago filled with vines, which like many others which may be seen in different parts of the country, carried long straggling and cumbrous spurs, which presented anything but a neat appearance. To remedy this, the old canes were headed down to within a few feet of the ground. After two or three months, however, every one of them produced strong and healthy shoots from near the base, which proceeded to grow away in an exceedingly vigorous manner, and now, after having been duly stopped at the end of each season's growth, have developed into stout and healthy canes. Mr. Stanton is of opinion that this method is quite the best one of treating vines carrying such long and unsightly spurs, and, certainly, the success which has attended his experiments in this direction quite warrant him in the expression of this opinion.

The several Peach houses pertaining to the establishment were also in praiseworthy condition, and their occupants are holding out bright hopes for next season's crops.—*A. S. G.*

NATIONAL CHRYSANTHEMUM SOCIETY.

ANNUAL DINNER.

THE annual dinner and presentation of prizes of the N.C.S. took place at Anderton's Hotel, Fleet Street, on Thursday evening of last week, and was voted by all who were present to have been one of the most successful of the many pleasant social evenings which have been held under the old Society's auspices. The genial President, Sir Edwin Saunders, occupied the chair, supported by 140 members and friends. The tables were charmingly decorated, the dinner and musical entertainment were in all respects admirable, and the after-dinner speaking of a crisp, bright and enthusiasm inspiring order.

The usual loyal toast having been duly honoured, the President, in proposing the toast of the evening, "The National Chrysanthemum Society," said:—Again we are privileged to meet together in celebra-

tion of the annual festival of our Society, and again we are able to felicitate ourselves on the amount of useful work accomplished since we last met in carrying out the objects for the promotion of which our Society was constituted. Since January last 118 members and nine Fellows have been added to the muster roll, and eighteen societies have become affiliated—a very gratifying and encouraging proof that the National Chrysanthemum Society is not only fulfilling the expectations originally formed of it, but is steadily growing in influence and power. The number of members now upon the books is 734. Losses are sustained annually through deaths and removals, and some decline to continue subscribers, but the flowing tide of increasing membership reaches to a higher level year after year. The societies in affiliation appear to greatly appreciate the privileges they enjoy; the parent Society is often able to be extremely useful to them in various ways, and the attendance of representatives of affiliated societies at the meetings of the General Committee is very satisfactory. (Hear, hear.) The exhibitions held in October and November were in each instance worthy of the Society, and with the single exception of the incurved varieties, which were not seen at their best owing to the incidence of the season, all the types of the Chrysanthemum were well represented. Such an exhibition of illustrations of the decorative value of the Chrysanthemum was never before seen in London, and called forth the warmest encomiums from the daily and gardening Press. (Cheers) The preparation of a year book or annual, which is to be published on January 1st, marks a new advance upon the part of the Society, and the Committee may be congratulated on entering upon an enterprise likely to be very popular in the Chrysanthemum world. These are but a few among other matters of interest which have engaged the attention of the Society, which appears to be making progress in every direction, and is now the leading special floricultural Society whose base of operations is in London. (Applause) Considering the lack of sunshine which had characterised this year, it was a matter of surprise that such beautiful blooms had been staged at the exhibitions. In connection with this a table indicating the hours of sunshine that had been automatically registered in the gardens of the Royal Botanic Society in 1893 and the present year would be interesting. This read:—

1893.	H.	M.	1894.	H.	M.
January	12	30	January	34	20
February	40	23	February	59	46
March	116	16	March	118	48
April	198	34	April	103	51
May	199	46	May	150	50
June	196	23	June	145	25
July	163	2	July	152	22
August	203	30	August	121	26
September	131	56	September	85	7
October	111	58	October	41	1
	1374	18		1012	56

Even if we had been unable to report any considerable increase during the past year, continued Sir Edwin, we should not have felt discouraged, for in societies as in commercial enterprises, progress is not to be looked for as continuous, but as subject to periodical remissions, like the incoming tide on the seashore, where an all-conquering wave seems to rush on, carrying all before it, and reaches a higher level than any yet recorded; but which is not maintained at that altitude, being borne down again by the backward rush of the retreating waves. Such has been the experience, as we all know, of too many large industrial organisations during the past two years, and not a few, it is to be feared, have been swept away by the swirl of the back-rushing waves of excessive competition, over-production, strikes, and the perpetual recurring and disastrous conflicts between capital and labour. But, as in the physical world, there is in the rising tide a real advance notwithstanding an apparent recession; so in the social and commercial world there is in the sum total a real advance in prosperity which more than compensates the temporary depression. Happily there are not wanting signs of a good time coming in the financial and commercial world after a prolonged period of suspended animation, from which, however, our society has been fortunately free. Flowers, he might observe, represent the poetical side of human existence. They cannot be said to be necessary—as light, air, and water are necessary—for physical existence; not necessary as food, raiment, and shelter are necessary. Mere animal life can be maintained in the absence of these bounteous gifts of Nature. But man doth not live by bread alone, and when the intellectual side of humanity begins to assert itself, flowers play a very important part; in religious festivals, in national triumphs, in state ceremonies, and no less than in the great events of individual life—birth, marriage, and death. In ancient times they have been the crown and glory of the victorious warrior, the brilliant orator, the successful statesman, the inspired poet, and in our own day they confer an added charm and a new grace to those great gatherings of distinguished men and beautiful women which give animation and colour to modern society. Everywhere they diffuse their fragrance, and raise pleasurable emotions by their variety and beauty of form and colour. The appreciation of flowers and their cultivation belong essentially to a high state of civilisation and refinement of manners, and their appreciation will be in exact ratio to the stage of civilisation attained by a people. They are and always have been used in all countries and at all times as symbols of courtesy and affection, or of tender remembrance. They are employed as ornaments in all costly fabrics of the loom, in works of art in silver, bronze, and marble, in china, in the decoration of our furniture, our houses, our palaces, and our temples. Indeed, we might well ask, where would art be if it were not for the suggestions, the inspiration, and the uses of flowers? Have we not all felt how the enjoyment of a concert is enhanced where there is a liberal floral display? May I not say that the floral display at our own board has added immeasurably to our enjoyment to-day? But flowers have also always been the delight and inspiration of poets of all ages. What would our poetry be if deprived of the images, the ideas, the symbols and emblems, the graces of thought and expression to which they give rise? And what would this world be without flowers—flowers that abound everywhere, in peaceful and fertile valleys, in primeval forests and wild uplands, amidst alpine mountain ranges, as well as in low-lying pestilential swamps that give rise to miasma, fatal alike to health and life? Can we imagine a dull, prosaic earth, without a blade of grass or group of wild flowers to relieve its sad and dreary monotony? The poets have been fond of comparing flowers to the stars, and we could as soon realise the world bereft of flowers as the darkly blue vault of night with all its myriad sapphires blotted out. What a dreary waste! what a blackness of despair. Longfellow, the American poet, had seized, appropriated, and amplified this thought in his beautiful lines:—

"In wild and cultured places, and in all seasons,
Flowers expand their light and soul-like wings;
Teaching us by most persuasive reasons
How akin they are to human things."

The toast having been received with great applause, Mr. H. Briscoe-Ironside gave "The Affiliated Societies," which was followed by the presentation of the Challenge Shield to Mr. Coles Child, President of the Bromley Chrysanthemum Society, the winners of the trophy at the last November exhibition, who acknowledged the toast in a speech of a very entertaining character. The President next presented the Holmes' Memorial Cups to Mr. Mease and Mr. Lees, the Collis-Brown Cup to Mr. Lees, his own piece of plate to Mr. H. J. Jones, and numerous medals to other exhibitors, all of whom received rounds of applause on making their appearance before the presidential chair. At the conclusion of the presentations, Mr. Dean, the Honorary Secretary, stated that an analysis of the blooms staged at the November show, made by a member of the committee, Mr. A. Taylor, showed that the total number of cut blooms staged was 3,674. Of these 1,993 were Japanese, and 787 incurved, while the remainder consisted of flowers belonging to the other sections. The number of distinct varieties of Japanese shown was 219, and of incurved varieties 81.

"The Health of the President" was proposed in eulogistic terms by Mr. R. Ballantine, and needless to say the N.C.S. "Grand Old Man" received a most cordial ovation on rising to respond. The other toasts were as follows:—"The Vice-Presidents, Officers, and Committee of the Society," proposed by Mr. J. G. Beer, of Watford, and acknowledged by Mr. C. Harman Payne; "The Donors of Special Prizes," given by Mr. J. H. Witty, and responded to by Mr. Pearson; "The Exhibitors," proposed by Mr. G. Gordon, and spoken to by Mr. J. R. Chard; and "The Press, General and Horticultural," given by Mr. J. W. Wilkinson, Secretary of the Royal Aquarium Co., and responded to by Mr. T. W. Sanders. Before the proceedings closed with "Auld Lang Syne," special thanks were accorded to the staff of the Royal Aquarium Company for the great assistance which they, one and all rendered to the Society on all occasions; and to Mr. T. Bevan and his friends for their services in so delightfully decorating the tables. A word of praise is also due to Mr. Dean for his admirable arrangements and untiring devotion to the Society and its interests.

MAULDSLIE CASTLE GARDENS, N.B.

At the invitation of Mr. Gorrie, and in the company of a couple of floral enthusiasts, I recently had the pleasure of seeing the display of Chrysanthemums at Mauldslie Castle. Mr. Gorrie, not to be out of the fashion, has gone in for a lot of big blooms, and he has a good sized house of plants nicely arranged. The foliage was very fresh, and as might be expected in good pure country air, the colours were very clear and bright. We also saw five other houses filled with healthy plants, all with terminal buds, and most suitable for cutting purposes, promising a crop of flowers till far on in spring. But what struck us most, and we were possibly just a little tired of seeing "Mums," was a most brilliant show of Zonal pelargoniums occupying the front table in the large Camellia house, and quite a mass of colour. No finer display could be forthcoming even at midsummer. No doubt fresh air has a lot to do with the flowering of Zonals at this time of year, but the plants need skilful handling to have them in such perfection; of course they are spring struck cuttings, and potted firmly in 5 in. pots.

The Camellias are in rude health and covered with flower buds, and form a sloping bank from the floor to the roof, the bright glossy green leaves making a splendid background for the mass of colour in front. Carnations of all sorts are in great demand here, and they are never out of bloom all the year round. A span-roofed house is filled with vigorous young plants of Souvenir d'Malmaison, and all the newer kinds. Poinsettias are well done, and fill two large pits. To obtain dwarf plants, Mr. Gorrie puts in the tops on the 1st of July, and in this way obtains quantities of nice little plants, 6 ins. high, which are very suitable for decorative purposes.

In the Orchid house were two splendid examples of an old but very useful plant at this time of year, viz., Zygopetalum Mackayii with a dozen large spikes of flowers on each plant. The plants of Cypripedium insigne were well bloomed, and the variety grown here is very distinct, the dorsal sepal being more elongated than in the type, and the band of white deeper also. This is, undoubtedly, the best form of C. insigne we have seen. The stoves were filled with plants suitable for the decoration of the Castle, Pancratiums being largely used, while in the cooler structures were quantities of well-grown Chinese Primulas, and P. obconica, which is largely grown. The large demands for cut flowers and plants necessitate that the more useful kinds should be grown in abundance—and that is what we found, multitudes of healthy young subjects well adapted for the object for which they were grown, and all reflecting the highest credit on the skill of Mr. Gorrie, who has now been for a quarter of a century the head gardener at Maulsdie Castle, the beautiful seat of Sir Wm. Hozier.—*R.*

Calanthes at Greenlands.—It is very seldom that we see these beautiful Orchidaceous plants in better condition than they are at the above establishment at the present time, at least, in private gardens where they are not made a speciality. A small pit is filled with several kinds of these popular favourites, which are indeed presenting a brave show. C. Turneri, C. Veitchii, and C. (Limatodes) rosea were all in splendid condition, and some of the flower spikes were quite 3 ft. in length. There can be no doubt that these beautiful plants are well worth growing, for their cultivation gives but little trouble, they come into bloom at a dull period of the year, and last for a considerable time in flower.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids were certificated according to merit by the Royal Horticultural Society on the 27th ult.:—

Laelio-Cattleya Decia. *Nov. hyb. bigen.*—The seed parent of this bigeneric hybrid was Laelia Perrinii and was crossed with the pollen of Cattleya Dowiana aurea. The pseudo-bulbs of the plant at present are compressed and vary from 1 in. to 6 in. in length, The oblong sepals are pink, shaded with white. The petals are several shades darker, obovate-spathulate and evidently take largely after the seed bearer. The lip has a narrow tube very closely folded over the column, especially at the base, but which becomes more open and funnel-shaped at the mouth; externally it is deep purple. The lamina is of a rich crimson-purple; the throat shaded with white and the interior of the tube veined with a purer white. First-class Certificate. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Phaio-Calanthe Sedeniana.—This bigeneric hybrid was first described by Reichenbach in 1887, but under the present name by R. A. Rolfe in the following year. The sepals and petals are rather broadly oblong, acuminate, and white, tinted with pink at the base. The lip is large, rather openly and obliquely funnel shaped and shallowly lobed along the sides; the central portion is white, but all along the sides is a broad, rosy purple border. The throat is yellow. First-class Certificate. Exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham.

Cypripedium Triumphans. *Nov. hyb.*—The parents of this hybrid were not stated but C. oenanthum superbum would seem to be one of them, probably the seed bearer. The upper sepal is oblong-elliptic, large, greenish-yellow along the centre, and heavily and handsomely spotted with black, while the sides are white, heavily shaded with purple. The spathulate petals are undulate, especially along the upper edge, and the upper longitudinal half is crimson-brown, while the corresponding lower one is pale brown giving place to yellow at the base spotted with brown. The lip also is intensely brown, and like all the rest of the flower has a rich gloss as if varnished. Award of Merit. Exhibited by Mons. Jules Hye, 8, Le Coupure, Ghent.

Cattleya labiata Peeter's var. *Nov. var.*—The sepals and petals of this Cattleya are deep purple, conspicuously striped and splashed with pale lilac. The lip is crimson-purple with a lilac edge, and the deep yellow blotch in the throat is very much reduced in size. Award of Merit. Exhibited by Mons. A. A. Peeters, Brussels.

Calanthe Harold. *Nov. var.*—The sepals in this case are pink, much shaded with white. The petals on the contrary are of a deep rose-purple. The three-lobed lip is rosy-purple, deepening to crimson in the throat, and the middle lobe is again bifid. Award of Merit. Exhibited by Norman Cookson, Esq., Oakwood, Wylam-on-Tyne.

Odontoglossum Insleayi splendens aurea. *Nov. var.*—The sepals and petals of this variety are of a uniform, soft, cinnamon-brown and shining. The lamina of the lip is very large, roundly cuneate and bright yellow with a few orange-brown spots round the sides. From O. I. splendens it seems to differ chiefly by the richer yellow of the lip with fewer spots round the margin, Award of Merit. Exhibited by C. J. Lucas, Esq. (gardener, Mr Duncan), Warnham Court, Horsham.

Cypripedium insigne Sanderianum, *Nov. var.*—There are now four beautiful varieties of this Cypripedium, belonging to the group of which C. i. Sanderae was the first to turn up and is considered the type. The upper sepal of the variety under notice is soft, greenish-yellow on the lower half, and entirely unspotted, while the upper half is pure white. The petals are slightly paler and without markings. The lip is of a clear, shining yellow, and entirely without brown shading. The staminode is obovate and deep yellow. Award of Merit. Exhibited by Baron Schroder.

Cypripedium Lucienianum superbum, *Nov. var.*—The upper sepal of this hybrid variety is pale greenish-yellow, heavily spotted or blotched with purple, and the white margin is tinted with pink. The petals are of a shining, brownish-purple on a yellow ground, the latter hue showing itself at the margins, while the colour is considerably paler towards the base. The lip is purple and shining like the other segments of the flower. Award of Merit. Exhibited by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Pleurothallis strupifolia.—This curious species comes from Brazil, and was first described by Lindley in 1839. The leaves are strap-shaped, very leathery, deep dull green above, bronzy beneath, and borne singly on slender, terete stems of moderate height. The flowers are produced at the top of the stems and close to the base of the leaf in solitary or twin pendulous spikes. The upper sepal is oblong and gray, except at the base, which is purplish, and contrasts with the two lower, which are joined in one piece, densely and finely spotted with dark purple. The petals and lip are very minute. Botanical Certificate. Exhibited by Messrs. F. Sander & Co., St. Albans.

Serrastylis modesta, *Nov. gen. et sp.*—This peculiar Orchid was really described by Mr. R. A. Rolfe last year, so that the plant shown on the 27th ult. is now flowering for the second time. It belongs to the tribe Oncidieae, to which it adds a new genus, and the flowers are borne in a pendulous raceme about 6 in. long. The sepals and petals are linear-lanceolate and pale reddish-brown, with a yellow edge. The lip is three-lobed, the lateral lobes being broad, rounded, nearly white, with a few red stripes, and stand up in such a way as to form a cup with the rounded and serrate wings of the column, which suggested the generic name. The middle lobe of the lip is subulate, slender, and creamy, with one purple line along the middle. The plant is of modest aspect, as the specific name implies, but interesting. Botanical Certificate. Exhibited by Major Joicey (gardener, Mr. Fred J. Thorne), Sunningdale Park. Sunningdale, Berks.

Dendrobium Phalaenopsis Schroderianum.—Since the great importation of this fine Dendrobe it frequently appears in public, and practically in greater or less numbers at every meeting of the Royal Horticultural Society during the autumn and early winter months. We received some flowers the other day from Walter Cobb, Esq. (gardener, Mr. House), Dulcote Park, Tunbridge Wells, and which were much above the average in size, being, in fact, of dimensions seldom equalled and probably hardly ever surpassed. The blooms were of great texture and measured 3 in. across the long way and 3½ in. from tip to tip of the petals without being spread out. The sepals were pink fading to white towards the base, while the roundly rhomboid petals were rosy passing to white at the base. The throat and base of the lip was white, and the side lobes nearly so, while the terminal lobe was deep rosy-purple intensified to crimson at its basal part. This arrangement of the colours is different from that which usually prevails in Orchids generally, for the colouring is, as a rule, most intensified in the centre of the flower. D. Phalaenopsis Schroderianum usually abides by this rule, but we have seen several sub-varieties of it with a white centre.

THE PLANT HOUSES.

The Stove.

This department will need the most careful management for the next few weeks, as it often happens that during very hard weather the fires have to be driven pretty vigorously in order to maintain the requisite temperature. Too hard firing is, however, a very great mistake, for apart from the waste of fuel it entails, it has a parching and weakening influence upon the plants themselves. Indeed it is much better that the temperature should fall a few degrees short of the one specified to be maintained rather than it should be kept up by undue driving of the fires.

The giving of air, too, is a matter of the utmost importance. A little ventilation must be given, or the atmosphere will inevitably become close and unpleasant, but at the same time care must be taken that no cold currents of air or draughts are allowed to come in contact with the plants, or harm to them will inevitably result. Where the air admitted by the bottom ventilators has to pass over the hot-water pipes before reaching the interior of the house, it becomes warmed in its transit and thus evil results will be avoided. Care must also be taken that the atmosphere of the house is not allowed to get dry, which it is very liable to do when strong heat has to be maintained in the pipes day and night.

The sponging and cleaning of the plants will of necessity constitute an important part of the work to be performed in the stove throughout the whole of the present month. Any climbers that were not pruned earlier, owing to the tenacity with which their leaves clung to them, may now be operated upon, cleaned, and neatly tied to the wires again. After pruning it will of course be necessary to see that water at the root is very carefully given, no matter whether the plants be grown in pots or planted out in specially prepared borders.

Greenhouse and cool Conservatory.

The greatest enemy in this department, and the one calculated to do the largest amount of damage if not watched is damp. Advantage, therefore, should be taken of all bright days, and whenever it is possible to ventilate, air should be given as freely as circumstances will permit. This greatly assists to produce the necessary atmospheric conditions, to keep the plants healthy and vigorous, and to ward off the encroaches of the damp. The night temperature of the house should range between 42° and 45° Fahr., but, as in the stove, so in this department it is far preferable to allow a slight drop in the temperature than to use too much fire heat.

Plants as they go out of flower should be removed to the shelter of a frame or pit, others being moved in from the forcing department to fill the vacant places. Any shifting of this kind that is necessary should be carefully performed, and if cold winds prevail, or the weather is at all frosty the plants that are being moved will need some protection during their passage—the middle of the day being always chosen as the best time to perform the operation. From the great difference existing between the constitutions of the plants that fill the conservatory at this period of the year, and the various conditions of treatment necessary it will be obvious that great discretion must be exercised in the watering. Of course a great many of what we may term the regular greenhouse subjects, may, with advantage, have their water supply considerably curtailed, but in the case of plants which have been forced, and others which bloom about this time of the year which have been grown on in heat, and in which root action is vigorous, a considerable supply of water will be needed.

Occasional doses of manure water may be given to Salvias, Richardias, Primulas, &c., also to such hardwooded subjects as Camellias and Epacrises which are coming into bloom. Continue to cut down Chrysanthemums as soon as the flowers have been removed from them and shift them to any pits or frames that may be vacant.

Pits and Frames.

Here of course great activity must at all seasons prevail, and at none more particularly than at the present, for here it is that plants for the furnishing of the show houses, and for the production of cut bloom have to be brought on.

Introduce into heat succession batches of Lilacs, Azaleas, Deutzias, Staphyleas and Roses. With regard to these latter the present is a most favourable time to commence to force the main stock of plants. In all heated pits a moist and growing atmosphere should be maintained, a frequent use of the syringe upon hard-wooded subjects that are being forced assisting greatly in the development of the buds. Relays of bulbs to form succession batches for use in the conservatory should be placed in heat at intervals, and those in flower should be moved into a cooler temperature as quickly as possible or the blooms will not last for very long.

Attend to the thinning out of Cinerarias, as increased growth calls for more room, and keep a sharp look-out for the appearance of green-fly, which, should it make its appearance should be greeted by several light fumigations.

Winter Flowering Carnations.

The house or pit in which these are kept should be as light as possible, and the plants must be kept close to the glass or the growth will be weak and spindly. Applications of weak manure water may be made at intervals to assist in the developing of the flower buds, and a night temperature of not less

than 55° Fahr. must be maintained if the blooms are to open with any freedom.

Put in cuttings of Chrysanthemums as fast as they can be obtained until a sufficient stock has been worked up, treating them in the manner recommended in the previous calendar.

Mignonette.

LARGE plants which were potted into eight inch pots some time during the middle or end of October, in order to furnish a supply of cut bloom for winter, should now be coming well into flower. Keep the plants neatly staked out, and accord them occasionally suitable stimulation in the way of manure water; weak solutions of guano will give as satisfactory results as anything.

Francoa ramosa.

THIS is one of the most useful and easily grown greenhouse subjects we have. Seed sown in February or March will furnish plenty of little plants, which should be grown on to flower during June or July of the following year. A little care with them now is, however, necessary. They must not be allowed to suffer from lack of water, and potting must be performed before the roots get matted in the pots.

All cold frames should be ventilated freely whenever possible, and, those containing violets, border carnations, etc., should have the lights pulled off them whenever the weather is mild and dry, as nothing whatever is gained by undue coddling of such hardy subjects as these, plenty of air and abundance of light being essentials to success in their culture.—*A. S. G.*

THE VEGETABLE GARDEN.

Early Potatos.

In most large establishments these are looked for very early in the season, therefore provision must be made if the cultivator is to keep pace with the times. If tubers have been selected and stood on their ends in order that the growths proceeding therefrom may have become robust they will be ready for planting. When this has not already been done the first opportunity should be taken advantage of before the sprouts get too far advanced. There is but little difficulty in securing sweet early tubers where suitable heated pits are at command, as the requisite warmth can easily be kept up; but where the gardener is forced to use all sorts of rude contrivances, he is often put to his wits' end to know how to supply the many demands made upon him. If there be no heated pits, and the old rude hot-bed has to do duty, much time may be saved by planting a sufficient number of sets in 6-in. pots and standing them on a stage in one of the houses till the beds are ready for them; by this means the young tubers will be well advanced before there is much decline in the temperature of the bed. As soon as the haulm appears above the soil they should be stood near the glass to prevent them becoming drawn. Potatos do not like a close temperature, but in the dull cold months at the beginning of the year it is often difficult to afford them the necessary warmth if air be admitted in sufficient quantity to keep them healthy. If, however, the plants are treated in the manner above described, there will be sufficient warmth in the soil to cause a healthy root action. Very little water is needed, in fact, none should be given unless the soil has a tendency to get dry, and if any is given it ought to be several degrees warmer than the soil in which they are growing, so that it may not lower its temperature. A little kainit sprinkled between the rows previous to watering is very beneficial to the plants, as it assists growth.

French Beans.

THESE are so often called for during the early spring that all gardeners are expected to provide them, and, as so often happens, places that ought to be occupied with other things have to give place to these. It is a long time since we had such a season as the present one, for in some places the French Bean leaves are still quite green in the open, and those that had the protection of frames are still giving a supply of pods, so there has not been at present much strain on the resources in this direction. The heavy rains and dull weather we have experienced this autumn have prevented a number of the flowers from setting as freely as they otherwise would have done; therefore, in all probability, supplies will soon run short on this account. Fresh sowings should be made in heated pits every three weeks, or oftener if convenience will allow, but where these useful structures are not available for that purpose, recourse must be had to sowing them in pots or boxes. We prefer the latter, as the plants are not so apt to get dry at the roots. If these are made of common boards about 7 in. wide, they will hold sufficient soil to keep the roots moist in case watering should at any time be neglected. If made 2 ft. long they will be of convenient size to move about should it be found necessary to do so. There is nothing gained by sowing the seed too thickly, a dozen plants will be ample for each box. If pots are used, then those 9 in. in diameter are a convenient size, allowing five or six plants in each. Red spider is a most troublesome pest to French Beans; therefore, the syringe must be kept well at work to keep them under. Air must be freely admitted when the weather is favourable, but when cold winds or sharp frosts prevail, this must be done with caution. The night temperature should be from 55° to 60°, and this may be 5° or 10° higher according to the weather. Better, however, for the place to be a few degrees lower than to have the pipes too hot to bring on red spider. When the plants are 6 in. high, small sticks should be put to them to prevent their falling over; as growth advances more water will be necessary both at the roots and over the foliage. Syringing, however, should be discontinued when the plants are in bloom, unless it be first thing in the morning on bright sunny days, for unless the flowers are dry, they will not set freely. When the pods are swelling, weak liquid manure should be given them twice a week particularly if in pots.—*Kitchen Gardener.*

THE ORCHID HOUSES.

EAST INDIA HOUSE.—Phalaenopsis Amabilis, the pioneer as regards flowering of this beautiful genus will soon be in bloom. If the spikes are large and have branches, it will be as well if the plant is to be kept in good condition to remove some of them. The flowers too that are left will be much finer. The atmosphere of this division should now be rather dry as compared with what it has been for if overcharged with moisture, flowers and may be the foliage also, will become spotted. Especially will this be the case, should the temperature go down very low, or if the plants are stood immediately over saucers containing water, we never use them ourselves believing that they do more harm than good.

CATTLEYA HOUSE.—Odontoglossum citrosmum: Our plants have finished up some very fine bulbs this season, but they are we think softer than usual and will require ripening well, if we are to get good strong spikes. With that end in view they have been transferred from the North side of the house to the South. Where they are suspended within six inches of the glass. Here they will receive very little water, in fact only just enough to keep them from shrivelling until the spikes appear, when they will receive a good soaking. The atmosphere of this house will be kept much drier consistent with the well being of the plants, and the temperature gradually lowered so as to induce them to rest.

DISA'S.—It seems rather early to talk of potting this beautiful greenhouse Orchid, but there is no help for it. Ours have made a start and must be seen to or they will suffer. I have so fully dealt with the general culture of this genus in these columns that I need only mention that a mixture of peat, sphagnum moss, cow or other manure well rotted, with a liberal amount of silver sand grows them well. The great thing is to keep them cool and moist, without letting the frost quite reach them, and to keep them free from thrips.

COOL HOUSE.—The bright weather of the past few days with which we in this district have been favoured, has had a wonderful effect on our Odontoglossums, casting to the winds the idea that they require a structure facing north to grow them well. A north aspect during a very hot summer may be all very well, but I should want it reversed during winter.

WATERING.—We have not been slow to take advantage of the bright days to give the Odonts a thorough good soaking, which will last them for quite a week, for we do not keep them soddened wet at any time of the year, but when we do give water the plants know they have had it.—*C.*

Gleanings from the World of Science.

Tree Lucerne.—This is a popular name which has been applied to Cytisus proliferus a species of Broom, originally a native of Teneriffe. In this country it requires the protection of a greenhouse, and when allowed to form a good sized bush it produces a wealth of white flowers much larger than those of the Portugal Broom (C. albus). It is not, therefore, a species of Lucerne (Medicago) at all. Dr. Schomburgh originally introduced it to Australasia in 1881 and since then some attention has been drawn to it as a fodder plant. The leaves consist of three leaflets and the branches being twiggy and having some resemblance to Medicago sativa on a larger scale, the plant has been called Tagosaste, or Tree Lucerne by the people of New South Wales, who have made the acquaintance of it. There it proves hardy and there is some prospect of its proving useful as a forage plant when it has been grown on a sufficiently extensive scale to thoroughly test its capabilities, It grows well on poor land but requires that the same should be well drained, otherwise the roots are liable to perish. Mr. J. L. Thompson of the Hawkesbury Agricultural College, New South Wales, says that the Tagosaste was sown there on the 12th October, 1892, and has now reached a height of 12 ft., and that he is so satisfied with it that he is sowing it largely all over the farm. Its value as fodder and shelter renders it one of the most useful plants that have ever been introduced to the colony; and he considers that a plantation of it will last fifteen or twenty years.

A British Fodder Plant.—For some years past attention has been given to the possible utility of Lathyrus sylvestris as a fodder plant. In some chalky districts of Surrey and other southern counties it grows very luxuriantly, forming a mass of straw which several have taken the trouble to make into hay. Since attention has been called to it, seeds have been sown in several gardens by way of trial. The Kew *Bulletin* for October says that the seeds contain a poisonous alkaloid, and when eaten in quantity by horses or for any length of time, the animals suffer greatly unless the seeds have previously been subjected to heat to dissipate the poison. This is by no means the first instance of the discovery of a poisonous or injurious principle in the seeds of members of the Pea family.

Lathyrus sativus.—Various names have been given to this annual in gardens, including L. azureus, L. a. roseus, and Lord Anson's Pea, all of which are erroneous. As long ago as 1671, George Duke of Wurtemburg, forbade the use of this pulse, the seeds of which were made into a light and pleasing kind of bread. This law had evidently been suffered to go by default, for Leopold, the Duke's successor, sought to enforce it by two other edicts in 1705 and 1714. When the meal was mixed in equal parts with wheat flower it appeared to be harmless. Those who used the pulse alone for any length of time were affected with rigidity of the limbs, and though this was practically a painless ailment it was sometimes preceded by a weakness of the knees; nor was it fatal, but was incurable. Swine fattened with it, lying upon the ground even after they lost the use of their legs. Horses fed for some months upon the dried hay had their legs rendered rigid. Pigeons suffered in the same way, especially the young ones. Cattle in Switzerland did not seem to be affected by it. Peasants at Florence mixed it with wheaten flour at the rate of one part of the former to three of the latter, and they experienced no ill effects from the use of it. Differences in the soil were believed to exert a considerable influence upon the qualities and character of the seeds, and that those from a heavy or rich soil were reckoned more injurious than those from a light one.

The Laburnum.—No ill effects appear to have resulted to cattle from eating the foliage of Laburnum, and it is well known that rabbits are very fond of the bark, so much so that the tree has been planted in woods for the express purpose of attracting the rabbits away from other trees. The seeds would seem to be highly poisonous to human beings at least, if we are to trust the numerous cases that have been reported of children dying from having eaten the flowers and young seeds. These cases occur at intervals of a number of years, but no action appears to have been taken to ascertain the actually poisonous principle and to warn the general public to guard against children eating the same.

SPECIALISM IN GARDENING.

As with most other sciences at the present day, so with horticulture, there is a very great tendency upon the part of many students of the profession to aim at becoming specialists in the culture of a certain class of plants, their knowledge meanwhile of other branches of their calling suffering to a certain degree because of this. No man, be he ever so rich in all the qualities that go to make up a good gardener, and they are many and various, can hope to become a thorough proficient with regard to all branches of his work, and so, many devote all their time and attention to perfecting themselves in all matters relating to one class of subjects.

Now the question that naturally suggests itself to the mind of a thinking man with regard to this subject is the decided leaning towards specialism in any one branch of the profession conducive to the best interests of horticulture, &c.; is it calculated to bring to the front men suitable to fill positions of trust as gardeners in large establishments? To the first question most of us will, I think, answer yes, because, as has been noted, life is too short and the science of horticulture far too extensive a one for one man to become a perfect master of all the matters connected with it. We think then that the specialist can safely claim that the dividing of the profession up into numerous branches, and for one man to bring all his energy to bear upon one division with a view to discovering as much as possible with regard to the secrets of that division is the surest way of finding out whatever of importance there is to learn with regard to any one branch, and, therefore, that if all the important ramifications are treated in a similar manner we have discovered the best method of advancing the true interests of horticulture. Then again, the information that the specialist is able to impart must be treated with respect, seeing that it is the result of hours of thought, of study and research in that particular direction. Indeed, if any of us want reliable information upon a given subject we, as a rule, go to a specialist upon that subject and strive to persuade him to lighten our darkness.

But we are of opinion that while there is a good deal to be said in favour of specialism, there is also much to be said against it. With regard to the nursery trade—here of course the specialist is in his glory, and is in fact the right man in the right place. He has a certain class of plants to grow, the treatment of which he has made a particular study. He of course brings all the knowledge he has acquired to bear upon his treatment of these plants with the result that he succeeds splendidly in his cultivation of them. But if any notice at all is to be taken of the advertisements for competent gardeners that are always appearing, it is "good-all-round-men" that are wanted, men who can grow good vegetables and fruit, and are expert in dealing with the propagation and growing on of the many highly prized flowering and foliage plants.

In a situation of this kind the specialist is entirely out of his sphere of operations. Of what use would it be, might be asked, for a man whose time has been solely taken up with the growing say of Orchids, to attempt to take charge of an establishment where he would be required to know something about the whole, and where he would have to direct the operations of men with regard to work of which he had never had practical and personal experience. Why, it would be but to court failure for a man of this description to attempt to carry out so herculean a task. It becomes therefore a matter of serious importance that so many of our young men are wending their steps in the direction of specialism, at least, unless the present state of affairs undergoes a sudden and a decided change, and such a change there is, to say the least of it, no immediate prospect of our experiencing.

Most young gardeners after they have spent a certain time as journeymen naturally aspire to become something higher, and consequently try to secure a foreman's position. Now from the conditions that obtain in most large establishments the garden is divided into several departments, a foreman being usually placed in charge of each. In very many cases then the aspirant to the foreman's position takes a place as head of a special department, and it is but natural that he, wishing to give satisfaction in his new sphere of labour, for it is a good old proverb "that new brooms sweep clean," applies himself diligently to learn all there is to be learnt in the particular department for the well-being of which he is directly responsible. In this way the first seeds of specialism are sown and the crop is, as a rule, not long in springing up.

It would not profit, however, for us to describe in detail the steps by which the man, becoming interested in a certain class of plants, often, as I have described from the sole reason that he has to grow them, or is to some extent responsible for their well-being, becomes so absorbed in all matters connected with them that presently he gets to imagine that these particular subjects are the most important of all others, and more worthy than any of his particular attention. In fact, he has become a specialist.

This is a subject concerning which a good deal of light is needed, and which will take a deal of threshing out before we can come to a satisfactory conclusion with regard to the best method of obviating what cannot fail to be more or less of an evil. The gardener of to-day has to have a good many strings to his bow, His employer's eyes must be pleased it is true with sufficient quantities of floral delicacies, but the kitchen has to be supplied as well. In many cases where lavish expenditure used at one time to obtain, there is now, if not an evidence of absolute niggardliness, at least, a manifest and decided tightening of the purse-strings, and many gentlemen, while they value flowers as much as ever they did, value vegetables and fruit a great deal more than they used to do, and rightly so. It is in far too many instances an *ower* true saying that a wise gardener will make friends with the cook.—*G.*

THE LILY SEASON AT HEATHERBANK.

My annual note on our Lilies will be shorter than usual this year. The frost of 21st May was most destructive except in especially favourable situations. In the wood bed at Oakwood the mild weather had made the L. auratum stems tall and the growth vigorous, then the frost came and cut the tops, so that in the flowering season there was one fine plant in bloom with more than a dozen frosted ones round it. L. Humboldti had unusually strong stems, these were all browned. L. candidum promised to be very fine, but in exposed situations were cut down; within not many yards a few plants in sheltered places bloomed well. L. superbum cut by frost in some situations was fine in others. L. Browni, L. japonicum odorum, and L. Krameri all cut, L. Martagon Dalmaticum cut in wood was fine on hill. In a sheltered place on the hill L. auratum Virginale was especially fine.

In the wood at our cottage garden, which is dry and warm, the Lilies bloomed well, and in this garden almost all the Lilies, especially L. auratum and L. speciosum, planted in sunk tubs and in large boxes sheltered by shrubs, were as fine as usual; in one tub with the bottom out we had the finest plant of L. tigrinum splendens I ever saw, 8 ft. 9in. high with ten flowers.

In the greenhouse here L. Wallichianum superbum and L. Henryi bloomed well. I believe the last to be a valuable out-of-door Lily, but have not yet grown it except under glass. A plant of L. Wallichianum superbum had twenty-three stem bulbils like those on Tiger Lilies, so should be readily propagated.—*George F. Wilson, Heatherbank, Weybridge Heath, Nov. 30th.*

DEVONSHIRE HORTICULTURE.

At the meeting of the Devon and Exeter Gardeners' Association held on the 28th ult., Mr. Parker read a paper on The Devon and Exeter Horticultural Society, in which he stated that the Society was established in 1829, and had held an unbroken series of exhibitions up to the present day. The then Lord Clifford was the first President, and his successors in office included the most distinguished men of the county of Devon. The first Hon. Secretary was Mr. J. Gidley, father of the late Town Clerk of Exeter; the Treasurer was Mr. John Milford, and the City Bank had acted as Bankers and Treasurers from the first. The oldest existing Horticultural Society was the Ancient Society of York Florists, established in 1760; next came the Horticultural Society of London, established in 1804; the Caledonian Society, 1809; the Aylesbury Society, 1822; that of Newcastle-on-Tyne, which dated from 1824; and then came the Devon and Exeter Horticultural Society, established in 1829. The Society's career had been a varied one. At times it held exhibitions of dogs and poultry, as well as of flowers. The records of the Society were complete from 1830 to 1861, but from that year up to 1887 the reports were missing. Formerly there were four shows in the year, and the income from subscriptions was over £300 per annnm. So early as 1832 the report of the Society mentioned the desirability of the granting of allotments. Cottagers' classes were established in connection with the exhibition. For a time the gardeners used to meet at Mr. Gray's offices, and read papers on subjects interesting to their business. Up to 1842 the exhibitions were in the Subscription Rooms. The first exhibition upon Northernhay was in 1846. The two tents bought for that exhibition were those still in use. The record receipts were in 1850, when the Royal Agricultural Society visited Exeter, and the Horticultural Society held its show on two days during the visit. The gate money amounted to £622. The show was on the lawn in front of Mount Radford House. The exhibition of 1856 was on the day of the Peace rejoicings. It was a curious coincidence that the Society also held one of its shows on the day of the Declaration of War. Mr. Gray had rendered invaluable service to the Society—he was elected a life member in 1859. The greatest possible interest in the affairs of the Society was taken by the late Rev. John Huishe, of Clysthydon. In 1860 the Society was short of funds—a ball and concert was given, and realised £500. The Poultry Shows held by the Society were finally discontinued in 1873. The first display of fireworks was in 1874. In 1875 the Society undertook an exhibition of dogs, rabbits, and cats. Exeter nurserymen had always been well known throughout the county, and they had ever given their generous support to the Society. Taunton was now the leading show in the West of England; Exeter came next. The speaker made various suggestions with the view of enlisting additional support and enabling the Committee to make the exhibition the chief one in that part of the country.

THE AMATEURS' HANDBOOK ON GARDENING.*

The variety of information given in this octavo volume of 194 pages is greatly in excess of what we are accustomed to see in most modern gardening books of similar pretensions and size. Everything is written in a simple and lucid style, as befits a book wholly addressed to amateurs. The special articles by professional gardeners are generally speaking very reliable for amateurs to follow, although, as frequently happens, in a case of this kind some plants are recommended whose suitability for the purpose we cannot always substantiate. Experiences of course differ with individuals, but we doubt if most gardeners could grow Adiantum Williamsii satisfactorily in a greenhouse. If so, how are inexperienced amateurs to succeed with it? In a list of Chrysanthemums recommended for those who have not the means for the production of large flowers, J. S. Dibbens, Edwin Beckett, and W. H. Lincoln are mentioned. The first named has been a great failure under the care of professional and amateur alike, and the others partially so during the past season. Of course we grant that it may be a new experience owing to the sunless summer and autumn.

The soils and materials for making suitable composts for many different plants will doubtless prove a great help to the amateur. The short article on cut flowers and their arrangement furnishes useful hints as a means to an end, but the tasteful and effective arrangements of various flowers must ultimately depend upon the skill and taste of those who actually set them up. The arrangement of massive double flowers such as Dahlias and Roses require greater skill than the single ones as is here well explained. The simple methods of preventing pod-bursting Carnations and allied flowers from being spoiled after a year's patient cultivation should also prove serviceable. Pansies, Violas, Auriculas, Tuberous Begonias, Clivias, Hippeastrum Ferns, Narcissi and various other subjects are treated with the masterly hand of experienced growers. A long-

*The Amateurs' Handbook on Gardening, with a Calendar of Garden Operations. Special Articles by Celebrated Gardeners, &c. Blake and Mackenzie, School Lane, Liverpool.

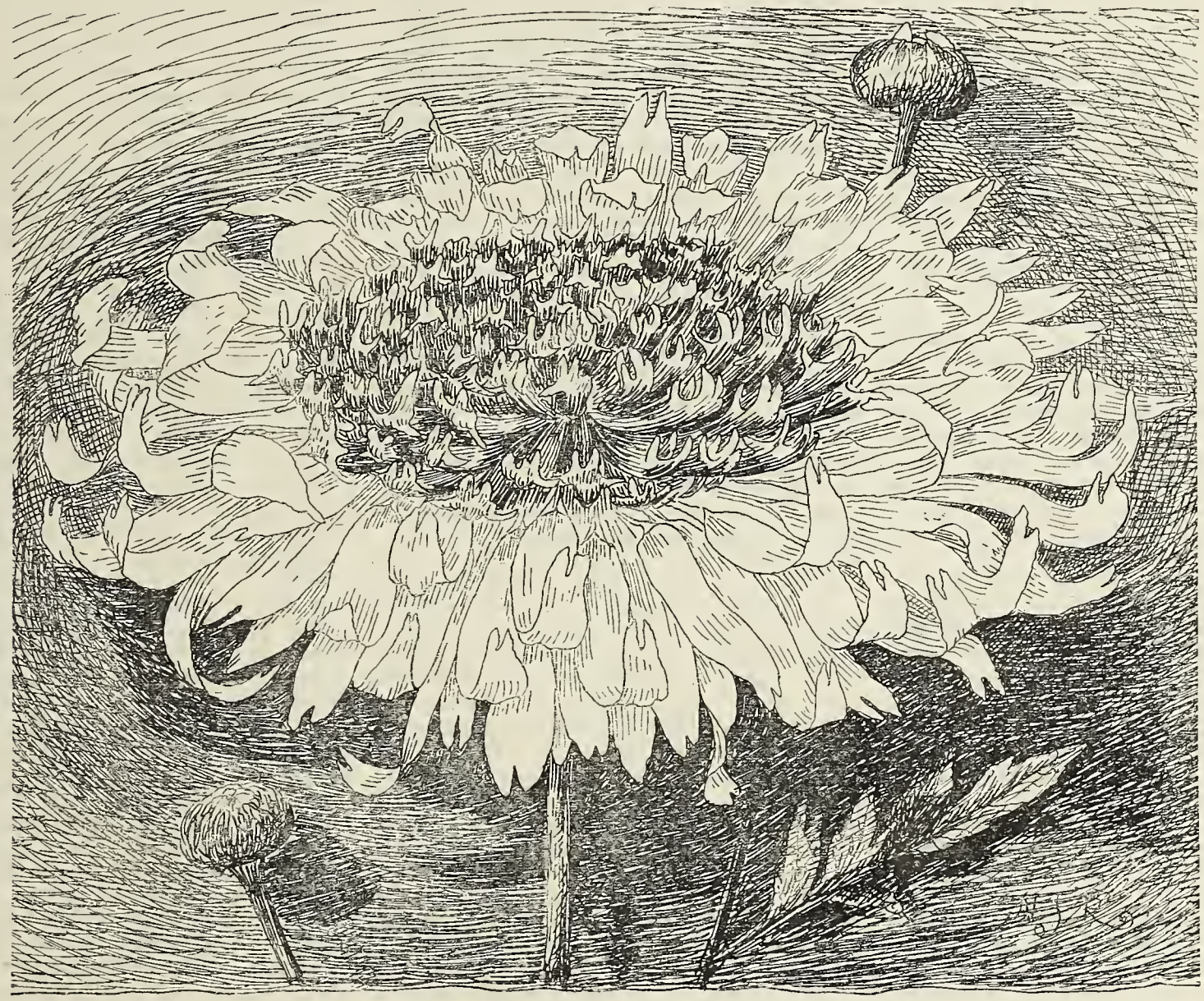
ish list of bee-feeding plants shows that the general utility of that industrious insect has not been ignored. The writer of national flowers and plants has wisely refrained from giving the specific names of several of them, while America is entirely omitted, possibly because our cousins cannot all agree upon one plant. The number of plants to which the name Lily is applied in a popular sense is very great, seventy-five being given, though the list is doubtless incomplete.

Vegetables and fruit growing naturally come in for a smaller amount of attention than flowers; but although the cultural and other directions occupy less space, they need not on that account be less important. The methods of procedure to obtain a constant succession of Cauliflower, Broccoli, Cabbage and Kale all the year round must prove serviceable, for very few amateurs have any conception of a constant supply of vegetables from their gardens, while a large proportion have too small gardens to attempt it The advice concerning the sowing of Scarlet Runners in small gardens would also apply very forcibly to tall kind of main crop and late peas. Instead of sowing the Runners or tall Pease, in lines 5 ft. or 6 ft. apart, they should be sown at intervals over the ground forming dividing lines between the different crops. This avoids waste of ground as the other and dwarfer crops may be brought close up to them without unduly obstructing the light to either crop.

The information given on the value of vegetables for health, is sometimes amusing as well as instructive; for instance the following may tickle amateur and gardener alike :—"A Cabbage leaf placed inside the hat in summer, will keep the head cool and easy under the influence of a burning sun." Driving rusty nails into the trunks of fruit trees is said to act "as a preventive of cure for blight," whatever that may mean. We doubt, however, whether that barbarous practice would be productive of any beneficial effect, but on the contrary, think it would be a fruitful cause of gumming in Peach trees. What we should term "clippings from the comics," is rather an unusual thing in a horticultural book, yet the following may please some one :—"A hotel keeper in the mountainous districts of Wales advertises that he can furnish guides and ponies perfectly acquainted with all the plants in the locality. The paper, printing and editing leave little to complain of. Sportine on p. 36, is doubtless a slip for sportive. In the same way Adamson's Baobab must surely have been intended for Adanson's Baobab (Adansonia digitata) for it was named after Michael Adanson, a French botanist.

CHRYSANTHEMUM CALEDONIA.

Japanese Anemone varieties have had some fine additions made to their number during the past month or six weeks. Most of them are notable for their large size, consequently they constitute desirable additions to the show boards. Very dark varieties are not very numerous in this class, but the paler coloured ones seem to enjoy greater public estimation. The bloom of that under notice measures about 5½ in. across, and would be larger were it not that the tips of the rays are considerably incurved and occasionally more or less twisted at the concave tips. The rays are moderately broad and white. The disc is very full and pale purple, slightly modified by the tips of the florets being tinted with pale yellow. As in the case of Japanese varieties, where the florets may be of various forms and assume fantastic arrangements, so amongst Japanese Anemones considerable latitude is allowed for the form and disposition of the ray florets. The incurving of the ray florets is a strong characteristic feature of Caledonia, as may be seen by the accompanying illustration, which was prepared from a flower raised and exhibited by Mr. R. Owen, Castle Hill, Maidenhead. The same exhibitor has raised several fine large-flowered, as well as Japanese Anemones within the last few years. Caledonia was accorded a First-class Certificate by the National Chrysanthemum Society on 7th November last.



Chrysanthemum (Japanese Anemone) Caledonia.

POMPON CHRYSANTHEMUMS.

The interest taken in the cultivation and improvement of the Chrysanthemum is undoubtedly still upon the increase, but despite the fact that the several sections of flower are all receiving attention, the Pompon class seems, for some reason or other, to be under a cloud, if I may so term it. All the energies of the Chrysanthemum growers of to-day seem directed towards the securing of blooms of colossal size, and this being the case it is not to be greatly wondered at, that the Pompons from their very smallness are apt to be overlooked. While it cannot be said with any vestige of truth that, as a class, they possess the manifold qualifications of the varieties of the Japanese section, still they are well worth growing, even if it were only for the sake of the variety they afford, and the contrast they exhibit to their more stately sisters. In fact, no collection could be considered as a representative one, unless a fair amount of the Pompon element entered into its composition.

But apart from this, the Pompons have much to recommend them. A number of plants carrying a profusion of the small, but neat little blooms are of the greatest value for supplying cut bloom. The old white Cedo Nulli and its yellow form have been grown for many years, but since that time many new and good varieties have been introduced.

Eugene Lajaulet with its rich butter-yellow flowers is a gem among its kind. Brilliant, another pretty little sort has rather small flowers of a dull red hue; its habit is somewhat looser than that exhibited by the majority of the members of its class. Sunset, with its bronzy-brown flowers and dark green foliage of good substance is also an acquisition. Lizzie Holmes has rather large flowers of a deep rich bronze shade, and is of a dwarf and compact habit, being usually about three feet in height. A variety known as the Black Douglas is a really pretty one and as distinct as it is pretty. The blooms are rather larger than usual, of a fine dark crimson colour, and the tips of the florets are deeply

cleft, which gives the flower an exceedingly handsome appearance. Many of the older varieties, too, are exceedingly pretty and very useful. Mdlle. Elise Dordan, with its soft lilac flowers, Soeur Mélanie, pure white, and La Vogue, with its large, orange-yellow flowers are all sorts which amply repay the cultivator for the room they occupy, and for the trouble expended upon them.—*Y.*

NATIONAL CHRYSANTHEMUM SOCIETY.

The early winter exhibition of this society was opened on the 4th inst., and continued during the next two days. The individual blooms were greatly superior and the numbers shown much greater than what might have been seen about two years ago, and previously when the exhibition was held in January. The groups of plants and the floral decorations of various kinds in which Chrysanthemums formed a part or the principal part were a decided feature of the show, and deservedly received a considerable amount of attention. The first award for twenty-four Japanese Chrysanthemums was taken by Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, who had some massive blooms in his stands, including Golden Gate, Mrs. E. D. Adams, Robert Owen in fine condition, Mdlle. Thérèse Panckoucke, Violet Rose, Lily Love, Beauty of Castlewood, Madame Laillant, Mrs. Cannell, Viviand Morel, Florence Davis, Charles Blick, Seedling, F. W. Flight, Eda Prass and others. The bloom of Mrs. E. D. Adams was quite pink and in better condition than we have even seen it, because taken from the terminal bud. Mr. H. Perkins, gardener to the Hon. W. F. D, Smith, M.P., Greenlands, Henley-on-Thames, was a good second, and though he had no unusually large blooms they were of fairly even quality. He had fine blooms of Robert Owen, Viscountess Hambleden, Rose Wynne, Lord Brooke, G. C. Schwabe, Mrs. E. Beckett, and Charles Davis. Mr. G. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, took the third place with a very even stand of blooms. An extra award was accorded to Mr. W. Wells, Earlswood Nurseries, Redhill, whose blooms were in many cases very fresh. The leading award for twelve Japanese blooms was taken by Mr. Philip Plumb, gardener to G. J. Beer, Esq., Biskra, Langley Park, Watford, Herts, who had massive blooms of Mrs. G. J. Beer, Mrs. Trelease, Primrose League, Etoile de Lyon, Lilian Bird, Lady Saunders, and Waban. Mr. W. Slogrove, Gatton Cottage Gardens, Reigate, was a good second, showing Mdlle. Thérèse Rey, Elmer D. Smith, Princess May, Golden Beauty, and Mrs. C. H. Payne in good condition. Mr. T. Sandford gardener to G. W. Wright Ingle, Esq., Wood House, North Finchley, took the third award with a stand that would have taken a lot of beating at this season of the year.

Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, had the best six blooms, Pearl Beauty, Lord Brooke, and Silver King being fine. Mr. Phillip Plumb was second with at least five of the six good blooms. Mr. H. Liney, gardener to W. M. Low, Esq., Wellesbourne House, Warwick, took the third place. Incurved blooms were not in strong force. The first prize for twelve was taken by Mr. W. Mease, whose flowers looked fresh and firm, the finest being C. B. Whitnall, Lord Rosebery, Robert Petfield, and J. Keam. Mr. W. Neville took the second place with fine blooms of C. B. Whitnall, R. Cannell, and Mrs. Colman. Mr. Chas. Brown, gardener to R. Hentz, Esq., Langley House, Abbots Langley, Herts, was third, but came in first for six incurved blooms. The class for twelve bunches of Japanese blooms was well represented, and the first award went to Mr. C. W. Knowles, gardener to Charles Egerton, Esq., Solna, Roehampton. Some of his finer bunches consisted of E. G. Herring, Lord Brooke, Florence Davis, Eda Prass, and Etoile de Lyon. Mr. H. Alderman, gardener to G. Hatfield, Esq., Morden Hall, Morden, Surrey, took the second award with smaller blooms, though clean and fresh in colour. Mr. W. Tysler, gardener to Miss Smith Dorrien, Hertwell Villa, Aylesbury, took the third award. Mr. C. W. Knowles again came to the front for six bunches of Japanese blooms. Those shown by Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon Common, were smaller, but the stems were longer, and the foliage showed off the blooms to advantage.

The prizes offered for twelve bunches of single-flowered Chrysanthemums, brought out nine entries, which in itself would seem nothing very remarkable, but was very unusual notwithstanding, seeing that two or three stands usually constitute the lot at the November show. The first prize was awarded to Mr. Wm. Wells, who had a great amount of variety with the flowers well displayed on long stalks. Purity, Sulphureum, and May Wells were good kinds. Mr. C. W. Knowles was a good second, and the variety Purity figured largely. Miss Debenham, St. Peters, St. Albans, was third. A variety named May Fleming in another stand was exceedingly graceful and pretty, with its numerous crisped white petals. The class for twenty-four bunches of blooms, any varieties, brought out several entries, but we do not quite see the force of calling those exhibited by the name of bunches, as they consisted for the most part of three large blooms, almost suitable for exhibition purposes, huddled together in triplets in such a way as to spoil any effect they might otherwise have produced. The character of the bunches as shown in former years has been departed from, but we should like to see a little more gracefulness displayed, and that will doubtlessly follow when the principle of showing with long stems is more fully understood. The first award was accorded to Mr. W. Lane, gardener to Miss J. Durning Smith, King's Ride, Ascot, whose blooms were of massive size for this sort of work. Mr. C. W. Knowles took the second prize with smaller blooms, including several incurved and some reflexed varieties of the Christine type. Mr. Geo. Springthorpe, gardener to W. A. Bevan, Esq., Coombe Court, Kingston-on-Thames, took the third place with his blooms arranged in a sloping bank.

In the amateurs' classes Mr. E. Linfield, 19, Vernon Terrace, East Finchley, obtained first for six cut blooms of Japanese Chrysanthemums of distinct varieties; Mr. Henry Love, Sandown, Isle of Wight, coming second. Mr. W. D. Crane, 4, Woodview Terrace, Archway Road, Highgate, had the best epergne filled with cut blooms of Chrysanthemums, fern fronds, grasses, etc; Mr. J. Bertenshaw, 22, Lordship Lane, East Dulwich, taking the second place. In a class for six blooms, distinct, of new varieties introduced in 1893 and 1894, Mr. H. Perkins won the Silver Medal, which was in this case given by Mr. H. J. Jones. He had good blooms of varieties like Rose Wynne, Chas. Davis, and Walter Surman. In a class for twelve Cyclamens in pots, Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, obtained first prize with some large and well-flowered examples.

The St. George's Nursery Co., Hanwell, W., obtained first prize in a class for a collection of Cyclamens in pots. Some remarkably fine samples of this beautiful flower were exhibited by this firm, a large table, some 25 ft. by 6 ft., being filled. Mr. C. W. Knowles, gardener to Mrs. Charles Egerton, Solna, Roehampton, staged twelve nice plants of varieties of Primula sinensis, for which a first prize was awarded. The individual blooms were of large size and the plants were very floriferous. Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon, won the second place in the same class. Twelve double-flowered varieties of the same plant exhibited by Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, carried off first honours. The specimens shown by Mr. Mease were large and fine examples of their class and full of flower.

In a class for a collection of flowering, berried, and foliaged plants, some exceedingly pretty groups was shown, and the competition was very keen. Mr. A. Newell was, however, successful in carrying off first honours, staging some neat and well-flowered Primulas, Roman Hyacinths, and Bouvardias, Crotons and Pandanads being bright and well coloured. A few heads of Euphorbia pulcherrima standing out from the rest of the plants at intervals added a touch of colour to the whole. Mr. W. Howe, The Gardens, Park Hill, Streatham Common, came second with a collection but little inferior to that of the first prize-takers. The miscellaneous exhibits were of a very extensive character and contained material that was really possessed of a great deal of intrinsic merit. A collection of cut blooms of Chrysanthemums exhibited by Mr. Robert Owen, Nurseryman, Maidenhead, was awarded a Silver Medal. Some capital blooms of Desdemona, Dr. J. Grange, Mrs. Annie Smith, Mrs. R. J. Thamiel, Chas. Lawton, Madame Rozain, Mr. W. H. Lees, Miss Ellen Terry, and H. L. Sunderbruch, were here shown. A Silver-Gilt Medal was awarded to Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey' for a number of remarkably fine cut blooms of the same, also for plants in pots in first-rate condition. The examples here shown of varieties like W. H. Lincoln, Miss M. Weightman, Robert Owen, Mdlle. Thérèse Rey, Mr. H. Broomhead, Miss A. Hartshorn, and Mrs. Libbie Allen were exceedingly meritorious.

Messrs. H. Cannell & Son, Swanley, Kent, received also a Silver-gilt Medal for an extensive exhibit of Zonal Pelargoniums, cut blooms of Chrysanthemums, and vegetables. The Pelargoniums were arranged in pyramidal shaped bunches, small Ferns in pots being placed between them; such sorts as Galatea, Rev. Brett, Mrs. Hall Abion, and Madame de Boudeville, were included among the single and Raspail Improved, and New Life among the double-flowered varieties. Upwards of a hundred Chrysanthemum blooms were exhibited by this firm; samples of Mdlle. S. Panchoucke, Golden Gate, Madame A. Chatin, Mrs. Geo. Ile, Hairy Wonder, Wahan, and Etoile de Lyon, being noteworthy. The vegetables, which occupied half of the table, comprised an extensive exhibit of Potatos, in which clean and well-shaped tubers of Supreme, Victory, Abundance, and Best of All, were conspicuous; some large and fine Onions, Shallots, Leeks, etc. Mr. A. W. Young, Holmesdale Nurseries, Stevenage, Herts, received a Bronze Medal for a group of cut Chrysanthemums. A like award was also made to Mr. J. T. Godfrey, Exmouth, for a good collection of Chrysanthemums and Carnations. Among the former, such sorts as Mrs. W. H. Lees, Crystal Belle, Mrs. E. W. Clarke, Mr. J. G. Magee, Elmer D. Smith, Madame Carnot, and Le Colossle Grenollois, were in excellent order; and the Carnations Miss Mary Godfrey and Reginald Godfrey were also very fresh and sweet.

A Silver Medal was awarded to Mr. J. H. Witty for a fine group of Chrysanthemums in pots, bordered by a row of Ericas in full flower. Mr. Norman Davis, Nurseryman, Camberwell, S.E., received a like award for a similar exhibit. The plants were arranged to great advantage, and presented an imposing appearance. A Bronze Medal was awarded to Mr. W. Davey, gardener to C. C. Paine, Esq., for a group of specimen Chrysanthemums in pots trained in the umbrella shape and staged with Ferns and greenhouse foliage plants. Lizzie Cartledge, Sunflower, and A. H. Neve were some of the best Chrysanthemums exhibited in this group. A superb collection of Hippeastrums (Amaryllis), exhibited by Mr. H. Perkins, met with appropriate recognition in the way of a Silver-Gilt Medal. The plants in question were all seedlings. The blooms were large, of good shape and colour, and the stand was decidedly one of the features of the show.

An imposing table of cut blooms of Chrysanthemums was exhibited by Mr. H. J. Jones, Nurseryman, Lewisham, and was arranged in fine style. The large epergnes and vases which towered above the rest of the material presented grand and striking masses of floral beauty, many of the blooms themselves being large and fine (Silver-Gilt Medal). A magnificent collection of stove foliage and greenhouse flowering plants exhibited by Messrs. B. S. Williams & Son, Holloway, N., deservedly received a Silver-Gilt Medal. Such plants as Anthurium Andreanum atro-sanguineum, Crotons Mrs. A. Chomer and Mme. Heine, Rhododendrons President and Princess Royal, and some neat little specimens of Ericas in full flower were very conspicuous here. A very extensive and exceedingly elaborate system of floral designs for table decoration contributed by Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, was awarded a Gold Medal. Great taste was used in the filling of the vases and epergnes which the table held, and the construction of the wreaths, anchors, sprays, etc., was of the lightest, most graceful, and yet effective character. Altogether Mr. Chard's display was of a most meritorious nature, and abundantly deserved the recognition it received at the hands of the committee.

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

MARLEY HALL, DEVON.

MARLEY Hall, the seat of J. Forbes, Esq., is beautifully situated on rising ground about two miles from Exmouth, and commands some fine views of the River Exe and its estuary, besides an extensive stretch of the South Devon Coast reaching from Star Cross to Berry Head. On the opposite side of the river, the Halden Hills rise in all their beauty, and several fine establishments nestled among the hills can easily be discerned, Powderham Castle, the seat of the Earl of Devon, Mamhead, the residence of Sir L. Newman, Bart., being very conspicuous. In easy reach of Marley on the east side of the river are the fine gardens of Bicton; Nutwell Court, Lady Drake, Tarrington House, long time famous for its pines and peaches, whilst immediately joining Marley is Bystock, the seat of J. P. Bryce, Esq., with its extensive woods and preserves, magnificent rockeries, and well-kept glass erections, and pleasure grounds.

The approach to Marley Hall is by a well-kept drive, on the grass turf on either side being splendid specimens of choice Conifers. In fact some twenty-five years ago when Messrs. Luscombe, Pince & Co., had the laying-out of the grounds no expense was spared, and so now many of the shrubs and trees which have made magnificent growth, are at their best. The Araucarias, Abies, Wellingtonias, Picea, and Thujopsis are numerous and well proportioned, whilst noble deciduous trees as single specimens on the wide lawns have their lower branches down to the ground, and give a richness and charm that wondrously enhances a wide domain. A wide terrace adjoins the mansion and at regular distances vases are fixed which are filled with good forms of bedding plants, the outer edges having large quantities of lobelia and Ivy-leaved Pelargoniums hanging over them. This large terrace, which is paved with fancy tiles, can be covered over, and when large parties were held in days gone by, made a grand addition as a promenade for the company without interference from unpropitious weather.

The Hall is a fine stone structure very substantial and imposing, giving one the idea of durability, strength, and proportion; the inside of the Hall, however, is par excellence that for which Marley is famous. The entrance hall, marble staircase and landings, the magnificent lower rooms, including the Drawing-room, with its white marble columns being such as are seldom met with, and must be seen to be duly appreciated. On the lawn in near proximity to the entrance hall are two basket beds, some 14 or 15 ft. in diameter, the wire edge clothed with Ivy, and the over-arching wire covered with flowering climbers, these beds have been filled with flowering Begonias, one having pink flowers, the other crimson, and grand they have been. Whilst Pelargoniums, &c., have repeatedly lost their beauty through constant rain, these have always been gay, and the admiration of all who have seen them. The whole of the plants are seedlings raised by Mr. D. Moiest brought on in gentle heat, during the spring, and planted out late in May or early in June. I may say that I have never seen Begonias do so well as here, the flowers are broad and massive in every part, many almost circular, measuring 6 in. across, the colours most vivid, and foliage stout and dwarf; truly a fine strain.

Close by is the oval-shaped sunk flower garden whose sloping grass sides give a freshness and charm in keeping with the other choice portions. In the centre, ends, and on each side of the stone steps leading down to it are large vases filled with the usual flowering bedding plants, &c., whilst the beds which are some 8 ft. wide, have choice herbaceous plants in the centre, and rows of self-coloured Begonias running all round, edged with Lobelia and yellow Pyrethrum. Two thousand Begonias in all are planted out so that some idea of the beauty of this can be imagined.

Passing from this lovely spot and through a piece of shrubbery we enter the kitchen garden, the principal entrance, however, into this part is by the frame yard at the lower end. A range of Peach houses at the North end, 160 ft. long occupies a portion of the space, the remainder at this end and the three other sides have walls some 10 ft. high covered mostly with Pears, Plums, and choice Currant trees, the centre walk has a border of herbaceous plants, Carnations being grown in large quantities. Long rows of Sweet Peas are close by, one of these being the pure white form, it being an essential that white flowers are always used in the decoration of the lower rooms of the Mansion. At times this is a heavy task, the family mostly being in residence. Peaches in the range do well, and fine crops have been gathered this season. In this range are grown the Souvenir d'la Malmaison Carnation for which Mr. Moiest is noted. Another good thing done here are the Marguerite Carnations sown in spring in a little warmth, planted out in the borders then about September, lifted and put in boxes, and abundance of flowers may be had for three or four months following.

In the frame yard are Melon and Tomato houses, &c., in this range is the most floriferous plant of Stephanotis I have seen for some twenty years; one previousiy being at Abney Hall, near Manchester, where Mr. MacKellar used to cut such abundance, and perhaps does still. Gloxinias are grown by hundreds here, the pure white Her Majesty being an especial favourite, flowers of this are still being cut and have been since May, whilst a fresh batch of bulbs are potted up, growing well, and will, early in the New Year, begin to give a quantity of this most acceptable form. Mr. Moiest is specially successful with these, and recently gave an interesting paper on their culture at the Exmouth Gardeners' Society, which was much appreciated.

Another kitchen garden neatly contains the range of Vineries, 90 ft. long in three divisions, well built, and heated in Week's best style. Good crops of fruit have been gathered, the object being to get abundance of fair-sized bunches, well coloured, without any pretence to enormous, and often less useful clusters. Here we noticed large numbers of choice white Chrysanthemums—fine blooms of leading sorts. The Pine Stoves, 90 ft. long in three divisions are full. Some three to four dozen Queens and Smooth Cayennes are in various stages of ripening, and many fruits reach 5 and 6 lb. The succession house is full of stout plants, whilst suckers are constantly taken and pushed on. A house entirely devoted to Bananas is a great success a number of immense clusters having been cut this season. In a large greenhouse near are quantities of Arum Lilies, and Marguerite Daisies whilst on the roof are masses of the White Swainsonia that has long been a mass of bloom. Many other objects of interest might be mentioned, but this will give some idea of the charm of this well-kept garden, which reflects great credit on the tact, method and perseverance of the painstaking gardener.—*W. S.*

THE JESSAMINE.

MANY of the readers of the GARDENING WORLD will remember that a year or so ago, the Editor announced that fruit of the Common White Jessamine had been sent him by Mr. Robert Ballantyne, the chairman of the committee of the National Chrysanthemum Society, which had been borne in his garden in the Victoria Park Road; and it was thought at the time to be traceable to the warm, dry character of the summer of 1893, and yet at the close of a summer, the very opposite of the one in the previous year—wet, sunless in a remarkable degree, and cold—it has again borne fruit, and, so far, this disposition to fruit appears to be independent of season. It is a plant which endures the smoke and confinement of cities well; there it is as hardy as the Ivy or Aucuba, though amid smoke and the impure atmosphere of cities and towns, it can scarcely be expected to blossom so freely as in more favoured parts. Mr. Ballantine's garden being on the confines of Victoria Park, the situation is more open than is the case in more crowded districts of London; but that it both blossoms and fruits in such a locality is certainly worthy of record.

To the other good qualities of this hardy and accommodating shrub, which is as well known as it is deservedly popular, must be added the fragrance of its charming white blossoms. It is said to be one of the earliest contributions to our gardens from foreign parts; it came from Northern Asia to Persia in 1548, and in all probability to this country soon after; and it is thought that it was first introduced to Europe by some Spaniards, who brought it from the East Indies in 1560. I wonder if we should be prouder of the possession of this plant were it a native.

Loudon relates that a variety of the Jasmine, with large double flowers and exquisite scent, were first procured in 1699 from Goa by the Grand Duke of Tuscany, and so jealous was he of being the sole possessor of this species that he strictly forbade his gardener to part with a single cutting. However, the gardener was in love, and so on the birthday of his betrothed he presented her with a nosegay, in the midst of which was a sprig of this rare Jessamine. Charmed with its fragrance, the girl planted the sprig in fresh mould, and under her lover's instructions was soon able to raise cuttings from the plants, and to sell them at a high price. By this means she soon saved enough money to enable her to wed the gardener, who had hitherto been too poor to alter his condition. In memory of this tender episode, the damsels of Tuscany still wear a wreath of Jessamine on their wedding days, and the event has given rise to a saying that a "girl worthy of wearing the Jessamine wreath is rich enough to make her husband happy."

Of this common Jessamine there are varieties with leaves margined with gold as also with silver, and a double form, but the most beautiful of all to my way of thinking is the green-leaved single flowered type.

I must mention the naked flowered species, J. nudiflorum, as such a valuable hardy species also. We have no more showy autumn and winter bloomer. I recently saw in a railway station garden in the West of England a plant of it covering a prominent piece of rockwork, and flowering freely. It begins to bloom early in autumn, but is at its best from December to February, and whether frost or snow abound the golden garlands are there. A yellow Jesamine—probably this is the flower of the season of the Epiphany—another fine yellow flowering species is J. revolutum, the blossoms bright yellow and very fragrant, blooming from May till October, but it should be planted against a wall.

Both the common and naked flowered Jessamines are very accommodating plants, as they will do well in any soil and almost any position, but an open, sunny one is to be preferred, as on such an aspect the plants bloom more freely.—*R. D.*

DEAN HOLE IN AMERICA.

THE Dean of Rochester, who is now on a visit to the United States, was entertained at a complimentary dinner, at the Hotel Savoy, New York, on November 14th, at the invitation of leading representatives of American horticulture. The chairman, Mr. W. C. Barry, of Rochester, N.Y., presided; and in introducing the toast of the evening, said that American horticulturists fully appreciated the grand work which the Dean had done for Rose culture, in creating an interest in and love for the "Queen of Flowers;" by his writings, by his addresses, and by his zeal he had done more than any other man to secure for the Rose the recognition to which she was justly entitled, and in doing so he had been the means of bringing joy to many a household where sorrow and discontent would otherwise have been. Through his wise counsel and loving advice, perpetual sunshine reigns now in many a home which otherwise would have been in darkness. Through his persistent efforts, extending over a period of many years, Rose culture has made many strides, and now the "Queen of Flowers" has won her way to popular favour everywhere and commands admiration from everyone.

Dean Hole, on rising to reply, was greeted with applause, who said: Gentlemen, and I don't believe there is any art or vocation more calculated to make men gentlemen than floriculture—floriculture *emollit mores, nec sinit esse feros.* Gentlemen—and a far sweeter word to me, my brothers—there is no pursuit in the world that makes men more inclined to a true fraternity than the love of flowers—to walk with God through the garden of creation. Well, gentlemen, when we look back, as I can, through the the lengthy years, we see green spots on the fields of time; there are bright days—what we call in the Church "red letter days," incidents, talks on which we like to linger; there are hours of joy, events which all of us remember, triumphant hours when we first wore our first jacket and trousers, when somebody gave us a watch, when somebody gave us our first ride on a pony, when we first fell in love—or thought we fell in love. It is impossible to to be amongst all this beauty (and a more delightfui banquet table I never saw in my life), it is impossible to be amongst all this fragrance without thinking of love among the Roses. And so I go back to that

first delightful period of life when we fell in love. I am almost inspired to remember the first love song I ever wrote. Oh! I thought I was so desperately in love, although I was but thirteen years of age. (Laughter.) If I could remember those lines I think they would amuse you:

"When first I saw the golden curls
Of William Barlow's youngest sister,
I loved her best of all the girls,
And more and more I sadly missed her.

"And though Bill Barlow when I proposed
And told him how I loved his sister,
Came at me with a stick
And raised upon my arm a horrid blister.

"And though I hit him on the nose,
I still most fondly loved his sister;
And after that exchange of blows,
More madly for my wife I wished her.

"We met; she was so sweet, so shy,
She called me 'sir,' she called me 'mister.'
I never saw such modesty
As that of William Barlow's sister.

"We shared each other's hopes and fears;
We spoke in sighs; we spoke in whispers;
And didn't we avoid the silly jeers
Of William Barlow's other sisters!

"It was Christmas time, you know,
And she was kind, was Barlow's sister.
So underneath the mistleto
I told her of my love, and——"

I forget the rest. [Great Laughter.]

Well, these are past things that we all remember. The first proposal we made, the marriage day, the first baby, and I am old enough to know how very delightful it is to remember the first grandchild. And these happy memories with us, my brothers, are more and more closely associated with flowers. Who does not remember the happy days of childhood when we loved all flowers, we who were born in the country weaving Cowslip balls and Daisy chains, and the lanes that were covered with bowers of Roses, and no Roses are more beautiful than those wild Roses of the lanes. But the memory is tinged with sadness.

"And by the brook and in the glade
Are paths we wandered o'er;
Oh! While my sister with me stayed,
Would I had loved her more."

And then who does not remember his first plant. I had a salvia which I bought for 6d. Since then I have cultivated every flower that grows, from orchids to the wild garden, but I never loved anything more than that dear salvia. There was a naughty boy, a bully, a bigger boy than I was, though you would almost think that impossible, and he was sure my salvia would be improved by beer. He would keep giving my salvia all sorts of nauseous things until the poor salvia died.

I remember well my first flower show. A few leaves of Pansies and other flowers put on a piece of newspaper, and pasted on a piece of glass from a window that the glazier had been mending. The paper was turned over and fastened outside by a natural source, a little liquid, not gum; and that was a "flower show." And I remember that my dear father and mother said it was very beautiful. I remember so well longing to know the great gardeners of the country, and the interest with which I first met such men as Thomas Rivers, of Sawbridgeworth, who had done so much for the cultivation of fruits in England, and Charles Turner, of Slough, another nurseryman. Then I remember so well the joy that I felt in being allowed to originate the first "rose show"—the first that perhaps was ever held in Europe or America, of roses only. I remember the delight with which these men responded, and how, in St. James' Hall, I gave away thirty-six silver cups to the successful prize-winners, two of them to myself. And I remember the old Yorkshire gardener who was with me, said: "Sir, when tha took these two coops to thysen, Aa thowt tha 'ood'st 'a gone straight oop to 'Ev'n" [Applause.] But I was not ready [Applause and laughter], and so I stayed upon earth and then had another great delight, that which was given to me from the love of my heart to write a little book about roses, and the older I grow the more thankful I feel to Him who giveth all, that I have been allowed to do good to my fellowmen, as my dear friend and brother, Mr. Ellwanger, whose partner has come some 360 miles to meet me to-day (we met once on the other side of the Atlantic). I have the happiness of thinking that it has been given to me, most unworthy, as it has been given to so many of you, not only to enjoy things beautiful yourselves, but to promote the love of beauty.

It is a scource of gratitude to me that I have in some little measure been allowed to promote happiness by the love of flowers. We know what it is, and we know what a gracious permission it is to extend to those who have not much of an inducement to grow flowers, to excite the love and to instruct the ambition. Well, then, I remember of the very great joy which the rosarians of England, professional and amateur, gave me, when they presented me with a piece of plate, which I value more than anything I have in that form—a very beautiful silver urn, from these, my brothers. So you will see how much joy I have had for my love of the Rose. But the principal happiness is the sympathy and affection of my fellowmen, such as I receive on this occasion. Wherever I go, and wherever you go, you will find that where there is a true love of the flower there is a true love of the florist. Some years ago I was staying in the neighbourhood of some grand gardens, and was asked whether I had been to see them. I said, "No I have not, but I should like to see them." I walked out, got into the grounds, and met the head gardener, and said to him, "Would you be kind enough to allow me to see the garden?" "Oh, certainly," he said. I said, "My name is Hole." "Oh, indeed," he said, "Is it Reynolds Hole?" "Yes," I said, "Reynolds Hole." Well, to my great surprise, he immediately turned his back upon me without taking any notice of me, until he had waved his hand to a gardener in the distance, and cried, "John, set the fountains a-playing" [Applause], and in about two minutes every fountain was playing in these beautiful gardens of Alton Towers.

Gentlemen, you have shown a better act, a more charming act to me to-night, in setting the fountains of my heart a-playing. I believed I had some little claim on my brothers across the Atlantic, but the joy that I have in their fraternity and affection culminates in this meeting and in this offering of sympathy which I have for you. I had no right to expect, I had not expected when I crossed the Atlantic to meet with such a welcome as this. I had hardly been ashore, I had hardly been to my rooms in my hotel (there I was a poor, seasick, emaciated wanderer, without any friends) when suddenly there came from the Summit [Applause], (I suppose it is called the Summit because the gentleman who lives there has got to the top of his vocation) [Applause]. From that Summit down came a brother, and offered me, not only in his name, but he could tell me in the name of you all, my brothers, a hearty welcome to America. He has kept my heart lighter, and he has made my room brighter ever since I entered America. Next to that I received a suggestion, nay, indeed, it was a request; might I be shown the parks of New York—which was a request I had been longing for, had been desiring for, and did not know how to get at it, and here was this very thing I wished almost brought to my door. And I went through the parks of New York—the Central Park and the Morningside Park, and I shall never forget when I suddenly turned round and saw the Hudson river.

My brother florists, I wish to offer here, publicly, an expression of my admiration and regard for the beauty of the parks in New York. I know there has been great difficulty in perfecting and establishing their beauty; I know that in the vicinity of a great city like this there is opposition continually going on from men who have no taste, to spoil a park and to spoil a garden, and I think it is marvellous to see, in spite of these temptations and these obstructions, a park so grandly kept, true to the highest principle, and that is the principle of nature. [Applause.] And I am proud to-night to be in the presence of my friend, my brother Parson. [Laughter and applause.] We sometimes hear that "parsons" are not quite in unanimity. I can give you proof to the contrary, for I have received the greatest possible expressions of friendship and unity, not only from my friend on the right, Mr. S. B. Parsons, but from his father and his uncle. I have been to the house of one as a resident guest, I have been shown over the interesting collection of the other, and I have been, in fact, a fellow brother, as they have been to me, of the Parsons. Well, I do trust and feel assured that you will all appreciate this true principle of art with regard to Central Park and other parks of New York. Let me tell you, gentlemen, that we have nothing in London, and there is nothing in Paris or any of the great cities that I have seen, take it all together, to compare to your park, and that magnificent drive by the side of the Hudson river. [Loud applause.] Not only from Mr. May and Mr. Parsons, but from all the florists of New York have I received welcome. I have been over the houses of Mr. Henderson. I have been over the houses of Mr. May and the houses of Mr. Pierson. Mr. Pierson was the only man who made a little mistake about Reynolds Hole. He came to me to welcome me, with hands showing that he was engaged in some operation which necessitated a good deal of proximity to the soil, and he said he was not in a position to shake hands with me. Well, for the first time I thought in deference to his wishes, I would pass it over, but when it came to parting, and he still insisted that he was not yet in a position to shake hands with me, I said to him, "my dear friend, there is no gardener's hand in the world that can ever be so hard or so immersed in signs of his labour, that I would not like to shake. I like to see a soldier with his war paint on." [Applause.]

Well, gentlemen, I must not keep you. I can only say that my heart is full of this magnificent testimony of love and affection which you have shown to me, and I can only wish that I shall have it in my power to reciprocate; it will give me the greatest happiness to welcome you to the Deanery of Rochester. I know that a great many of you have been to England, and I hope that many of you intend to come. Be sure you will have a cordial welcome when you do come. I know that your thoughts with regard to the old country are very much like those of Wendell Holmes, when he said:—

With cliffs of white and towers of green,
And oceans narrowing to caress her;
And hills with rippling streams between,
Our little Mother Isle—God bless her.

I hope you will come to see the little 'Mother Isle,' that you will come to Rochester, and that you will have the blessing of the Dean. My brothers, from my heart, and you know it, I thank you, and I hope and pray that your lives may be as happy as you have made my life to-night. (Applause.) *From the Florist's Exchange.*

PLANT LIFE.

(*Continued from* p. 219)

There is a remarkable phenomenon in connection with the great faculty for absorption which roots have, and that is bleeding, which, moreover, is only one expression of what is termed root pressure. Roots are not always equally active in absorbing water, but it is now well known that they are very active in spring even before the expansion of the leaf, and a Vine or Birch tree if cut at that time will bleed. Other trees will do so to a less extent and even herbaceous plants will bleed. The stems must be in connection with the undisturbed roots, otherwise there will be no bleeding. When the stems of herbaceous plants or flowers are cut and their ends placed in water they will absorb, but there is no bleeding, thus proving that the roots are the active agents in producing that phenomenon. They gorge themselves, as it were, with water which ascends the stems with a force or pressure that can be determined by proper instruments. The root pressure of the Vine has been ascertained to equal the weight of a column of mercury 32 ins. high. Before the leaves of a tree expand there is no means for the surplus water to escape from the branches, so that after the wood and other cells of the stem and branches get gorged, the water filters through the weaker parts of the walls into the vessels of the wood and which previously were only filled with air. The bleeding then takes place from the vessels should the stem get cut.

Besides the importance of the roots in collecting food for a tree, they also breathe, though not by the same method as we do. The free access of air or oxygen to the roots of fruit trees and land plants generally is essential to the proper performance of their functions, their healthy development and in fact to their very existence. Hence the reason why it is so necessary for gardeners to see that the land on which they intend to grow fruit trees and other subjects of the garden and orchard, is properly drained, if not so naturally. The same fact applies

with even greater force to plants grown in small quantities of soil in pots. Aquatic plants proper have made provision for a supply of air ready to hand even when immersed in water or when their roots are buried in mud. The average gardener recognises that fact, even if unable to explain it. When the soil becomes sodden, and almost the whole of the air expelled from the interstices of the same, he says it is sour, and that is sufficient science to urge him to initiate and effect a remedy.

The stem of an Apple consists of a small quantity of pith in the centre, a relatively large quantity of wood around this, then an extremely thin ring or layer of cambium, and outside of all comes the protective layer of bark. The pith and wood are practically dead matter, so that after the fall of the leaf, the thin layer of cambium, the buds and the inner bark constitute all the real living parts of the tree. The branches and twigs are all modelled upon the same plan, only on a smaller scale. Though dead, these parts are not functionless; for do they not serve to support the head of the tree and in summer to distribute the leaves over a given space, so that every one will be properly exposed to sunlight and air; and later on to bear the fruit necessary for the preservation of the species? The trunk and branches serve as arteries or channels for the conveyance of water containing plant food to the leaves; and in winter the younger parts at least serve as stores for warehousing reserve materials to assist the early growth of the following spring and summer. Nor, although dead, must we consider the wood as in a state of decay or rottenness. An Apple tree may stand from 100 to 200 years under favourable conditions, and the Pear for 400 years; but it is necessary that the roots be sound and the protective bark well preserved to guard against the corroding action of air, rain and frost as well as against the ravages of insects and fungi. We are told of other trees such as the Yew and Sequoia which live perhaps 1,000 years and resist decay. Hence we must guard against injury to the bark of trees under our care, and avoid the use of the saw upon large branches where possible, or on the other hand to protect the exposed wood against the action of atmospheric influences. The removal of large limbs in any case is prejudicial to longevity. The fact that the cambium layer and its accessory parts constitute the only really live part of the tree, explains their importance in the processes of budding, grafting and inarching.

The leaves of an Apple tree are all important to ts welfare, in fact absolutely essential to its continued existence. About half the dried weight of it consists of carbon, and this the leaves absorb from the atmosphere in the form of carbon dioxide. Experimental science has proved, in some cases at least, that this is more extensively effected by the upper than the under surface of the leaves notwithstanding the popular belief to the contrary, that it is accomplished through the medium of the stomata or pores, usually most abundant on the lower side of the same. The leaves of the tree constitute so many laboratories in which the decomposition of carbon dioxide takes place and the simple ingredients of plant food are built up into complex ones to be distributed over the tree presently for the purpose of fresh growth, the reparation of injuries or for temporary storage somewhere or other. The chlorophyll or leaf green is the active agent, under the influence of light, heat and air by which these processes are effected; and furthermore, it is the only agent by which organic matter is originally built up on our globe, whether for the sustenance of plants or animals. The carbon dioxide above mentioned is absorbed and passed into the interior of the leaves in a state of solution, through the medium of the water or moisture permeating the outer or superficial cell walls. This may be regarded as an act of feeding and the carbon taken in is the only element of plant food of importance that is taken from the atmosphere.

The leaves perform still another function of importance, and that is the process of respiration. Oxygen is as necessary to a tree as to an animal for the purpose of keeping the vital parts alive and to give the necessary energy for continued work and growth. Almost the whole of the oxygen absorbed in combination with carbon is liberated again as pure oxygen, and during the day the quantity of that gas obtained from different sources is sufficient to mask or hide the real process of respiration which proceeds day and night; but as the absorptive activity and the building-up of new materials cease during the night then it may be ascertained that leaves draw largely upon the atmosphere, for the oxygen that is absolutely essential to life. This free oxygen never goes to the building-up process but is solely concerned in destroying a part of that which has already been built up, and that too for the good of the rest. This then is the process of respiration, and as a result of it carbon dioxide, popularly termed carbonic acid gas, is given off into the atmosphere as in the case of animals.

During the day another process, which we cannot afford to ignore, is effected by the leaves—namely transpiration. That, like the carbon dioxide of respiration, may be regarded as a waste or excretory process of superfluous matter. By far the larger quantity of water taken in by the roots is unnecessary for taking part in the construction of the tree, consequently it has to be liberated again, and this is done by the leaves, through the medium of the pores, whose function is to promote this process. This goes on actively during the day when the temperature is sufficiently high as in summer, but at night it entirely ceases. The whole plant then gets gorged with water, which filters into the cavity of the vessels, and finds an exit through the water pores at the tips of the veins of the leaves, but presumably more actively during the younger stages of the same. The transpiration of the leaves explains why a vine is so much less liable to bleed after the foliage is fairly-well developed. The effect of root pressure is to gorge the rods with water, but the pressure of water or sap finds relief when the leaves liberate the superfluous portion which they pass into the atmosphere.

Flowers and Fruit.

The ultimate object of a plant is to reproduce its kind, and this it does by the formation of flowers and the development of fruit. The flowers of an Apple tree, or rather the floral envelopes, are first protective and then showy in the case of the petals. Not only are the flowers handsome, but they are also fragrant in certain cases at least, and when one looks upon them with the eye of a naturalist one can hardly fail to conceive that their beauty is intended to attract insects and so ensure fertilisation. The production of fruit is primarily intended for the benefit of the species, and afterwards for the use of man or other animals. If asked to explain how I arrive at my conclusions, I argue from the fact that the large and fleshy or juicy Apple was intended to be eaten, no matter by what animal; while the harder and less palatable seeds of the ripe fruit would be discarded and dropped about, thus disseminating the species broadcast. The improvement of the original wild crab was probably owing as much to man as the inferior animals, for to go no farther back than the stone period the remains of the Swiss lake dwellings prove that the Crabs growing wild in the woods in those days were collected and stored to be utilised as food by the human inhabitants. There are sweet as well as sour crabs, and the difference was doubtless detected in those times, and the best ones most frequently eaten and the seeds scattered about, so that in course of time the sweet varieties would be more prevalent than the sour ones, even though not cultivated, but common property.

Artificial Reproduction.

It may be argued that modern and improved varieties of Apples need not produce seeds seeing that they may be increased by means of budding, and grafting, and by cuttings. The fact must not be overlooked that all the varieties we now possess have been obtained at one time or another as chance seedlings, or purposely by the selection and sowing of seeds from particular kinds, or by the actual crossing of varieties, or the hybridisation of species, whatever that may mean, to obtain improvements upon the parents. Once the desirable varieties have been obtained we can propagate them in the above mentioned ways; but the question remains to be determined whether individuals could be perpetuated indefinitely by such means. Now and again a question of deterioration of old kinds crops up, but we are scarcely in a position (for want of data) to determine whether the constitution of the tree or the quality of the fruit is subject to deterioration through old age of the individual, because if we go back to a period equivalent to the natural life of a tree we greatly reduce the number of kinds now actually in cultivation, and to double that period we arrive at a time when few if any existing kinds had originated. Many thousands must have been discarded during the last thousand years to make way for the varieties we now cultivate.

(*To be continued.*)

Gardening Miscellany.

POLYANTHUS FROM THE MIDLANDS.

We received a bunch of Polyanthus the other day from Mr. G. Harvey, The Gardens, Stanton Hall, Bakewell, which is situated in the north of Derbyshire. Our correspondent is also able to gather Carnations and Roses from the open garden, so that the weather is evidently mild and favourable to the growth of vegetation in the Midlands as it has been in the southern and western counties. The flowers of Polyanthus come with the breath of spring, for their fragrance forcibly reminds us of sunnier times and the promise of summer with all its potentialites of fresh harvests of flowers, fruit and vegetables. They presented a considerable range of colours in red, crimson, crimson spotted with white, pale and dark yellow and white with a yellow or orange eye. It is usual for the stalks of flowers such as Buttercups and Daisies to be very short when they develop during relatively cold but open weather. Those of the Polyanthus sent us were 3 in. or 4 in. to the base of the truss of flowers, but to the top of the latter 5 in. and 6 in. Possibly the lower portions of the stalks were not sent us. Nevertheless the facts presented speak of relatively highly favourable conditions to plant life at the end of November.

ASPLENIUM FRAGRANS FOENICULACEUM.

This fern is a native of tropical America, but from what we have been able to see and learn it is not in cultivation. It belongs to the same group as A. Adiantum nigrum, A. furcatum and some others well known and widely cultivated. The pinnae and their divisions are wedge-shaped, and the divisions are also characterised by the same mode of arrangement, and vary in the depth of cutting and in width. The Kew specimens sent us by Mr. J. Birkenhead, came from the herbarium and are doubtlessly correct, but they were only seedlings and therefore not in their true or adult character, so that little can be gained by comparing them with garden specimens under the name of A. fragrans foeniculaceum. The fronds and plants we have recently examined from various sources belong in most cases to A. bulbiferum fabianum. As a species, A. bulbiferum is extremely variable although the type and A. b. fabianum are connected by various intermediate forms, such as A. b. laxum, A. b. pumilum, A. b. biforme, and others. The type has the broadest segments. A. Colensoi is now reduced to A. b. minus. Another specimen sent us turned out to be A. viviparum belonging to the section Darea, and therefore widely distinct from A. fragrans foeniculaceum. The latter, according to description, is a finely divided form with linear segments, but the insertion of the sori is different from that of the Ferns above mentioned.

ERYNGIUM EBURNEUM.

The stems of this Brazilian species attain a height of 6 ft., and form long, cylindrical or club-shaped panicles of whitish flowers, by some described as ivory-white. The flowering portion is about half the length of the stem, and develops numerous short, side branches bearing clusters of flower heads. The spiny bracts surrounding the heads and so conspicuous in European and Asiatic species are here absent or so reduced as to have no bearing whatever on the ornamental aspect of the plant. The leaves are spiny-serrate at the margins, 2 ft. to 3 ft. long, and not unlike those of some species of Pandanus. Several of the South American species have foliage of this type, and are therefore very distinct from the better-known and dwarfer species in cultivation. A wood-cut illustration of E. eburneum is given in the *Revue de L'Horticulture Belge*, for December. Unfortunately the species of this type are not quite hardy, and require protection in severe winters by covering the crowns with ashes or dried leaves to keep the roots dry and preserve them from frost. The foliage may be protected by tying it in a loose bundle and covering with a piece of tarpaulin, with branches of broom or a covering made of straw during the continuance of severe frost.

TWO NEW AZALEAS.

A large number of the Ghent Azaleas obtained by crossing A. mollis with A. sinensis is characterised by having flowers varying from pale yellow to deep salmon or orange, but at last a distinct acquisition has been made in a variety named La Czarine or La

Tsarine, for both ways of spelling has been given. The flowers, produced in large trusses, are of a soft rose, overlying a distinctly violet reflection. It turned up in a plantation of seedlings in the nursery of Mr. Ed. Pynaert, Ghent, and a coloured illustration of it is given in the *Revue de L'Horticulture Belge* for December. The other variety, also figured on the same plate, has been named Nicolas II., in compliment to His Majesty the Czar Nicholas II. Whether the Continental or the English spelling of the name be adopted may be considered immaterial, but the former way of doing it would serve to indicate its place of origin. The flowers are much larger than those of La Czarine, of a warm, glowing orange, exquisite form, and very freely produced. The plant is very vigorous, and when grown in masses is very effective in April when covered with thousands of flowers. Both varieties are unique in their way, La Czarine for the new colour amongst Ghent Azaleas, and Nicolas II. for the size of its flowers and their brilliancy of colour.

STEPHANOTIS FLORIBUNDA FRUITING.

The fruiting of this well-known garden favourite, although not exactly a rare occurrence, is still sufficiently interesting to deserve a note. Mr. G. Stanton, gardener to Mrs. Noble, Park Place, Henley-on-Thames, has induced a remarkably fine plant to produce a well developed fruit. The plant in question is grown in a small three-quarter span house, is a vigorous grower, and each year produces large quantities of the much esteemed and deliciously scented flowers. The fruit is large, about 3 in. in length, oval shaped, and contains a considerable number of seeds, which are furnished with hairy appendage, doubless intended in the first instance to assist in the natural distribution of the seed. Like many other members of the same natural order (Asclepiadacea) Stephanotis floribunda when bruised or wounded exudes a juice of an acrid, poisonous nature, a quality in which the fruit also partakes to a considerable extent. Care must be taken therefore that no attempts are made to taste the fruit, or the results may be, to say the least of it, decidedly unpleasant.

CAREX BRUNNEA.

This is the true name of the Carex, which is now plentiful in every nursery and garden where decorative work is carried on to any great extent. It has been identified by Mr. C. B. Clarke, who is now the leading authority on the extensive and difficult order of Sedges. For some years past it has been disseminated by nurserymen and market growers under the name of Carex japonica and its variegated variety as C. j. variegata. Two others at least have been spread about under the same appellation, namely, C. Morovii variegata and a variegated species which is rather difficult to grow, and does not seem to have hitherto been flowered, so that its identity remains unknown. C. Morovii variegata has broad, stiffish and rather short leaves, and is by no means so graceful as C. brunnea or C. b. variegata; but when grown in pots under glass it is by no means devoid of beauty. Occasionally it gets planted on the rockery where it proves perfectly hardy, but the variegation then becomes obscure and uninteresting. There are 300 species of Carex, natives of Japan, and if a tithe of them get introduced to this country we shall presently have a large family of "japonicas," which seems a favourite name with gardeners. The name has been applied to the gardeners themselves since the days when Fortune introduced so many Japanese plants, but in modern times it has mostly become corrupted into "japoniker."

APPLE GOLDEN WINTER PEARMAIN.

This delicious Apple is perhaps more often met with under the name King of the Pippins. Hampshire Yellow and Jones' Southampton Pippin are other names by which it is also known. It combines an exceedingly handsome appearance with especial suitability either as a dessert fruit or a kitchen Apple of very fine quality. Added to this it boasts of a strong constitution, is very hardy, a sure cropper, and a vigorous grower in almost any situation. It is a variety that should be represented in every fruit garden, no matter how small, and may be confidently expected to give abundant satisfaction if anything like a fair trial is given it.

QUESTIONS AND ANSWERS.

Chrysanthemums.—*Jersey*: If the blooms were in exhibition form a specialist could name many of them, but it is impossible to name them otherwise except by comparison with those of a named collection grown for conservatory purposes. *G. W.*: The fern is Polypodium vulgare cambrisum; the large Orchid flower is Dendrobium Draconis; the other is a Bulbophyllum which we do not recognise.

Laelia anceps, &c.—*D. Rymer*: The bloom you sent was really a very fine one, but as many of them have been named, it would be difficult to say that this one has not. The side lobes of the lip were very large, well spread out, and like the lip very highly coloured; the latter in fact was deeply tinted with crimson. The Cattleya flower sent us was merely C. Loddigesii, and not the variety C. L. Harrisoniæ. The lip of the latter is strongly ribbed or corrugated with an orange spot upon it, but the flower you sent was very pale even for C. Loddigesii.

Names of Plants.—*J. L. Grant*: 1, not recognised; 2, Selaginella uncinata, often called S. calsia in gardens; 3, Scindapsus picta; 4, Maranta leuconeura.—*A. J.*: 1, Jasminum gracillimum; 2, Ipomoea Horsfalliae; 3, Peperomia Saundersii.

Communications Received.—A. H.—E. W. and S.—C. H. P.—A. J. R.—G. R.—J. L.—A. P.

LONDON SEED TRADE.

December 4th, 1894.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate demand for Red Clover at hardening rates. Alsike firm. White Clover unchanged. Ryegrasses neglected.

COVENT GARDEN MARKET.

December 5th, 1894.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples..... per busbel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	22 6	24 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	0 6	1 0	Musbrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumbers .....each	0 6	1 0	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Evergreens, invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica Hymalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
" Gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

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	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Azalea.....doz. bchs.	6 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pink Roses...per doz.	2 0	4 0
Carnations...per doz.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Primula, double, bun.	0 6	0 9
" doz. bunches	4 0	12 0	Roses, yellow, dozen	2 0	4 0
Eucharis ...per doz.	3 0	4 0	— Red..... doz. blms.	1 0	1 6
Gardenias 12 blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 6	0 9	Scarlet Geraniums, doz. bchs.	5 0	6 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Tuberoses, per doz	0 4	0 6
Lilac (French) per bch.	5 0	6 0	Violets (French) Parme, per bch.	2 0	3 6
Lilium Harrisii, doz. blooms	6 0	8 0	Violets (French) Czar, per bch.	1 9	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) doz. bch.	2 0	2 6
Marguerites, 12 bun.	1 6	3 0	Violets (English) doz. bch.	1 6	2 6
Mignonette... 12 bun.	3 0	4 0			
Narciss (French) doz. bch.	4 0	5 0			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Dec. 17th.—Bulb Sale at Protheroe & Morris' Rooms.
TUESDAY, Dec. 18th.—Bulb Sale at Protheroe & Morris' Rooms.
WEDNESDAY, Dec. 19th.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.
FRIDAY, Dec. 21st.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 15th, 1894.

BUNCHES OF CHRYSANTHEMUM BLOOMS.—The exhibits in the class for twenty-four bunches of Chrysanthemum blooms at the recent show of the National Chrysanthemum Society were heterogenous in character, and calculated to give the public the impression that the exhibitors barely grasped the idea of what was intended by the schedule. In any case, most of them evidently considered that big blooms were most likely to catch the eye of the judges. Furthermore, with one exception, they made the bunches consist of three blooms, either because they found that a greater number was unmanageable by reason of their size, or, on the other hand, they must have copied the idea from the class for twelve bunches specially stipulated to be shown in triplets. We can hardly imagine that the method of showing Roses in trusses of three furnished the Chrysanthemum men with the suggestion, for the blooms in most cases were arranged after the popular method of showing Cactus, pompon, and single Dahlias, but with a minimum of effect, as might be expected from the unwieldy material. It is our opinion that the method of showing Chrysanthemums in bunches is in a state of transition, and that the growers are groping about as if making experiments so as to arrive at something more effective and artistic than the old bunches, which were simply congested masses of flower heads, such as one might have made by collecting a good handful of flowers by the wayside. One exhibitor arranged his blooms in a dense, sloping bank, which was too solid to be effective or suggestive of anything, while in another case each bloom in the triplet was of a distinct variety, giving the stand a medley aspect. Any varieties, including pompons, were allowed, yet no attempt, with one exception, perhaps, was made to lighten and brighten the big blooms by this means. Surely it is possible to make up artistic bunches of Chrysanthemums that would recommend themselves to the public eye and taste as well as to the judges, even at the expense of size in the large types; and herein lies an opportunity for the skill and genius of some enterprising exhibitor.

FLORAL DECORATIONS IN AUTUMN AND WINTER.—The great increase of the floral displays at the November and December shows of the National Chrysanthemum Society amply exemplifies what can be done, even at what is termed the dullest season of the year, by means of the wealth of material at the command of those who possess only a conservatory or greenhouse in which to store Chrysanthemums at the end of September. Most or all of the other material can be obtained from the open garden in the shape of autumn-tinted foliage of endless diversity, and later on by those that assume a particular hue during winter as in the case of the Mahonia, wild Ivy and those Beeches and Oaks which retain their brown or even half brown foliage for a long period. The variegated Hollies, the golden Privet and other variegated subjects with evergreen leaves also furnish attractive colours. To this list must be added the numerous berried plants including the common Privet, Hollies, Cotoneasters, Snowberries, Sea Buck Thorn, Winter Cherry, Pernettya, Strawberry Tree, and the heps of Dog Roses, Sweet Briers, and other subjects of easy culture or obtainable from their native wilds in the woods and hedges. The American style of exhibiting large blooms of Chrysanthemums on long stems readily lends itself to this style of floral decoration so justly esteemed and admired by the British public when carried out with consummate skill and taste. We do not advocate this style of exhibiting large blooms to the exclusion of the well-known and universal method of arrangement on show boards, because it does not readily lend itself to a proper and true comparison of the blooms shown by different exhibitors.

SIZE AND FORM OF VIOLAS.—We are pleased to note the broad views maintained with such unanimity on the part of those who took part in the Viola conference at Birmingham in August last, and which is published in the report of the proceedings before us. The paragon or standard on which the old florists modelled the evolution of the show Pansy, here finds no supporter. Extreme size is not considered a recommendation even for exhibition purposes, doubtless because the blooms lack substance as a rule and are liable to curl or shrivel up before the exhibition is over. Roses, however, often suffer the same fate during the sweltering days of July, and Pansy societies doubtless well recognise the fact that Pansy shows are more likely to be successful either before the hot dry weather sets in or after it has passed. For the large-flowered type a flower of medium size or a little above it is advocated. Furthermore only two types are to be recognised, namely, the large-flowered and the miniature or Violetta section. The limits for the flower of the latter are to range between 1 in. and 1½ in. in diameter, so as to be sufficiently conspicuous to be ornamental and yet not come into conflict with the varieties of the large-flowered type. With regard to form it was recommended that no severe standard be laid down, that they may not be circular as in the florist Pansy, but that any smooth and intrinsically beautiful flower will always recommend itself provided the

other necessary properties are equal. A well proportioned flower cannot, however, be ignored as essential to its other recommendations to public estimation. The habit of the plant is also an important consideration, but how this can be determined at an exhibition unless plants in pots are exhibited, it would be difficult to say. It is recommended that the habit of the Violetta type be dwarf and procumbent; but if this must also apply to the large-flowered varieties, those already in existence would require weeding out. Nevertheless the freely branching Viola habit with numerous suckers from the base should be insisted upon.

Death of Mrs. Dodwell.—We regret to learn of the death on the 14th inst., at Stanley Road, Oxford, of Mrs. Dodwell, relict of the late Mr. E. S. Dodwell.

Mr. Charles Cook, lately in the gardens at Lockinge, Wantage, has been engaged as gardener to the Rev. H. A. Berners, Harkstead Vicarage, Ipswich.

Mr. W. Stuart, late of the gardens, Queenswood, Chertsey, is now gardener to Lady O'Hagan, The Priory, Highgate, N.

Mr. Crane, lately gardener at Hall Place, Bexley, has been engaged as gardener to H. Edge, Esq., Jackwood, Shooter's Hill.

Mr. Simmonds, formerly gardener at Langley Park, Beckenham, has been engaged as gardener to J. Shotter, Esq., Caterham Valley.

Mr. Tucker is the new gardener to C. Grelish, Esq., Silverdale Lodge, Sydenham.

Mr. John Munro has been engaged as gardener to J. L. Bucknell, Esq., Langley Court, Beckenham.

Death of Mrs. Baker.—The many personal friends in the Horticultural world, of Mr. W. Y. Baker of The Thames Bank Iron Co., will deeply regret to learn of the death of Mrs. Baker, at Aspen House, Streatham Hill, on the morning of the 10th inst. The deceased lady, who had been ill for some months, finally succumbed to an attack of typhoid fever, and the warmest sympathy will be felt for Mr. Baker and his family in their bereavement.

National Chrysanthemum Society.—At a meeting of the general committee on Monday evening, Mr. B. Wynne presiding, eleven ordinary members and two Fellows were elected, and the Swindon Amateur Chrysanthemum and Horticultural Society was admitted into affiliation, The other business was of a merely routine character.

The Forest Hill and Catford District Horticultural Society, which held its first exhibition in July last, has just issued its first annual report and statement of accounts, which are of a very encouraging character, the cash statement showing a balance in hand of over £15. With so much horticultural talent in the districts local financial support only seems wanting to insure for the young Society a prosperous future.

Birmingham Botanical and Horticultural Society.—Arrangements have been made for holding another Daffodil show in the Botanical Gardens at Edgbaston on the 9th and 10th of April next, and the schedule of prizes for the same has just been issued. A Pansy and Viola show will also again be held in the same gardens on the 29th and 30th of May. Either Mr. W. B. Latham or Mr. Wm. Dean will be glad to send copies of the programme to intending subscribers or exhibitors.

Royal Botanic Society of London.—At a meeting of this Society held on Saturday last, Mr. Granville R. Ryder in the chair, a ripe fruit of Carludovica Palmata, from a plant growing in the gardens, was shown at the meeting. The plant, which is a native of Central America, and bears a most striking resemblance to the palm family, is noticeable as furnishing the "chip plat" from which Panama hats are made. So highly are these esteemed that as much as sixty guineas are paid for a single hat.

A handsome Gift to Liverpool.—At a meeting of the Liverpool City Council yesterday, a letter was read from Mr. Henry Yates Thompson offering to erect at a cost of £10,000, a conservatory in Sefton Park, the only condition being that it should be open on Sundays as well as week-days. The gift was gratefully accepted and thanks tendered to the donor.

Scottish Horticultural Association.—In connection with this society the following awards have just been made in competition open to all assistant gardener. I.—For the best collection of Herbaceous Plants, dried and correctly named:—First, Mr. A. McLennan, Easter Duddingston Lodge, Portobello (405 species and varieties); second, Mr. J. C. Newsham, 3, Cumberland Place, Kew. II.—For the best plan for laying out a Kitchen Garden of not more than two acres, and drawn to scale:—First, Mr. George Buck, Morton Hall, Liberton; second, Mr. J. C. Newsham, Kew; third, Mr. A. Grant, Callendar Park, Falkirk.

Scottish Horticultural Association.—At the monthly meeting of this Association held on the 4th inst., there was a large attendance, and Mr. J. Grieve, Vice-President, and afterwards Mr. A. D. Mackenzie, President, presided. Mr. Hugh Fraser, Leith Walk Nurseries, gave "Notes on hardy variegated and coloured foliaged trees and shrubs." He said it was pleasing to note the growing appreciation of the importance of sylvan and flower garden decoration. He went on to say that the materials for the artistic gardener's efforts, in this direction had been wonderfully increased during the past forty years. Hardy trees and shrubs of surpassing beauty, both in point of variegation and in form of foliage, had been introduced from all parts of the world, and their products had produced species and varieties equal to their climate in the open air. While signs were not wanting of a growing taste in this direction, it was impossible to shut their eyes to the fact that much remained to be done in the way of stimulating interest. Mr. Fraser then gave a list of representative variegated trees and shrubs which were worthy of the attention of planters for effect. A discussion followed, at the close of which Mr. Frazer received a vote of thanks. Mr. A. M'Kenzie, treasurer, then submitted the accounts of the late Chrysanthemum show. He stated that that show was the second most successful one that they had held in the Waverley market. The income only showed an increase over that of last year of about £15, but the expenditure had been curtailed. The gross income was £996, and the expenditure £872, leaving a balance in hand of £124. From the surplus it was agreed to give £5 to the Royal Infirmary and £3 to the Gardeners' Orphan Fund. On the motion of the Chairman, a vote of thanks was awarded to the show committee, and it was resolved to continue the show as formerly. At the close of the meeting a plant of Ficus elastica in fruit, from Mr. Gorrie, Mauldslie Castle, Carluke, was exhibited.

Royal Gardeners' Orphan Fund.—At the monthly meeting of the Committee on the 7th inst., Mr. W. Marshall presiding, it was resolved that the annual general meeting be held at the Cannon Street Hotel, on Friday, February 8th, and that an election for six candidates take place on the same day. The Honorary Secretary, Mr. Barron, reported the receipt of the following amounts since the previous meeting:—Reigate Chrysanthemum Society, £10; Rugby Chrysanthemum Society, per Mr. W. Bryant, £6; Manchester Gardeners' Improvement Society, per Mr. R. Tait, £5; Croydon Chrysanthemum Society, per Mr. W. Beckett, £3 3s. 6d.; Mr. Toogood, per Mr. W. G. Cummins, 10s.; Mr. G. Harvey, Stanton-in-Peak, £1, and Miss M. Buller £1 per Mr. G. Bolas; Mr. Savage, per Mr. G. Monro, £1; Mr. J. Miller, Ruxley, £1; Mr. F. Miller, Margate, £2 12s. 6d.; Market Harborough Chrysanthemum Society, per Mr. G. Green, £2 2s.; Mr. G. Fennell, Tonbridge, 5s. Collecting Boxes:—Mr. J. Miles, Southampton, £2 13s. 6d.; Mr. T. J. Nelson, Chesterfield, £1 8s. 9d; Mr. C. Gibson, Morden Park, £1 7s.; Young Men at Park Place, Henley-on-Thames, per Mr. J. I. Powell, 18s.; Mr. T. Newbould, Rawdon, Leeds, 14s.; Mr. G. T. Cole, Ascot, 14s.; Messrs. H. Cannell & Sons, 12s; Mr. N. Kneller, Malsanger, 10s.; Mr. A. D. Christie, Alcester, 12s.; Mr. J. Lemon, Chichester, 7s. 6d.; and Mr. R. Scott, Bradford, 5s. 8d.

The Botanical and Horticultural Society of Northumberland, Durham and Newcastle.—At the annual meeting of this Society held on the 17th inst., Mr. Alderman Ellis presiding, The secretary (Mr. Jas. J. Gillespie, jun.) read the annual report, from which we extract the following:—"As was intimated in the last report the venue of the spring show was changed from the Town Hall to Olympia, and the result fully justified this action, from an artistic as well as from a financial point of view. The summer show was again held in the Recreation Ground, North Road. Horse-leaping and driving competitions were introduced into the programme of amusements and were well taken with. Notwithstanding very indifferent weather and many heavier expenses the financial result was fairly satisfactory. The surplus last year was £824 9s. 11d. This year it is £789 3s. 3d., being a decrease of £35 4s. 8d. Next year your council intend holding similar shows, the spring in Olympia on April 24th and 25th, and the summer on July 24th, 25th and 26th, in the Recreation Ground, provided that terms can be come to with the Town Moor Management Committee. The thanks of the members are due to Mr. Edward Joicey, J.P., who has acted as president, and has supported the funds of the society; also to Mr. Owen Wallace, J.P., Mr. Clement Stephenson, Mr. G. C. Blayney, Mr. John C. Scott, Mr. James Hedley, and the committee, who gave most valuable assistance to the council in the horse-leaping and driving competitions. Mr. W. A. Watson-Armstrong, J. P., of Cragside, Rothbury, and the Mayor of Newcastle (Ald. W. H. Stephenson, J.P.) have consented to occupy the president's and vice-president's chairs respectively for the ensuing year. The financial report, which showed a deficiency on the year of £35 4s. 8d. was also read, and adopted.

Devon and Exeter Horticultural Society.—Mr. A. O. Sillifant, High Sheriff of Devon, presided at the annual meeting of the Devon and Exeter Horticultural Society, held in Exeter Guildhall yesterday. There were also present Lord Courtenay, Colonel Walcott, C. B., Major Tracey, Mrs. McAllister, Messrs. C. T. K. Roberts, P. C. M. Veitch, S. Jones, R. Jones, Crabbe, H. Michelmore, W. F. Richards, H. O. W. Powell, Bartlett, Underdown, R. R. M. Daw, and others.—The committee reported that the society commenced the year with a balance in hand amounting to £40 9s. The balance now was only £16 7s. 9d., which they did not consider satisfactory. They regarded their financial position at present as rather serious, and trusted that every member would endeavour to get new subscribers, as the subscriptions showed a considerable falling off. Both the August and autumn exhibitions were good, the gross takings amounting to £158 9s. 9d. The committee recommended that a rose and general show be held at the end of June or early in July instead of the usual August show. The best thanks of the society were again due to Messrs. Veitch & Son, the Exeter Nursery Company, Messrs. Kerswill, C. G. Sclater, W. B. Smale, Jarman & Company, J. Walters, W. J. Godfrey, and others for the collections exhibited by them, and to several friends who had contributed special prizes.—In addition to the balance mentioned there was £8 15s. unpaid subscriptions. The Chairman, in moving the adoption of the report, expressed a hope that the number of subscribers would be materially increased during the coming year, and that their financial position at the next annual meeting would be much better than it was at present. Colonel Walcott seconded, and the report was adopted.

"Cypripediums" is the title of a neat little booklet in fine leather covers, which has been published by Mr. R. I. Measures, Cambridge Lodge, Flodden Road, S.E. It simply contains a list of all the described or recorded species, hybrids and varieties of Cypripedium in cultivation up to the end of November, 1894. Altogether the Cypripediums thus brought together and classified in alphabetical form number something like 850, and must have cost his gardener, Mr. Henry Chapman, a good deal of time and trouble in compilation. It is found that there are many hybrids under two or more names; but we are not at all surprised that such should be the case, considering how many hybridists there are at work upon the multiplication of this popular class of Orchids. That there are numerous unrecorded hybrids in cultivation, we have not the slightest doubt, for many of them can only be known to a few gardeners beyond the raisers, and must have, like many unnamed and unnamable Apples, only a local reputation. In the case of species, their title to that rank is indicated, and their native country mentioned. Hybrids, on the contrary, have their parentage given, where it has been recorded and the name of the raiser where known has been attached. The present publication is really the third edition, for the first was brought out in September, 1887, and the second in July, 1889. The present one is interleaved throughout, with some additional blank pages at the end for future additions to the list of Cypripediums as they appear; and on the whole it must prove a useful and convenient list for all who cultivate or are interested in Cypripediums.

MR. ORCHARD ON THE CHRYSANTHEMUM.

UNDER the auspices of the Isle of Wight Horticultural Improvement Association, Mr. Charles Orchard, of Bembridge, recently gave an address on "The Chrysanthemum."

Mr. Orchard said in common with many of his handicraft and a vast number of the flower-loving public, he had paid his devotions to the Queen of the Autumn. Twenty-five years ago he had the good fortune to make the acquaintance of Mr. E. Rowe, of Roehampton, near Wimbledon, then considered the champion grower of that day, and by him was introduced in 1871 to the members of the old original Stoke Newington Chrysanthemum Society. He would not occupy their time by dilating on the charms of the flower, although he could fill pages on its adaptability under all phases of cultivation to lighten and brighten up the homes and courtyards of the poor as well as the conservatories and mansions of the rich. He had been struck with the enormous quantity of Chrysanthemums that passed through Covent Garden Market, the hundreds of thousands of persons it gave employment to in the production of the plant and the sale of the flower through all the stages of the market, and if the Chrysanthemums were swept off the face of the earth, what a dull world this would be in November and December! Every one who had been brought in contact with it in its best form, or had been tempted to grow a few, knew full well how enchanting it was to watch the progress of the plants and how enjoyable to see the bursting buds and unfolding florets of some choice variety as they gradually developed. The first row of florets were like rays of sunshine to the cultivator, and finally the full flower an orb of beauty to brighten their spirits and gladden their hearts in the dull autumn days, that well repaid them for all their care and attention throughout the season.

As regards its history, although comparatively a modern flower, as far as English gardens were concerned, it was mentioned by Kempfer in his "Travels in Japan" as long as 1712. It was a native of Japan, and the national floral emblem of that country, as the rose was for England. We had record that in 1764 a small single yellow variety was brought to England and planted in the Botanic Gardens, Chelsea, but it soon died out and was lost. Better varieties were introduced into France in 1789, and found their way to England, where they sold at very high prices. During the first twenty-two years of this century, sixteen varieties were introduced from China, and after 1822 there were fresh introductions every year. Most of these varieties were semi-double, and from these seed was saved. The first record for Europe was seed saved in France in 1830, and from these a better type was raised. In that year the first incurved flower was mentioned. In 1848 Mr. R. Fortune brought home from China a little lilac flower, called the Chusan Daisy, the forerunner of our present race of pompons. In 1862 Mr. Fortune introduced the first Japanese into England. They were then regarded as mere floral curiosities, and on account of their late flowering old-fashioned florists and exhibitors would not look at them. They, however, became favourites as the fashion in æsthetic decoration advanced.

The increase in the number of varieties since their advent was something enormous. In 1873 he had in a collection under his charge sixty-five varieties, the best that could be procured, and amongst them were nine varieties of Japanese. Fourteen years after he had charge of a trade collection of 6,000 plants, consisting of 415 varieties, over 300 being Japanese. So enormous had been the increase of new varieties to meet the demand for novelties, although only eight years ago, out of those 300 varieties there were only about four that would find a place in a stand of twenty-four varieties full for exhibition at the present day. It was only in the Japanese section that such a transformation had taken place—the incurved section, the large anemones, the pompons, the pompon anemones, and the reflexed still held their own in public favour. The reason was that the Japanese varieties were sufficiently diversified to be subdivided in different sections. The lecturer then dealt with the propagation of the flower through all its various stages, with dressing the blooms for exhibition, specimen plants, bush plants, dwarfing, grouping and cutting down, and including his deeply interesting and well-prepared paper, said if he had added one grain of knowledge to that which his hearers possessed, or if his remarks should induce one more convert to the ranks of the chrysanthemum-loving public, he should be amply repaid (loud applause). On the motion of the Chairman, seconded by Mr. T. Stears, a hearty vote of thanks was accorded the lecturer.

NEW TOMATOS ON THE CONTINENT.

WITHIN the last two or three years many new varieties of Tomato have been raised and disseminated amongst cultivators as in this country; but a few of them are described as particularly noteworthy and deserving of cultivation for one quality or another, or a combination of qualities. That represented by the accompanying illustration, for which we are indebted to M. Ed. Pynaert, of Ghent, is named Lycopersicum semperfructiferum, in allusion to its extraordinary productiveness. Though recorded as a species introduced by MM. Damman & Co., of Naples, in 1892, it is probably closely allied to L. pyriforme, the pear-shaped variety already well known in British collections. The fruits are described as plum-shaped, somewhat elongated, and reddish-scarlet, but the illustration suggests a pear-shaped fruit. The plant produces large and crowded bunches of fruit in succession, from June to December, and is accordingly described as one of the earliest and one of the latest varieties. It lends itself very readily to culture on espaliers, both in the open air and in the cool greenhouse. The flesh is firm and of good taste. The quantity of the produce surpasses that of almost every other variety.

LYCOPERSICUM SEMPERFRUCTIVERUM.

Amongst other sorts recommended, Aurore Boreale seems deserving of trial in this country. The stems are very stout, and bear small, round, or apple-shaped fruits of a brilliant red. The flesh is firm, of good quality, and contains but a few seeds. MM. Damman & Co. put it into commerce in 1892, and recommend it as suitable above all for culture in pots. Tomato Prince of Naples is a novelty of 1891, and produces very large, flattened, and slightly ribbed fruits of a brilliant scarlet. Another variety may be mentioned, namely, Ananas, on account of its great productiveness. A single plant has produced and thoroughly matured eighteen pounds of fruit, which is of beautiful form and golden-yellow. The taste is said to leave nothing to be desired. All of the above might well have a trial in this country, so that they might be pitted against the respective varieties which they resemble in size, shape, and colour. Several of the yellow varieties here are of peculiar flavour, and others are highly esteemed, but we require a yellow variety of good consistency, and which will prove more productive in the open air, and hardier than several which we possess. Earliness is another quality in requisition for some of our comparatively sunless seasons.

PLANT LIFE.

(*Concluded from p 237.*)

That a fruit or other tree grows requires no demonstration; but what to do with that growth or how to utilise it, is often a burning question of the first importance to the cultivator. Trees in time get crowded by the growth they make and the size they attain; and besides the thinning of the trees and their heads to let in light and air in order to expose both leaves and fruit to the action of the same, there is the annual increment of growth which is often a serious matter when the trees produce wood fit only for staking purposes and no fruit. In order to repress this growth and make the tree more fruitful, root pruning is resorted to as well as grafting and budding trees upon foreign stocks. All this is, of course, due to the artificial and unnatural conditions under which we place them, and the restrictions we place upon growth to restrain it within due bounds, or to render the trees fruitful in limited areas of space. These artificial methods of restriction by pruning and the use of various stocks have much to answer for, and though not wholly wrong, they are far from being entirely perfect. Those cultivators who are the most skilful and obtain the best results, have the most nearly arrived at perfection in the use of means to an end, if such a thing as perfection is attainable.

The subject of reproduction has already been discussed from various points of view, horticultural and otherwise. Plants finally die of old age, accident or bad usage, at the end of a few months, a year, two, or any greater number of years according to their natural duration. Even the longest lived may be of very short duration in a state of nature, for it must be remembered that nature sows broadcast over deep or shallow soil, rich or poor, and in shallow, stony places, where there may not be sufficient depth of earth to support them. It is different in the garden, and although we take it for granted that a gardener is often called upon to grow all sorts of plants in very barren and unsuitable soil; yet we have to face the fact, that he is often more successful than another who is under much more favourable conditions in many ways. This we attribute to his skill, and it is the bounden duty of every young gardener to learn how to grow fruits, flowers and vegetables to that perfection, of which any given soil may be capable. The hill of knowledge and experience is always up-hill work, but those who surmount it will, in due time, reap their reward. Old age in fruit trees and vines usually means fertility, so that the gardener's duty is to maintain the health of his plants even under artificial conditions.

SUMMARY.

I have now briefly reviewed the leading facts in the life history of a plant, and you will have noted that a plant lives, breathes, feeds, grows, reproduces itself, and finally dies. That an Apple tree lives and dies you are all firmly convinced whatever may be said about the rest of its doings. In speaking about the respiration of plants it may be pertinent to the subject to recall the case of the Mummy Wheat—the sea serpent of gardening literature, whose story unfortunately for the boasted spread of science at the fag end of the nineteenth century, receives an undue amount of credence. What is true of the breathing of a full-grown Apple tree is equally true of the embryo in the seed. So long as the seed retains its germinating power, or, in other words, so long as the embryo lives it is breathing and must respire or die. This faculty it loses in the course of a year if kept out of the soil. A grain of Wheat would live probably for a number of years, and all this time must be in contact with air for the purpose of respiration; but this is a process of destruction that would reduce it to a piece of carbon or charcoal in a much shorter period than 2,000 years. The process of oxidation goes on after the death of the embryo. By taking another view of the subject we

may say that Mummy Wheat would remain alive any length of time to oblige the traveller who is sufficiently liberal with his coin to pay for the trouble of such longevity.

The process of absorption or feeding is all important to the cultivator who can make fruits grow to twice the size they would do naturally if the tree was left to its own resources. Thinning of the branches of the tree as well as the fruit is sometimes necessary as well as feeding to obtain large and juicy fruits, but we cannot ignore the fact that certain elements of plant food are not sufficiently abundant in most soils to give the desired results in the size, number, and proper maturation of the fruits. It behoves the cultivator to discover what elements of plant food are most deficient and require to be supplied. Instead of this it but too frequently occurs that he carries coals to Sunderland, Potatos to Ireland, Oats to Scotland, or fog to London, by paying high prices for an all-round or complete artificial manure, which when applied to the soil may give highly satisfactory results, but in reality means extravagant waste if three-fourths of the necessary ingredients were there already in all sufficient quantity.

A very important fact to remember is that certain plants have a difficulty in collecting certain elements of food, while others in the same soil and under the same conditions have less or no difficulty whatever in collecting even a larger quantity. Nitrogen, phosphorus, potash, sulphur, and lime, are those most in request as soils generally contain the others, obtained trom that source, in sufficient quantity. Lime is in request for other purposes than directly as plant food. Nitrogen is the most important of all artificially-applied plant foods, because it is so soluble and liable to be lost in the drainage during wet seasons, but particularly in winter when the ground is bare or no growth is taking place to utilise that which may be present at any given time.—*J. F.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Broughtonia sanguinea.—Of the Orchids which come to us from Jamaica, this must be reckoned one of the showiest. In form, the flowers are not unlike some of the Epidendrums, such as those of the section Barkeria, but the habit of the plant is altogether different and there are minor though no less important structural differences in the flower. The latter is crimson-red with darker lines along the course of the principal veins, measures about 2½ in. across, and borne in a close raceme at the end of a slender, nodding scape .The pseudo-bulbs are small, compressed and not unlike those of a Laelia, and bear a pair of leathery, olive-green leaves. Being accustomed to a high temperature in its native habitats the plant should be grown in the warmest end of the Cattleya house or amongst the East Indian collection. It grows on the branches of trees in proximity to the sea in full exposure to sunshine, so that cultivators who expect to grow and flower it successfully must fix it to blocks, covering the roots with a small quantity of sphagnum and suspend it near the glass to expose it to bright sunshine so essential to the ripening of the growths and freedom of flowering. A coloured illustration showing the method of growing it on blocks is given in the *Orchid Album Pl.* 499.

Laelia Arnoldiana.—The flowers that turn up amongst importations of this Laelia vary to some extent in colour, and from their formation and markings would seem to indicate a hybrid origin, possibly between L. furfuracea and L. anceps or L.autumnalis, just as L. Crawshayana was supposed by Reichenbach to be a hybrid between L. anceps and L. autumnalis or L. albida, the characters pointing more or less distinctly to all of them. L. anceps would seem to have been the seed parent in this case, on account of the flattened scapes. But in the various specimens of L. Arnoldiana which we have seen the scape is terete, while the sepals, petals and scurfy ovary are those of L. furfuracea which must have been the seed parent. The median ridges on the lip are also those of the last named species. In most of the specimens the interior of the lip was pale, almost white; but in a specimen which flowered recently in the gardens of J. Mc Meekin, Esq., Falkland Park, South Norwood Hill, the interior of the side lobes were beautifully striped with forking purple lines recalling what is generally a conspicuous feature of L. anceps. The terminal lobe of the lip was darker purple than usual and faintly lined with a darker shade; but what is more important, this portion was transversely oblong like the corresponding portion of L. anceps xanthotropis described by Reichenbach, and apiculate in a wide shallow terminal sinus. This lobe in most of the forms of L. Arnoldiana is slightly elongated or clawed at the base, but iu the specimen now before us it is perfectly sessile.

Cypripedium Lawrebel.—When C. bellatulum was first introduced, hybridists were not slow in recognising a valuable parent for breeding purposes, and it is not at all surprising that many should have used it simultaneously. The beauty of the large flowers is admitted by everyone, but the scape is too short to show off the blooms to the best advantage. This deficiency is obviated by using it as a pollen parent to impart a fresh arrangement of colours to the progeny of some other species, though the same result would almost certainly occur, even if less well marked, by using it as the seed parent. C. Lawrebel was one of the first if not the first hybrid to appear in public from a cross in which C. bellatulum had a share. The seed parent was C. Lawrenceanum, whose habit is largely shown in the progeny. The upper sepal is greenish at the base but suffused upwards with rich rosy crimson, veined with vinous purple, while the margins and apex are white. The petals are also greenish at the base and rosy crimson upwards deepening towards the tips and spotted with blackish purple in lines. The lip is crimson-purple in front and greenish below. A good coloured plate of it is given in the *Orchid Album, Pl.*, 498.

Spathoglottis Vieillardi.—Several species of the genus have been introduced from time to time, but though most of them may be termed pretty, few are actually showy. That under notice is generally acknowledged as the finest and boldest of them. The flower scapes attain a height of 2 ft. or more, and bear at the top a dense raceme of blooms. The sepals and petals are soft pink, and the three-lobed lip has a deep purple, terminal lobe. It does not appear that its flowering is confined to any particular season, but depends largely upon the conditions of growth. When it does come into bloom, the flowers are developed in succession over a long period of time. We noticed it recently flowering in the houses of Messrs. J. Veitch & Sons, Chelsea.

Cattleya labiata.—Beautiful varieties of this popular Orchid continue to turn up in collections, but so many of them have been named within the last few years, that it is difficult to say that any particular one has not already been named in somebody's collection. One which has just flowered in the houses of J. McMeekin, Esq., Falkland Park, South Norwood Hill, is notable for the contrast between the soft, rosy-pink colour of the sepals and petals as contrasted with the rich crimson-purple of the lip. The contrast of colours is even more forcibly brought out under the influence of artificial light, when the lamina of the lip appears of a glowing red.

Cypripediums at Aitkenhead, Cathcart, N.B.—Two remarkably fine examples of Cypripedium insigne are in bloom just now at Aitkenhead gardens. The plants are in large pans and carry about sixty blooms on each plant. The variety is an excellent one, and the lip has a fine yellowish hue which makes it very attractive. Mr. Gordon, the proprietor, has a great love for Cypripediums, and consequently the collection is large and contains many fine hybrids. Seedlings are to be seen on nearly every pot, and as the crosses are all made with the finest sorts, the result should be satisfactory. It is difficult to get anything new in this line now, but by using the best forms there is still room for something good to show itself. C. Amiesianum is in flower from seed sown here. At first no note was taken of the crosses made, but they are all carefully tabulated now, and the interest in the production is thereby largely increased. What is called the mountain form of C. insigne is turning out exceedingly well. They are all more or less after the Maulei order, but more robust, and the marking on the dorsal sepal is more pronounced. The spots on one of these mountain forms were twice as large as those seen in C. insigne Chantini. C. i. punctatum violaceum and C. i. Chantini are said to be synonymous, but all the true Chantinis I have seen are distinguished by a much broader dorsal sepal. A very fine C. Chamberlainianum, with the lip very highly coloured, was also noticed. This species is useful for button-holes, bouquets, etc., one of the best for amateur culture; one spike will bloom for twelve months consecutively, giving a fresh flower every six weeks. Other sorts in flower were C. Lowi, C. Schlimii, C. Poyntzianum, C. Dominianum, C. Measuresianum, C. Spicerianum, calurim, Roezlii, candidulum, C. oenanthum superbum, Leeanum superbum, etc. Mr. Dale bestows a large amount of attention on the Cypripedium house, and the result is eminently satisfactory.—*G. R.*

THE VEGETABLE GARDEN.

Cold Frames.

The season is now at hand when it will be necessary to utilise these for various crops that will need more protection than could be afforded by simply covering them with litter. Where not already done, all Lettuce fit for use should be taken up with balls of earth attached and packed close together in them. Fine days should be chosen for this work, for if they are put together when damp they will in all probability rot. If the plants are covered at night with mats, there will be no difficulty in starting the work early in the day, as these would protect them from all dew that might fall during the night. Before attempting to lift them, bring the foliage together and tie it round with a piece of raffia or matting; this will prevent any soil from falling into the hearts. The soil will now be sufficiently moist to keep the plants fresh for some time, therefore, no water should be given, as this would have a tendency to cause them to decay, if it be necessary to cover the frames for any length of time should frost set in,

Endive should also be treated in the same manner. Plants of these may be stored in a dry also open shed where they may be protected from frost, as supplies can then be drawn from them as they are required for blanching. Cold frames are, however, far preferable, as light and air can then be admitted on all favourable occasions. These structures are by no means so plentiful as they should be in gardens, for without a goodly supply of them, no gardener can do as he would wish with the many and various crops that need to be protected in winter or brought forward in early spring. As a rule, these homely necessaries are often looked upon as a nuisance, especially by young men who have to look after them, particularly if they have neglected to cover them before dark, and are obliged to turn out at night to make them safe. The gardener, however, who has the chef to please, knows full well the value of them, both in winter and spring. In addition to the forenamed plants, all Cauliflowers that are turning in should be lifted, and if a place could be found for them in a cold frame, they would be found very useful about Christmas, when there is sure to be a strain on the supplies of fresh vegetables. If the kitchen gardener were asked what kind of structures he most preferred, he would doubtless say brick pits of various sizes, for to him, houses would be next to useless, the plants being too far from the glass. With a good stock of pits and frames, he would be but a poor gardener who could not keep up a constant supply of vegetables through the winter months, were he called upon to do so.

The great failing with many gardeners of the present day is their lack of knowledge of the cultivation of vegetables. Too much time is spent over some particular pet, the rest of the work having to give place for it, and the kitchen garden is the first usually to suffer; but he who would be proficient in this department must not only pay strict attention to the time of sowing and planting, he must know when and how much of each crop will be required, and must parcel out his ground accordingly. I fear that since so many fresh vegetables have been imported, kitchen gardening has lost ground in this country, for we do not find the present generation of young men take that interest in the work as our forefathers did. We have known some who did not know how to propagate Seakale, and were astonished to find that it only took one season to grow crowns. While others use three times the amount of seed necessary to sow a given plot, and who do not trouble to look beforehand to see what is likely to be required.

Such are frequently getting into trouble with the heads of other departments, not being able to keep them supplied.

Those who cannot command hot-beds may sow Radishes in a cold frame at the present time, or in a sheltered position at the foot of a south wall, covering with straw mats, which should be removed in favourable weather when the plants appear above the surface, to prevent them becomiug drawn. Cold frames are also useful for bringing forward early-sown Peas, for propagating various herbs, and for the protection of Parsley. There is much skill required to manage them properly; therefore, he who looks after them should not be despised, for I have always found that those who take the most interest in the frame ground always make the best gardeners. This is a good beginning for youths; they should be taught to know that this is the most important department in the whole establishment, as the occupants are of such a varied character, there is so much to be learned before they are thoroughly understood. It is from the frame ground that all the early vegetables emanate, that many of the half hardy plants are kept through the winter, and most of those that supply the flower garden in the summer find a temporary home, so that he who is an experienced hand amongst these may well be fitted to take charge of a higher post.—*Kitchen Gardener.*

FRUIT UNDER GLASS.

Vines.—As soon as desirable preparations may be made for the pruning of the canes in the later houses so as to allow the work of cleaning and painting them, and the washing of the glass and woodwork of the houses to be carried on when a spell of wet or wintry weather puts a stop in a great measure to work outside. The cleaning of the fruit houses generally forms a great part of the winter's work in the under glass department, and upon the proper performance of this duty the success in the cultivation of next year's crop in a great measure depends. In a large number of establishments the fruit houses have to be utilised for the sheltering of the next season's supply of bedding stuff. Where this is the case a great deal of shifting is entailed, and this, of course, takes up a lot of time. Until the houses are started and a higher temperature is thus rendered necessary, air should be given freely as often as circumstances permit.

The canes in the earlier houses that were bent down horizontally with a view to insure their breaking equally should be raised, and securely tied in their several positions as soon as the buds begin to expand. It is not wise to defer this operation too long, or the buds are very likely to be injured, and in many cases knocked off altogether. A minimum night temperature of 57° Fahr. must be maintained with a substantial rise during bright days. The walls, floors, and pipes, or flues, must be frequently sprinkled with water, and the canes themselves syringed as before recommended.

Peaches and Nectarines.—Anything like hard forcing in dealing with these subjects is a mistake. The application of a gentle heat so as to cause a gradual and progressive vegetation is at once the best and safest method of treating early Peaches and Nectarines. The minimum night temperature here should be about 47° Fahr., the syringing of the trees being regularly practised as advised in the previous calendar. Air may be given during bright days as freely as the state of the weather will allow, although the house must be closed early in the afternoon.

Strawberries.—Where early supplies of this much esteemed fruit are in request preparations may be made for forcing. The plants should be lifted from the plunging ground, the pots washed and all dead leaves removed. In many establishments where large quantities of plants are forced, a Strawberry house, properly fitted with shelves so as to lift the plants as near the glass as possible, is well nigh a necessity for the bringing on of succession batches. If such a convenience does not exist, a number of plants may be taken into the early Peach house for the present, the temperature prevailing there being just the one needed by the Strawberry. Among the varieties most suitable for early forcing, Keens' Seedling and Viscomtesse Hericart De Thury may be mentioned as being likely to give every satisfaction.

Figs.—Plants in pots that were plunged in fermenting materials in the early vinery must be carefully watched with regard to the water supply, for although they will not require a great deal of this, care should be taken that they are not allowed to get too dry or they will suffer.

THE FLOWER GARDEN

The mild weather that we have up to the present experienced has been all in the favour of the gardener who believes in getting as forward with the work as possible. If advantage has been taken of this unusually favourable season, things in the flower garden should be looking ship-shape by this time, excepting of course in cases where extensive alterations have been the order of the day. These should be prosecuted as vigorously as possible for the weather often does queer things about the middle and towards the end of December.

Thinly planted shrubberies should be roughly dug over and left to the pulverizing and mellowing influences of the weather. When doing this, care must be taken that all fallen leaves are dug in, for if left upon the surface a few dry winds will carry them all over the lawns and pleasure grounds. A proceeding which is not calculated to enhance the tidy appearance of the flower garden. Similarly, leaves in woods or clumps not far from the mansion, which, owing to lack of time have been left where they fell, should be raked up and carted away as soon as possible. The pruning of hardy deciduous trees and shrubs that have become straggling in habit or have overgrown the bounds allotted them, may be forwarded with all speed.

Hedges, too, which are formed of the deciduous element may now be operated on. An important point to be noticed when conducting this is, that the hedge should always taper upwards, that is to say, the broadest part should be at the base, the narrowest at the top. This will necessitate the growths being shortened back to different lengths, as the laterals always break out strongest at the point immediately below the place to which the shoot is cut back. By this means the growths are more evenly distributed and the hedge is kept in better condition.

Continue the pruning of Roses and those hardy climbers which have not been covered up may, in southern localities, be pruned and nailed, or tied, as the case may be. In northern districts, however, all the tenderer subjects have to be protected in the manner described in a previous calendar, and this of course, renders their pruning out of the question at present.

The gravel walks will need rolling at intervals for, during a thaw after a few hard frosts they become terribly rotten and spongy, and decidedly unpleasant to walk upon, unless steps are taken to remedy the evil. In such cases the necessity for having the walks well made in the first instance is sufficiently illustrated. Ill-drained and badly made paths cause an infinite amount of trouble during the winter months.

THE HARDY FRUIT GARDEN.

The pruning and nailing of all kinds of hardy fruit trees may be pushed on as rapidly as circumstances will permit. The effect of the past wet sunless season and the mild autumn is pretty evident upon fruit trees generally, Apples and Pears in particular, in fact these latter have in some instances not yet completed the shedding of the leaves, and the wood is green and unripened in very many cases. Where the walls are fitted with galvanised wires it is advisable to untie the trees from them, for the wood of fruit trees very often sustains considerable injury by continual contact with wires of this kind, especially if we are favoured with a protracted spell of wintry weather.

Where the stems and larger branches of trees have become covered with moss it is advisable to clean them. This is an operation that may be easily performed, for after wet weather the moss may be readily removed by scraping.

The fruit room will also need a considerable share of attention with regard to the removal of all decaying or unsound fruit, for the mild damp weather that has so considerably prevailed during the last few weeks has undoubtedly tended not a little to the rapid decay of many of our Apples and Pears.—*A. S. G.*

Gleanings from the World of Science.

Apospory in British Ferns.—The meaning of apospory, as applied to Ferns is that the fronds of certain kinds occasionally develop prothalli on the fronds without the intervention of spores. In the normal course of things the spores are produced in cases arranged in clusters on some part of the fronds, and the spores on coming in contact with a damp surface germinate in due time, giving rise to a prothallus which bears the sexual generation, and then the young Fern plant. Any deparature from the natural method of reproduction is of course interesting, and by the indefatigable observations of certain Fern growers and pteridologists, instances of apospory have now been discovered in four widely distinct species of British Ferns. One of the most diligent in this line of observation is Mr. C. T. Druery, F.L.S., who read a paper about a year ago before the Linnean Society, and the text of his communication has been published in the *Journal* of the Society, Vol xxx., No. 209. On this occasion, the most important of his discoveries was the finding of what appeared to be incipient prothalli on the apices of the furcations of the fronds of a variety of the common Hart's-tongue named Scolopendrium vulgare crispum Drummondae. The fronds of this form are much fimbriated at the margins, and heavily crested at the apex. These apical furcations were cut off with a portion of frond attached, and laid upon sterilised soil kept in a moist condition. They commenced to grow in a few days, and in a fortnight or so had well developed prothalli, which, however, developed root-hairs very slowly. From some of the blunt out-growths of the frond thick fleshy prothalli of another form were produced. The finding of archegonia in abundance upon these out-growths showed that they were true prothalli. Later on, upon one of the latter, archegonia were found in great abundance, both upon the upper and lower surface, in company with root-hairs. Under normal conditions, however, no prothalli would be produced, so that reproduction would not take place in this way.

Apospory in a wild species of Fern.—The first instance of this peculiar mode of reproduction was discovered in the case of Athyrium Filix-foemina clarissima found in North Devon. Since then, a closely allied but distinct form differing chiefly by having the terminal portions of the frond curled in a spiral manner, turned up with Mr. T. Bolton, of Lancaster. Instead of the normal sori, dense masses of stalked outgrowths are produced on the under-surface, and under favourable conditions develop small prothalli. These stalked outgrowths arise by the arrest of growth of the spore cases, and are therefore different from the marginal outgrowths of the Scolopendrium. Occasionally, however, even here prothalli arise very close to the apex of the segments, as recorded by Dr. F. W. Stansfield, and Mr. Druery found a truly apical one.

An Interesting study.—Those who grow Ferns for the love of the same, and can spare the time to study them will find much of interest to absorb their attention in the raising of seedlings, but particularly those abnormal forms which exhibit branching, cresting, proliferation and other characteristics of that kind, which some cultivators take great delight in attributing to cross breeding and hybridisation. Cases of apogamy and apospory are of equal, if not greater scientific interest. The four instances of apospory already discovered amongst British Ferns are, Athyrium Filix-foemina clarissima, Lastrea Filix-mas cristata, several forms of Aspidium angulare pulcherrimum, and Scolopendrium vulgare crispum Drummondae. Those having cool, moist greenhouses and wardian cases should always be on the outlook for fresh instances of abnormal reproduction amongst other British species, much given to variation. Ferns under cultivation are more liable as a rule, to give rise to fresh forms than in the wild state. The moisture of Fern houses, aided in some cases by heat, induces vegetative reproduction occasionally, and which, moreover, would not occur under drier conditions of the atmosphere. The cases of apospory above mentioned, have, however, occured upon ferns in a wild state, and have not been induced though largely developed by cultivation.

CHRISTMAS DECORATIONS.

What shall we decorate our homes with at Christmas? The berried Holly is always dear, even if berries are plentiful, because it is a tree of slow growth; and there are some who bid us leave the berries uncut, for they are the natural food of the birds in winter. Mistleto is always expensive: and there are the branches of evergreens, sombre in their way and wanting in life. Natural flowers grown in a high temperature are very dear, and not very lasting. Let the rich who can pay for them, have them. But what can the poor use on this universally recognised festive occasion?

To enable me to answer this question, I, a few days since, called at the establishment of Messrs. Osman & Co., 132, Commercial Street, Whitechapel, to see what there was in the way of preserved natural flowers and foliage, and also what of the same of an artificial character, and I am bound to say that the poorest among us, who has the means to buy, can purchase at a small cost, something bright and pleasing with which to gild and beautify the home. What astounded me was the marvellous growth of this industry of recent years; forty years ago we had only dyed Gnaphaliums and feather grass, now there is an almost infinite variety of subjects, as I could see in Messrs. Osman & Co.'s Showrooms,

How striking were the huge stems of the Uva Grass, as it is termed, from the Amazon; the long thread-like tresses fringing the leaf-stalks are now dyed in attractive colours—salmon-pink, canary, autumn tints, etc., the latter a delightful combination. These noble plumes are invaluable in entrance halls, in nooks and corners of living rooms, etc., mingled with Pampas Grass, Bullrushes, and such like. The Pampas Grass, sold in enormous quantities, are seen in what is known as "new art" shades, chief among them heliotrope, some fine shades of green, dark and light, magenta, pink, etc. What magnificent plumes comes to us from abroad, and they are seen in various sizes at various prices to suit all buyers. Then of other grasses there are forms of Bromus, Oat Grass, the Harestail Grass, heads of Barley, dyed in various colours—green, yellow, etc.—Oats, Agrostis, Briza, some very fine Japanese and African species, one from the Congo being of a rich dark colour; Eulalia, Erianthus, etc. not forgetting the feathered grass, Stipa pinnata, also dyed in various colours. Spikes of the larger grasses and bunches of the smaller can be had, either of one species or bunches in which several are together, for the show rooms are full of varied illustrations. Portions of the plumes of the Pampas, the Uva, and other Grasses are employed in small combinations, and exquisite dyed Sea Mosses come in most useful for epergnes and other receptacles. In the way of flowers the common Gnaphalium decurrens plays an important part, dyed in various showy and attractive hues. The white Cape flower, probably a Xeranthemum, is largely employed, especially as forming the groundwork of artificial wreaths for funeral purposes, and on the groundwork is placed various artificial flowers and foliages manufactured from some fabric, and generally capital imitations of well-known plants and flowers employed for making wreaths. Crosses, harps, anchors, and other designs are produced in the same way. The Helichiysum, dried so as to retain its colours, Rhodanthe, and Accroclinium make up the main of the natural flowers employed, with some of an artificial character.

Among artificial flowers is that known as the Fairy, cleverly made of silk, and in form representing a large quilled German Aster. This is a delightful new introduction, and it goes well in large and small bouquets in the various grasses, and also with sprays of natural foliage. Indeed, bouquets of all sizes and patterns are a remarkable feature, and their number serves as an index to the demand. Among natural foliages employed is that of a gigantic Selaginella, wonderfully preserved, and in a bouquet of natural dried foliage there were the background of a small Palm leaf, a Kentia or Areca, the Selaginella, Pampas Grass, Japanese and African Grasses, the Sea Oat, Bromus, &c., with fairy flowers. There was an excellent arrangement for a side table, and could be employed in various ways. The charm of this arrangement was nothing was dyed. But similar arrangements included dyed subjects, giving them life and colouring. A Hungarian bouquet was very attractive, being so elaborately coloured: a leaf of one of the Chamaedoreas formed a background, then came African Grass with others, some of them of a fine bronze tint, including pieces of the Uva; a very fine combination indeed. But no description can do justice to what was seen; the illustrations are so numerous that it is difficult to make a selection.

Baskets of all sizes and designs are also filled with the foregoing materials, and some tiny ones, made of fancy, cheap-like material or of raffia fibre, are well adapted for presents by those whose means are limited; a few grasses, bits of foliage, a fairy flower or two fill these—bright little messengers of kind wishes and good-will when sent as presents. Little bouquets also, cheap in prices, can be similarly employed, they are made up in assorted collections all varying in character and all exceedingly pretty.

Should anyone wish for suitable presents in glass or ware, they are here in great variety. Satin glasses, suitable for the culture of Hyacinths in water, and for cut flowers in summer—all handsome mantel-piece ornaments are here—patterns little dreamed of when the old-fashioned Hyacinth glass was in vogue. I was delighted with some tiny majolica vases in charming splashed colours, for use as button-hole holders when not used for the coat, and for taking specimen blooms.

But the foregoing are only a few details of a growing industry which has put forth giant strides during the past few years. It must give employment to many; and one charm about it is that a large majority of the productions are particularly well adapted to enhance the enjoyment of the Christmas season, gilding many a home with touches of brightness and beauty at a season when our human nature can probably best appreciate them.—*R.D.*

FORSYTHIA SUSPENSA.

The beauty of this plant in the shrubberies or upon walls in spring is incontestable. Occasionally it is transferred to pots and forced for the decoration of greenhouses and conservatories, where it gives much satisfaction on account of the numerous, clear yellow flowers it produces, as well as the variety it affords. Many cultivators prefer its congener, F. viridissima for this purpose on account of its more upright and compact habit which requires less space for the disposal of its branches. While acknowledging that this is the case, we consider that the stiffer or more rigid habit of F. viridissima robs it of that elegance which is so characteristic of F. suspensa. Those who have a stock of it would do well to lift a batch of plants now and put them in pots before the mildness of the weather urges them into partial bloom, thus spoiling half their beauty when brought into greenhouse. Large plants may be slightly tied in to reduce their bulk, but no pruning should be given till after the flowering is over seeing that the blooms are produced on the young shoots of the previous year. It is a native of China and Japan, and is sometimes seen under the names of F. Fortunei and F. Sieboldi, but these are only synonyms. The accompanying illustration shows the shape of the flowers and the floriferous nature of the young branches.

HELICONIA AUREA STRIATA.

Considering the splendidly decorative qualities of which the members of the genus Heliconia are possessed, it becomes a matter of wonder that they are not more frequently cultivated, no great amount of difficulty being experienced in their cultivation. The genus, which is closely allied to the Musas, contains some twenty-five species or thereabouts, all natives of the tropics of the western hemisphere. H. aurea-striata is certainly one of the finest members of the group, and as a stove fine foliage plant takes a lot of beating. The leaves are deep green in colour, beautifully striated with golden-yellow, in shape elongate ovate, cordate at the base. The stems exhibit the same green and yellow striation as do the leaves. Heliconias are best propagated by division of the rootstock when growth commences in spring. Small pieces potted off at this time, and placed in a warm stove temperature, grow away freely, and very soon become large handsome specimens. A compost of rich loam, to which may be added a little leaf soil and plenty of silver sand, seems to suit them best. They need, moreover, a liberal allowance of water during the growing period, although when growth has ceased for the season very little indeed will be necessary.

A HOLIDAY TRIP TO NORTH WALES.

An annual holiday of some sort has been set down as a necessity of these latter days. If it be so to those whose occupations are distinctly of a wholesome character, how much more is it to the town worker, who is immured during the greater part of the day between high walls and unwholesome surroundings, who is, in fact, subject more or less acutely to the ills that are begotten of confinement and vitiated air, to the work and worry incidental to modern life! Accepting this dictum then as a positive proposition, how shall one spend the brief respite from duty and toil?

How shall he disentangle himself from his home environment? The answer will, of course, depend upon his means and temperament. If he be fond of society he will favour those places where others love to congregate; but if he be inspired with a love of Nature he will choose a spot where Nature dwells. The cheapness of transit and the facility of despatch enables every man to please his bent; but whate'er we do—

"Our acts our angels are, or good or ill,
Our fatal shadows that walk by us still."
—*Fletcher.*

But we will, if you please, elect to have a good guardian angel to hover over us for this our journey, and assume, without further parley, that we have arrived at what military men would call "our base of operations."

We will choose Llandudno, then, not because it is a fashionable resort, not because it is always *en fête*, not because the place and the people have a *recherche* air, but because it affords a good centre from which to radiate, and otherwise commends itself to the major portion of the family. So while the latter love to linger where the ripples foam the shore, where the music swells its sweetest notes, where the dresses dance before the dreamy gaze, or where, in a word, fashion and folly contend for the mastery, we will betake ourselves to the mountain in quest of vegetable gems, relics of the past, or those thousand-and-one subjects of interest, which can only be found away from the turmoil and strife of the madding crowd.

We will, if you please, leave gardens and greenhouses behind for the nonce, and go in, this time, for Nature pure and simple, for cultivated plants are, after all, but a living herbarium. Let us, then, cross the "Happy Valley," where our artificial black brethren disport themselves to the amusement of the small fry, and ascend

The Great Orme's Head.

As, however, the vegetation on this noble promontory has been recently recited in The Gardening World, I must limit myself to a review of the most salient features only, as I do not consider this paper would be complete without some reference to its botanical and geological treasures.

Well, then, to take things inversely, we will visit the old antiquary, and ask him to show us some of the odds and ends which he has laboriously got together. Unfortunately for us, he is more Welsh than otherwise, so we shall have to be content with a partial understanding, and to make up for the deficiency by a more vigorous use of our visual members, without which we should be totally demoralised. In all limestone regions, caves are said to be abundant, and to represent some ancient level of drainage; so here we have one which we are invited to enter, and which we are informed, was cleaned out and made habitable, by the old fossil himself many years ago. When he took up his "diggings" here—in more senses than one—the Lord of the Manor thought proper to tax him for the accommodation to the extent of four shillings per annum; but when he got nicely settled down and was doing a roaring trade, this avaricious landlord increased his rent to the tune of four pounds. But with all this, he—the antiquary—was not an *il penseroso;* for, judging by his demeanour, he was not at all dissatisfied with his position in life, or the powers that be.

Well, just inside this dungeon dwelling was a workshop, where lathes and *lapides* were strangely intermingled. On the other hand, glass cases had been requisitioned for the more precious particles, and contained, amongst other things, humau and animal remains of great antiquity. A little further forward, a well of considerable depth was shown us;

* A paper read before the Ealing Gardeners' Society, on November 27th.

while bones, *in situ*, were enough to startle the strongest nerves. Add to this the weirdness of the scene produced by lantern light, and the fact that, still further in, a subterranean stream trickled down the cavern's side. This water being largely surcharged with lime, and sundry articles being placed about, the process of petrification was slowly going on; and the old fellow had several specimens in his museum which had been petrified in this way. Here, also, were evidences of fire; which, possibly, had accrued in consequence of "domestic" exigencies ages and ages ago. But let us get back to the light and air, and resume our ascent of the Great Orme's Head.

I ought not, however, to omit to state that our friend was something more than an antiquary—he was a gardener; and that the bit of garden ground which adorned his rude residence was entirely the work of his own hands, for he had carried every particle of soil up on his own back. As the cave is situated at some elevation, this was no common task, and, therefore, all the more creditable and indicative of the man's intent.

On the slopes about here there are two or three plants which must be noticed, and one is the Nottingham Catchfly (Silene nutans), with white, sweet-scented flowers. The rosy-coloured Crane's-bill (Geranium lucidum), a rather rare species, is another, and the blood-red Crane's-bill (G. sanguineum) is also worthy of comment. This, like its congener, is only to be found in hilly situations, or near them, for it sometimes descends into the valleys, although it generally affects the grassy slopes of maritime cliffs.

To those who still persist in calling Pelargoniums "Geraniums," I would direct their attention to the inflorescence of our native species, when if they could not discover the difference between them—well, I would not give much for their critical acumen. The Rock-roses, both the common and the Hoary Dwarf, are sure to appeal to all lovers of Alpine plants, for their gay, wheel-shaped blossoms which are said to follow the attractions of our golden orb, are so pure and so like him in colour that they might be mistaken for a disc of precious metal.

The Wild Thyme is also a sun-loving subject, as well as a favourite of the bees. Sheep are said to browse off, and benefit by, its aromatic leaves and flowers. Whether this be so or not I can subscribe to *Punch's* parody that:—

"Taffy was a Welshman,
Taffy's not a thief;
Taffy's mutton's very good:
Not so good his beef."

Where the rocks are roughest, and where the sun is strongest, there will be found the white and yellow Stonecrops, but, strange to say there also grows, side by side, the smallest of our rock Ferns, the Wall-rue Spleenwort. The other Spleenwort, Asplenium marinum, can also be found, but it must be searched for in the dark interstices on the seaward side. In looking for this, however, one is sure to come across Asplenium trichomanes.

But perhaps the most charming of all the plants is the common Hare-bell. Its flowers are exquisite both in point of shape and colour, for the former is well represented in its name, while the latter quality is indicative of the blue above. Campanula rotundifolia is its foreign title, but as the *round leaves* have now all disappeared its specific name lacks confirmation and support. Suffice it to say that:—

"The sea-side air,
Buoyant and fresh, the mountain flowers,
More virginal and sweet than ours,"

appeal to our better feelings, excite our enthusiasm, and enable us to understand the songs of love which the poets of nature are continually singing anent our native gems. And so it is here, for the Gorse and the Heather alone are sufficient to impress us in the scents which they bring, with a physical freedom and power not to be obtained at lesser heights, or under other terms. The highest point here is only 750 ft., but the plateau is so rocky, rugged, and irregular that the term "mountain" is fully justifiable.

But while we have been chatting, old Sol has been describing a considerable arc in the heavens; and, although there is still plenty of food for reflection, we had better retrace our steps towards civilization and dinner, for without these aids to enjoyment we should not be able to pursue our course with satisfaction or success.

Our next excursion may well be in the opposite direction. So let the

LITTLE ORME'S HEAD

be our vantage ground. On the way, however, we can just take a glance at the flora on the sandy isthmus which unites the two promontories. To my mind the greater was once an island. But that was in prehistoric times—so let that pass. Here we shall be invited to examine the curious horn-like elongations of the Sea Poppy (Glaucium luteum). Some of these measure nearly a foot in length, and are curved; the blossoms being large and bright yellow; while the whole plant is glaucous—hence the generic name—and full of vigour. The Sea Holly (Eryngium maritimum) also demands a word; for its large, thorny leaves, scaly bracts, and bright blue flowers will not be overlooked. Its specific name, anyhow, sufficiently indicated its natural habits. The Sea Bindweed (Convolvulus Soldanella) can easily be recognised by its round kidney-shaped leaves, and, although not in bloom now, memory can readily recall its large purplish-pink flowers. It grows in pure sand on the dunes, or little mounds, in association with the Barnet Rose (Rosa spinosissima), and the Blue Bramble or Dewberry (Rubus caesius). The coarse and creeping Sea Grass (Glyceria maritima) is also here and makes a brave attempt to smother everything else within its reach. Its leaves are about 18 ins. high, pointed and involute. It occupies a large tract, and evidently intends to survive. But here is the Little Orme, which, now that we are at its base, looks less mild and insignificant than distance gave it. When the wind is north-east and blowing a great gale, the sea breaks with terrific force upon its rugged sides, so that we have here, as on the other promontory, a number of natural caves. One of these rejoices in the euphonious title of "Ogof Cythrenliaid," which, being Anglicised suggests avoidance, for it is "The Devil's Cave."

FORSYTHIA SUSPENSA

From the summit fine views are quite apparent, and well repay the trouble of getting there, That white house snugly nestling in the trees, we are told, is Bodafon, where formerly stood the residence of Afon, the son of the Warrior-bard Taliesin, the "Homer of Wales."

As the vegetation here is similar to that of the Great Orme, we will permit the description to be taken as read, more especially as time flies and dinner awaits, for it is quite astonishing what a craving for food possesses one after a ramble over these eminences, and when to this is added sea-breeze and mountain air the effect is marvellous. Our next excursion shall be to the Elsyium of artists, artistically called

BETTWS-Y-COED,

that is, the "station in the wood." This will necessitate boat or train assistance, and in availing ourselves of either we must pass up the beautiful vale of Conway, which the great Edmund Burke declared to be the "most charming spot in North Wales," and Mrs. Hemans, too, was particularly enamoured with "the water, the hills, and the wood."

Bettws-y-Coed, then, may be said to be situated at the head of this vale, and near the meeting of the waters of the Llugwy with the Conway—a lovely situation certainly and one where one's cup of beauty is filled to the brim. The village is well hotelled, if I may say so, and "temperance" houses of refuge seem to predominate.

In a district where pure and sparkling water is to be had for the asking, what better fluid can be suggested for the slaking of one's thirst. But as there are strange people about who persist in preferring the adulterated article, so there are picturesque places of entertainment where even they can be accommodated. The village, however, with its pretty cottages and inns to suit all sorts and conditions of men, will soon be out of sight if we follow the mazy windings and rocky bed of the Afon Llugwy. Ah! here is the Miner's Bridge, a rough-and-tumble structure set at an angle of about forty-five degrees, which of itself denotes the nature of the banks of this purling stream. Crossing over and following the north bank, which is considerably elevated above the south, we pass through woodland scenery of the most lovely character. As we proceed we get occasional glimpses of the stream beneath, while as to its musical propensities they rise and fall continually in cadence sweet and clear. The uplands bordering the track of the turbulent river are very fine, and while the hillsides are densely clad in Pine and Ash, the Ferns simply revel in the warm wet woods.

Nowhere have I seen these things of beauty in greater perfection and glory, for while the Polypody clings to the branches of the trees, and the Beech Fern loves to court the *debris* on the mountain slopes, the Lady Fern, lower down, spreads her great palmy branches in shuttlecock fashion, as if in pride, but really to obtain the maximum amount of light and air in the minimum space. She is at least a "teetotaller," she revels in aqua pura; but, odd to relate, a strange inversion takes place, for she positively imbibes it with her feet!

A fine view of the Swallow Falls is now vouchsafed, which consists of a series of cataracts and

cascades, partly precipitous and partly shelving, the waters of which impetuously dash over large rocks, foaming and fuming in their descent, or slip and slide about in thin sheets of silvery whiteness, until their troubled courses are brought to rest in a comparitively level stretch of the river.

Just above here we were compelled to cross, to avoid a long detour by jumping from boulder to boulder, a sensational not to say foolish performance; but as their is no enjoyment without a corresponding element of danger, so the full measure of success cannot be attained without some personal risk.

In the distance loomed Moel Siabod, 2,865 feet, standing sentinel-like on the fringe of the great Snowdonian group.

Let us, however, return to Bettws by the road, with a view to visit a very romantic spot entitled the "Fairy Glen." This is an equally noted river scene but it is situated on the upper reaches of the Conway, and is a lovely combination of rapids and ravines, pools and pictures, Not far off are Pandy Mill and Machno Falls, beloved of artists, not only of the brush, but of the camera too. On our way back we remark the brilliant colouring of the Virginian Creeper on the cottage walls; the great Fuchsias in the forecourts, and the native Ferns in windows and on walls.

Primula obconica thrives well in this Welsh paradise, while the Flame Nasturtium (Tropaeolum speciosum, is a brilliant sight. So—

"Nature through in all her works, in great degree
Borrows a blessing from variety." *Churchill.*

C. B. Green, Acton.

(*To be continued.*)

FRUIT RANCHING IN CALIFORNIA.

The November number of the *Nineteenth Century* contains an article on this subject by Mr. A. C. Twist, which gives so seductive an account of the industry in California, that I think, in the interest of the many anxious eyes which in these difficult times are turned to the West, you will be doing your readers a service if you can grant a little space to a few words of criticism on some portions of the article—by way, not of warning against fruit.farming in California, but of caution to look well before leaping.

One of the first points which an intending emigrant considers is that of climate, and with regard to the perfection and healthiness of that of California he no doubt hears glowing accounts. But even in this respect I must take exception to Mr. Twist's remarks, in that he entirely omits mention of the subject of malaria. It is one on which the emigrant requires to be warned in regard to choosing his locality, for the complaint is very prevalent in many parts of the State, and in some of the most prolific fruit-growing districts. It is by no means confined to low and damp districts. I have found it very bad indeed on the hills, where there is good natural drainage and a porous soil, and where the atmosphere is so dry, bright, and bracing that it is difficult to realise that any such complaint can find place there. But amidst these apparently, and in other respects actually, healthy surroundings you meet people, natives equally with newcomers, young and old, robust and delicate, the victims of this weakening and depressing complaint. But, while it is met with nearly all over the State, it is far more prevalent in some districts than in others. So that on this account, and also on account of the almost intolerable heat during the summer months in certain districts—in the great central plain, for instance—the emigrant should obtain reliable, that is disinterested, information before he decides upon his district.

Then, again, I am afraid Mr. Twist's good fortune in meeting with a rancher who had need of services which he could render may induce men without capital, or with insufficient capital, to go out thinking it is easy to find remunerative employment, or, at all events, to obtain board and lodging in return for work. When in California (investigating the subject with a view of settling two sons) I met with many instances of Englishmen who had gone out with this idea. For various reasons it is a mistaken one, and the great majority who go out, hoping to maintain themselves by working for ranchers, meet with disappointment. For the English emigrant usually knows nothing of the business, and there is always plenty of highly-skilled Chinese labour to be had. Furthermore, the fruit ranches are managed with very little permanent hired labour; all members of the family work, and since the house accommodation is usually very limited, it is more convenient to have Chinamen, who live in a separate hovel, and cook and "do" for themselves. It is only during the busy picking season that a new hand has any certainty of getting work, and even then it is not easy to find for long together, or within reasonable distance of a place where board and lodging can be had. For these and other reasons I would strongly advise intending emigrants not to go out under the impression that they will be able to maintain themselves by working for hire. It should always be borne in mind, with regard to these comparatively new countries, that high wages are no criterion of demand for labour. And, so far as regards the middle-class Englishman (for I am not considering the matter from the point of view of the artisan or labourer), I say that California is no place for a man without capital.

Then, again, Mr. Twist's article would be more convincing if it were based upon results actually realised by him, instead of his profits being prospective calculations. His ranch is not yet in bearing, and he is still in the sanguine period of laying out his capital, and anticipating future profits. And I note that he expects to have laid out, by the time his trees are in bearing, £2,500 upon twenty acres of orchard—a higher rate than I think is necessary or desirable, at all events in some districts. It is one thing to show by figures that a business will pay. It is another to prove it by experience. There are many disturbing elements which in practice thrust their way among the glib figures of theory. The method of the agent's pamphlets is simple enough. A tree will produce so many boxes of fruit, which can be sold at so much apiece. Multiply the price per box by the number of boxes per tree, boxes by the number of trees per acre, the result by the number of acres of your ranch, and there you are! with a fortune only limited by the number of your acres. But, alas! not every tree bears like the most prolific, not every acre like the best. There are such things as pests, animal, insect, and of disease; hot winds and frosts; one year raisins cannot be sold at a profit, another the prune market is overstocked; now grapes are unsaleable, and left to rot on the vines; you perhaps find many of your trees are of varieties for whose fruit there is little demand, whilst others are not yet in bearing, or have passed their prime; now prices of all fruit are down, now a railroad strike has entirely closed the market. The exceptional is constantly happening. The obstructive ingenuities of nature and trade are manifold. I know one meets with difficulties of a similar kind in every productive industry, and that they should not deter the industrious and persevering, but they should be taken into account, and when I say that it is no unusual thing for prices to vary a hundred per cent. between one year and another, I have said enough to warn the cautious that there are other considerations to take into account than the multiplication-table anticipation of profits.

The intending emigrant with capital will do wisely to leave his capital at home, taking with him sufficient for a year's maintenance to fall back upon, and to obtain experience by getting what work he can for at least a year before investing his capital. I am aware that there are ranchers who make a business of taking a number of pupils to train in fruit culture, whose profits are made by the cultivation of pupils rather than of fruit; but I cannot say that I have found this method of gaining experience work satisfactorily. Those who are acquainted with the difficulties of managing agricultural colleges in this country will understand how greatly aggravated those difficulties are in California. Then there are agents in this country who for a certain sum undertake to find a rancher who will board, lodge, and teach a pupil for a year. This system is open to great abuse. I have known a large sum paid to the agent, whilst he has paid a trifling sum to some rancher, of whom, perhaps, he knows nothing, to take the pupil, with the result that a very short experience compels the pupil to leave, sacrificing the sum paid to the agent, and he so finds himself stranded at the outset. At the same time, there can be no question that a year's experience on a ranch is of the utmost value, and in cases in which sufficient is known of a rancher who is willing to take a pupil to work along with himself, and so teach his pupil the business, it will be found that the money paid for the year's board and lodging is well spent. It will be saved many times over when the pupil comes to choose and buy, plant, and manage his own ranch.

As I have said at the beginning of these necessarily incomplete remarks, I do not warn against California. On the contrary, I think fruit-farming there is a healthy, to many agreeable, and, on the whole, fairly paying occupation. But there are many things to learn before deciding upon locality, upon the method of gaining experience, upon the kind of ranch to buy; and for one's knowledge of these one cannot rely with safety upon the rose-coloured views so liberally disseminated by the agents' pamphlets, or the calculations of those whose sanguine expectations have not yet undergone the cooling process of experience.—*Arthur H. Jackson, Holly Lodge, Tiverton, in Land and Water.*

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects received First-class Certificates from the Floral Committee of the National Chrysanthemum Society on the 4th inst.

Chrysanthemum Mrs. R. C. Kingston.—On the show card this was described as a Japanese variety, but we have no hesitation in speaking of it as incurved. The blooms measured 4½ in. in diameter, and were well up in the centre, but slightly open there because past their best. The florets were moderately broad, obtuse, regularly arranged and of a soft lilac pink, more or less distinctly striped or lined with white on the back. Mr. Lawton, Welton House Gardens, Brough, East Yorks.

Chrysanthemum La Neige.—This is of the true Japanese type, and as the name implies, is white as snow. The blooms measure 6 in. to 6½ in. across, and the florets are moderately broad and recurved but variously interlaced with one another. Mr. W. H. Lees, The Gardens, Trent Park, Barnet.

Chrysanthemum Madame Rosaine. — The average width of this incurved Japanese variety would be 7 in., but many of the outer florets are whorled and spread more widely making the bloom about 8 in. in diameter. All are quilled, and of moderate width so that the uniformly glossy pink reverse only is shown. The centre is very full owing to the compact arrangement of the greater number of the florets. The variety is of the same type as Viscountess Hambleden, but very distinct in colour and choice. Mr. Robert Owen, Castle Hill, Maidenhead.

Hippeastrum Lady Esther Smith.—This handsome variety has a very short tube and a widely-spreading lamina, with imbricate segments of a bright crimson-red, and the broad, white rays of the central star extending about half-way down them. The bloom itself is of large size and handsome. Mr. H. Perkins, gardener to the Hon. W. F. D. Smith, M.P., Greenlands, Henley-on-Thames.

Hippeastrum Lord Sudeley.—Here again the tube is very short, and the lamina well expanded, and bright crimson-scarlet, intensified to deep crimson round the short, white rays of the central star. There were two scapes on the plant shown, each 2 ft. high, one bearing two fully expanded blooms, and the other two buds. Mr. H. Perkins.

Hippeastrum Lady Edith Ashley—The flower of this variety is crimson-scarlet, fading to white towards the base, from whence radiate the broad white rays which run down for two-thirds the length of the segments. The tube is of moderate length. Mr. H. Perkins

Hippeastrum Earl of Arran.—The scapes of this variety rise to a height of 3 ft., and bear two flowers of large size with a very short tube, and well imbricated, widely spreading segments which are of a brilliant crimson, shaded with maroon towards the centre, and around the short rays of the star. Like the three previous varieties, it was shown by Mr. H. Perkins.

The following two Chrysanthemums received Awards of Merit from the Royal Horticultural Society, on the 11th inst.:—

Bellum.—This belongs to the incurved Japanese type, and the blooms measure 5 in. to 5½ in. in diameter. The florets are broad, closely incurved with the tips curled, interlaced, and often twisted in various directions; they are white more or less tinted with primrose in the centre, and with pink

towards the base as the bloom gets old. Mr. Robert Owen, Castle Hill, Maidenhead.

King of Plumes.—Here we have a decorative variety of the Japanese type. The flowers shown varied from 3 in. to 4½ in. in diameter, and were deep yellow almost golden. The florets are quilled at the base, but expanded on the upper half, and lacerated with divaricate segments. A bunch of flowers is both pretty and ornamental. Mr. Robert Owen.

THE PRECOCIOUS RIPENING OF PEARS.

I was very much interested in your leader upon the early ripening and decay of Apples and Pears, having had my attention drawn to it more particularly in reference to Pears, apples, unfortunately being so short a crop, that there were hardly any left to put away. Pears, on the other hand, were a heavy crop, and quite early in the autumn we discerned signs of what was likely to follow, the final results being as you describe in your issue of the 1st inst.

A crop of Swan's Egg was the first that arrested our attention, many of those which were maggot eaten being quite ripe by the end of September, and the sound ones gathered and put away with the greatest care, have all been ripe and eaten for some time. This in our experience is a most unusual occurrence, and quite against our speculations as to what would follow upon a comparatively cold and wet summer, having often found some Pears, Swan's Egg for instance, being rather later in ripening in consequence of a cold summer. The mildness and moisture of the autumn has doubtless been a contributory cause of the premature decay, but it has occurred to us that it may be owing to the prolonged drought and excessive heat of the summer of 1893, and the subsoil in many instances being quite dry till a late period of the present year, and so most likely at a higher temperature than it oftentimes is during the autumn. If this has not had something to do with the early ripening of some of our late Pears, owing to the roots being in a warmer medium than they generally are at a corresponding time of the year, possibly some observers of the different temperatures of soil, may be able to furnish some data to go by which might elucidate this question.—*W. B. G.*

THE GLOBE ARTICHOKE.

In many places this is highly esteemed as a second course vegetable, and any course of cultivation which is likely to improve it in quality and duration of bearing should receive the attention of the cultivator. There are two methods of propagation, namely, seeds and suckers; the first of these may have its advantages, but our own experience has been that no dependence can be placed upon seedlings, many of them throwing small heads, and so proving comparatively worthless. Seeds sown in a seed pan placed in heat early in the season germinate readily, and when strong enough to handle, potted off into long thumbs, and afterwards in 4-in. pots, gradually harden off and grow on in a cold frame, and planting out during mild weather in April, will come into bearing during the summer.

Those who have to fall back on seedlings for a stock should mark the best among their plants with a view of raising future stocks by means of suckers from them. There are two well defined varieties, seeds of which are offered separately. In the green or French variety, the scales of the calyx are spreading. A good plant of this is one of the handsomest hardy herbaceous plants we have, but for culinary purposes we regard it as decidedly inferior to the Globe, the scales of which curve inward, forming a compact head. Propagation by suckers is effected during March or early in April, when the young growths are about 10 in. in length, selecting those with fibrous roots attached to them. The hard brown stem by which they are attached to the parent plant should be cut off, and if this proves crisp the cutting will be a good one; if at all stringy reject it as worthless.

This being a crop which seldom stands less than four or five years on the ground, and in very many instances much longer, the soil should be well trenched and manured, choosing an open spot, because if overshadowed by trees the growths come spindly and form proportionately small heads. We say four or five years; this we regard as the extreme limit at which it is advantageous to let them occupy one piece of ground. Having the soil in good working condition and the plants in readiness, have the outside leaves removed so that the heart of the sucker appears above them, and then plant them, inserting a third of their depth into the soil. Mark out the rows 4½ ft. to 5 ft. apart, and put the plants 3 ft. apart in the rows. Give a good soaking of water when planted, and protect for a time with a large flower or Sea Kale pot till established, and water well whenever necessary. An occasional watering with liquid manure during the early part of the summer is beneficial, and give a good mulching of short manure during dry weather.

All weak superfluous suckers may be removed during June, and young plants will produce a supply of heads from July to October. Older plantations will commence bearing in May, and will generally be past their best when those fresh planted commence bearing, so it is a good practice to make a fresh plantation annually equal to a fourth or fifth of the space allotted to the crop, and destroy an equal portion of the old plantation. By these means a better succession is kept up than where the old beds remain for a more lengthened period and then entirely renewed. The heads attain a much larger size than is natural to them if a piece of wire is bound tightly round the stem about 3 in. below them. In common with most vegetables a dressing of common salt is highly beneficial to it. When the heads are cut the stalks, too, should be cut clean out; their retention afterwards only weakens the plant.

There are two other uses to which the old school of Gardeners sometimes put this plant which have fallen into disuse, at least it is long since we have either seen or heard of their being attempted; we allude to the production of Chard's and Gobbo. Where the first of these was done, fresh plantations of Artichokes became an annual necessity owing to the plants being destroyed in the process. The plan may be briefly described as follows: early in July after the best heads were gathered, the leaves were cut down to within a foot or so of the ground, and the flower stems as low as possible. This quickened fresh growth, which when about two feet in height, was during September and October, bound closely together with either hay or straw bands and then banked round with earth to exclude the air; these Chards would be fit for use from a month to six weeks. When wanted for use during the winter months, they were taken up previous to severe frost and laid in sand in a shed or other building secure from frost.

The second use was the production of Gobbo. We can only remember seeing this done but once, but believe the practice is common in Italy. To produce this, bend down the stem to a right angle, and bind the stalks with the leaves on them lightly together and cover over, so as to blanch them, this produces a lump which is eaten raw with salt. The old plan of winter treatment which consisted in placing light litter round the plants, and then banking round with earth or ashes, is in many cases quite unneccesary for according to our own experience this plant is much hardier than it is generally supposed to be, but locality and soil have a great and varied influences on many plants, and it is best for the cultivator to be guided in many things by the nature of his surroundings.—*W. B. G.*

A PARADOXICAL MONTH.

The rainfall of November, which was confined almost exclusively to the earlier half of the period, was in excess of the average over Wales, the southern parts of England and Ireland, and the west of Scotland. In London the total amount was about three inches and a quarter, or forty-seven per cent. more than the average, but in many other parts of our southern counties the excess was much greater, the aggregate for the month being in some places more than twice as much as the normal. November was, however, not everywhere a wet month. In the northern parts of England and Ireland, as well as in the more eastern parts of Scotland, there was a considerable deficiency of rainfall, the amount being only half the average at Aberdeen and York, less than half the average at Wick and Leith, and very little more than a fifth of the normal at Shields.

One of the most striking facts in connection with the weather of last month as experienced over the south-eastern counties was that, in addition to being one of the wettest, it was also one of the finest Novembers of recent years; and, to make the paradox still more complete, we may say that the portion of the month with the heaviest rainfall was also that with the largest amount of sunshine. At Westminster the last ten days of the month produced no rainfall and an aggregate of only four hours of bright sunshine, the totals for the preceding twenty days being three inches and a quarter of rain and rather over fifty-six hours of sunshine. The aggregate duration of bright sunshine for the month at Westminster was about sixty-one hours, or two and a half times as much as the average, and half as much again as in any November since the recording instrument was started in 1883. In every November but two of the past eleven years the amount of sunshine registered at Westminster was less than half that recorded last month, and in two years, namely, 1884 and 1885, it was only one-fourth of the quantity. The unusually sunny character of last month is the more significant when we remember that both in September and October the amount of bright sunshine in London was the smallest observed since records of this kind were begun. At Greenwich the total duration in each of these months was only half the average, as shown by observations extending over seventeen years.

THE MANAGEMENT OF COLD PITS AND FRAMES.

These, however well any place may be provided with heated structures, are still almost indispensable in any place where a good supply of flowers and vegetables has to be kept up. The various uses to which these simple contrivances can be and often are put is almost marvellous, and there are times during the growth of many plants used for greenhouse and conservatory decoration when they will do far better under frame than under greenhouse cultivation. I have in mind the crdinary style of those usually found in private gardens, the low span-roofs of the market men who grow in them Primulas Cinerarias and Cyclamens to the highest perfection, where the plants stand generally on a bed of ashes, and are a very different article to the greenhouses found in many places with open lattice work staging, rendering many of them during the summer months the worst possible contrivances in which to grow many things, and in these instances ample provision of cold pits and frames is a desideratum.

I recently saw Chinese Primulas in No. 24 pots, splendid specimens, grown in a cold frame, and instances where these and Cinerarias are grown well, reflecting great credit upon the growers, are, no doubt, familiar to many of your readers. The attendant labour during the winter months will often be laborious on account of the covering up and uncovering, and in some market establishments where Mignonette is largely grown this is possibly the most costly item in the expenditure entailed in the cultivation of this fragrant flower, two or three acres of frames being in some instances devoted to it. One use to which I once put some cold frames was the growth of young Azaleas planted out. Here they made much better progress than similar plants wintered in vineries, and gave but little trouble. They passed through a more than ordinary severe winter, and by the next autumn made plants double the size of those grown in pots.

During the winter months every effort should be made to exclude frost, and if from insufficiency of material frost should get in they must remain closed for days together till the plants thaw. The greatest source of difficulty occurs when the covering-up material gets saturated by heavy rains. To obviate this, wooden shutters or galvanized iron sheets should be placed over the covering-up materials, whether litter, straw, or Russian mats. One inch of dry material is far more effective than three or more of wet, where ample supplies of covering are at hand to keep the temperature a few degrees above freezing. There will be few occasions, when, should the air be clear and bright, some amount of light may be admitted by the partial or total removal of the covering at an earlier hour in the day than where a deficiency of covering is supplied. Cleanliness in connection with plants wintered in frames, especially those generally designated soft-wooded, is of supreme importance; a few decaying, rotting leaves if allowed to remain any length of time will often spoil

a good plant. In damp, rainy weather the whole contents of frames containing these soft wooded plants should be gone over every two or three days, removing the smallest portion of decaying matter, and occasionally the whole contents should be re-adjusted and every plant turned round to the light, the surface of the soil cleared of all moss or weeds, and the pit or frame cleared of all decaying litter.

Plants wintered in these structures require far less water than those growing in houses, because they stand on a cool bottom, and the circulation of air among them is more limited. Those who have to winter Pelargoniums in frames should give water to the most limited extent during dull, damp weather; rather let the soil be dry to flagging point for a week. This will do little or no harm to these plants when under these conditions; whereas, any excess of moisture will often prove fatal. And again, it should be borne in mind that not more than half the quantity of water required during the summer months to moisten the soil through is ample when everything is cold and evaporation at a low ebb. To successfully winter these zonal or other Pelargoniums during the three winter months keep them at as near a standstill as possible, because when under these conditions if excited into growth they are extremely liable to rot. There are other plants for instance, Calceolarias and Cinerarias, which make much of their growth during the dull months of the year, and the attention as regards watering must be different, because if allowed to remain dry at the root for more than a very limited time they fail to grow into good specimens. Ventilation is of primary importance, and should be most assiduously attended to on all possible occasions.

During some severe frosts and foggy weather they will generally be best kept close, and the amount of air given must be regulated by the atmospheric conditions prevailing at the time. Some days, with a low temperature accompanied with bright sunshine, a very little on milder weather, tilting the lights up at the back or on the side to the leeward of the wind, and on every favourable occasion the entire removal of the lights for a few hours during the day will be most beneficial to most of the plants generally grown in this way. When a mixed collection of plants have to be wintered in this way the pits or frames ought to be divided into compartments, so that by placing the different families separately, their special requirements may be better attended to. Some things, notably hard wooded plants, Azaleas, Ericas, Genistas, &c., will do with less covering than many other things, and require more air, and among soft-wooded plants there are those which require keeping drier than others, hence the desirability of their having a compartment to themselves where practicable.—*W. B. G.*

GARDENING MISCELLANY.

CHRYSANTHEMUMS AT GREENLANDS.

In your notes on the above at p. 228, I was interested to read among the varieties that were well represented you mention Golden Wedding. As Mr. Perkins staged the finest bloom of this variety I have yet seen at the late Chrysanthemum Show at Reading, and he also exhibited the same variety again at the late show at the Aquarium in his capital twenty-four, it would, I am sure, be interesting if Mr. Perkins will kindly state how he treated this grand yellow, and also say if he has lost any plants in the way that most growers have.—*E. Beckett, The Gardens, Aldenham House, Elstree.*

RHODOCHITON VOLUBILE,

In this beautiful Mexican plant we possess a climber of no small decorative value, and one that certainly deserves honourable recognition. The calyx, which is the showiest part of the flower, is large, of a pale red colour, and deeply five-cleft, the corolla being of a darker hue. The plant succeeds well in an ordinary greenhouse temperature, and is both a distinct and an elegant subject for the adorning of pillars and rafters, or for training to trellises in the ordinary way. It thrives well in a mixture of good loam and leaf soil, and may be raised from seed or propagated from cuttings composed of the young shoots, a little heat being necessary to insure the successful striking of these latter.

CASUARINA EQUISITAEFOLIA.

For distinctness of character and gracefulness of habit the above subject is unique among subjects requiring a stove temperature. The long, pendant, leafless branches give the plant an exceedingly handsome appearance, and for the decoration of the dinner table nothing could be more suitable or productive of a finer effect. Propagation may be conducted by means of cuttings composed of half-ripened shoots inserted singly in thumb-pots in spring in a light, friable compost and plunged in a gentle bottom heat in a propagating frame or covered with a bell-glass. It is a native of Australia.

KENNEDYA PROSTRATA MARYATTAE.

This beautiful plant is perhaps the most useful member of the whole genus, which comprises some eleven species, natives of Australia. They are all of prostrate or climbing habit, many of them moreover are fast growing subjects, and are on that account eminently suitable for training to rafters or trellises in the greenhouse, the temperature of which suits them admirably. The inflorescence is racemose and the peduncles axillary. The flowers of K. prostrata Maryattae are bright scarlet in colour, each peduncle carrying four. The leaves are of a distinctly downy character and the leaflets are three in number, oblong and obtuse. A compost of peat and loam will meet all its requirements with regard to soil; abundance of water during the growing and flowering periods being also an essential to success in its culture. Propagation may be readily effected by means of seed sown or of cuttings inserted in gentle heat during spring and summer.

CALCEOLARIA BURBIDGEI.

Here we have a greenhouse flowering plant of no little merit, easy of cultivation and one which, blooming as it does during autumn and winter, has much that should recommend it to the gardener, who has to cater for the requirements of private establishments. It is of hybrid origin and was raised by Mr. F. W. Burbidge of Trinity College Botanic Gardens, Dublin, about the year 1882, as the result of a cross between C. Pavonii and C. Fuchsiaefolia. The plant usually runs from two to four feet in height, and the flowers are of a rich yellow hue, a large lower lip being a prominent feature in its structure.

ASPLENIUM FRAGRANS.

Since last week we have received some more specimens of the ferns under discussion, including Aspleninm bulbiferum Fabianum, which is evidently widely disseminated in gardens under the name of A foeniculaceum; but how such a mistake could originally have arisen, it is now difficult to determine; and it is still more strange that the fact was not more widely known amongst gardeners. A form of A. fragrans of Swartz was also sent with the intimation that it is sometimes confused with A. foeniculaceum. Though the latter is often spoken of as a distinct species, it is connected with the type by numerous intermediate forms, which show all stages of fission between the extremes that are named A. fragrans and A. f. foeniculaceum respectively. The frond of the former sent us was not exactly typical, being only bipinnate with more or less deeply fissured pinnules, Whether or not, it was quite characteristic of the plant from which it was taken we are unable to say, It is also said to be synonymous with A. planicaule in *Low's Ferns*, but the true A. planicaule of Wallich comes from the Himalayas, Neilgherries and Ceylon, but the fronds are only pinnate with more or less deeply incised pinnae. Other names are also given to A. fragrans. The true A. f. foeniculaceum is tripinnate, with narrowly linear segments, but hitherto we have not succeeded in hunting it up.

IPOMAEA HORSFALLIAE VAR. BRIGSII.

A well flowered specimen of this magnificent plant is at the present time a conspicuous occupant of the Victoria House at Kew. The flowers which are produced in cymes are of a deep rich carmine hue, and are, on that account, particularly noticeable at this dull period of the year. The Kew plant, to judge from appearances, will keep flowering for some time to come yet as the flower cymes are produced in great profusion. There can be no doubt, whatever, that the plant is quite worthy of extensive cultivation, and that it is a subject that once it is known will become a general favourite, also goes without saying.

AMASONIA PUNICEA.

At the approaching Christmas festivities, Poinsettias will be largely in evidence, while it is hardly probable that the plant under notice will appear in many houses throughout the kingdom. The habit of the Amasonia is so different, however, that it might well be used in the same decorations for the sake of contrast. The length of time during which it continues ornamental is also remarkable. A batch of plants has been flowering in the nursery of Messrs. J. Veitch & Sons since the middle of October last, and will continue till Christmas. The crimson bracts are arranged all along the stems in the same manner as the leaves, and they assume their colour in succession as they are developed. The large, crimson-scarlet calyx behaves in the same way, and forms a strange contrast with the pale yellow corolla just as the white calyx of Clerodendron Thompsonae contrasts with the dark scarlet corolla, the colours in this case being reversed as it were. While the bracts and flowers assume their respective colours towards the top of the young shoots, the green fruits begin to develop on the lower parts, and become ornamental as they change to a glossy black hue.

CHOROZEMA LOWII.

In this we have a garden hybrid of free-flowering habit and very ornamental appearance. It was obtained from C. elegans crossed with C. illicifolium, the Holly-leaved species, between which it is intermediate. The twiggy stems branch freely and produce a large quantity of bloom which continues in presentable condition for a long time. The standard is orange-scarlet or vermilion with a yellow blotch at the base in marked contrast to the rest of the flower. The wings, on the contrary, are reddish-cerise, and hide the keel, but form a beautiful contrast to the standard, and give to the whole flower a richness and refinement of colour by no means plentiful even amongst hard-wooded subjects. The prickly foliage takes after C. illicifolium, and therefore resembles that of a Holly. Curiously enough, the plant under notice was one of a large batch of seedlings, and the only one worthy of propagating and preserving for its distinctness and beauty. So different in habit of growth is it that it does not require to be trained on wire or other frames to keep it within due bounds, as the shoots are of moderate growth and not divaricate like those of C. splendens. There is a coloured illustration of it in the *Revue de L'Horticulture Belge* for December.

SOCIETIES.

Royal Horticultural. *Dec. 11th.*—The last meeting of the year usually shows a falling off in the number and quantity of the exhibits, and such was the case on Tuesday last. Orchids were as well represented as anything else; stove and greenhouse plants and Chrysanthemums also figured largely. Some collections of fruit also served to brighten the tables. Messrs. F. Sander & Co. exhibited a mixed group of Orchids, in which the varieties of Dendrobium Phalaenopsis Schroderianum were very conspicuous. Interesting and curious in their respective ways were Catasetum Christyanum, Stenia pallida, Octomeria Baueri, and Liparis longipes. The lip of the Stenia resembled a "cresset" or old-fashioned oil lamp. Numerous Laelias also graced the group, including L. furfuracea, L. anceps alba, and L. Gouldiana. A larger group of Orchids mixed with palms and ferns was set up by Messrs. B. S. Williams & Son, Upper Holloway. Cypripediums were very conspicuous in it, and Laelia anceps Williamsii, and L. autumnalis atro-rubens had large and fleshy flowers. Coelia bella we should consider the best of its kind, and the plant of Cypripedium Sallieri was of hugh size, with many flowers. A group of Cypripediums was exhibited by Messrs. Hugh Low & Co., Clapton, including several beautiful varieties of C. Charlesworthii, C. Chantini, and C. Leeanum superbum Low's var. One of the first-named was notable for the large size of its upper sepal. A spike of Schomburgkia rhenidora Kimballiana, a very rare

Orchid was also very conspicuous in the group. The hybrid Cypripedium Swinburnei magnificum was exhibited by T. W. Swinburne, Esq., J.P., Corndean Hall, Winchcombe. Gloucestershire. A small group of Orchids was also staged by Messrs. J. Veitch & Sons, Chelsea. All were hybrids and included the beautiful C. Niobe, C. Sirius, C. Zeno and Epidendrum Wallisio-ciliare. The type of E. Wallisii alongside of it showed the vast difference between it and the hybrid. Bulbophyllum mandibulare is a singular looking species of large size, and together with Vanda Bensoniae anchorifera was exhibited by C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham. Laelia Tresederiana pallida, a hybrid, was shown by Messrs. Heath & Son, Cheltenham. Cattleya labiata was shown by the Duke of Westminster (gardener, Mr. W. F. Barnes), Eaton Hall, Chester. A magnificent spike of Cymbidium Traceyanum, about 3 ft. long and bearing twenty-one of its huge flowers, was exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. Some Orchids, including Platyclinis uncata and Masdevallia Peristeria, were sent over from the Royal Botanic Gardene, Glasnevin. The Rt. Hon. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring, exhibited some flowers of Cattleya guttata Prinzii Viscount de Figueirado. Thos. Statter, Esq., (gardener, Mr. R. Johnson), Stand Hall, Manchester, showed Laelia Tressideriana, L. Euterpe, Cypripedium Leeanum albens, and others. Cypripedium Swinburnei magnificum was also shown by E. Ashworth, Esq. (gardener, Mr. E. Holbrook), Wilmslow, Cheshire. Walter C. Walker, Esq. (gardener, Mr. G. Cragg), Percy Lodge, Winchmore Hill, showed a tall plant of Eulophia megistophylla. A small oroup of Orchids was shown by S. G. Lutwyche, Esq. (gardener, Mr. Paterson), Eden Park, Beckenham, including Dendrobium Phalaenopsis Schroderianum, D. endocharis, Cypripedium Curtissii, and others. A hybrid Cypripedium and Amblostoma tridactylon were shown by A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Wallington. A very showy hybrid Cypripedium named C. William Lloyd was exhibited by Mr. P. Weathers, Silverhall Nursery, Isleworth. He also had a flower of a beautiful light-coloured variety named Cypripedium Gravesiae.

Messrs. John Laing & Sons, Forest Hill, S.E., staged a nice collection of stove foliage and greenhouse flowering plants in exceedingly good condition. Crotons Neumanni, Mr. Bause, and Thompsoni, were well represented by some finely coloured specimens. Several fine flower heads of Euphorbia pulcherrima, together with a good example of Authurium Laingii with its distinct and pretty white spathes were also very conspicuous. Other plants of note were Dracaena australis aurea variegata, Carraquata cardinalis, Dracaena Sanderiana and Cocos Weddelliana, Saxifraga sarmentosa tricolor superba displayed its beautiful variegated foliage to considerable advantage in the front rank. Some finely flowered specimens of Bouvardias, Cyclamen and Ericas, as well as a few small Cypripediums materially contributed to the effective character of the group (Silver Flora Medal). Mr. Robert Owen, Maidenhead, exhibited a considerable quantity of cut blooms of new varieties of Chrysanthemums in very fine style. His examples of varieties like Madame Razain, Col. Bourne, Mrs. Annie Smith, Seedling, Mrs. W. H. Lees, Mrs. Jackson, Le Calosse Grenoblois, Julian Hillpert, Pearl of Maidenhead, Mrs. H. Perkins, Owen Thomas, Mrs. M. Bourne, Potter Palmer and M. Gindre were all in first-class condition, and considering the lateness of the season constituted a most meritorious display for which a Silver Flora Medal was awarded. An interesting display of cones in different stages of growth, of Araucaria imbricata, Cedrus deodora, Abies nobilis, Cupressus macrocarpa, and Sequoia gigantea was contributed by Lady Fortescue, Dropnore, Maidenhead (gardener Mr. Herrin), to whom a Silver Banksian Medal was awarded in recognition.

Messrs. George Bunyard & Co. received a Silver-Gilt Banksian Medal for an extensive collection of Apples that contained upwards of a hundred dishes of first-class fruit. The samples shown were of good size, excellent shape and were well coloured, particularly in the case of such varieties as Emperor Alexander, Bismarck, Stone's Loddington, Newton Wonder, Peasgoods Nonsuch, Tylers Kernel, Golden Noble, Mère de Menage, & King of Tompkins County. Mr. J. Empson, gardener to Mrs. Wingfield, Ampthill, Beds, showed some good samples of Gros Colman and Golden Queen Grapes. Vegetables, however, were conspicuous by their entire absence from among the exhibits.

LAW NOTES.

THE LAW AS TO THE RIGHT OF CUTTING OVERHANGING TREES.

HOUSE OF LORDS, *November 27th*. Present: The Lord Chancellor, Lord Macnaghten, and Lord Davey. *Lemmon v. Webb.*

This appeal from a judgment of the Court of Appeal involved a question as to whether the owner of land is entitled to cut off the branches overhanging his land of trees growing upon the land of an adjoining owner.

Mr. Warmington., Q.C, and Mr. R. F. Norton appeared for the appellant; and Mr. T. Crackanthorpe, Q.C., and Mr. T. Ribton for the respondent.

The appellant, Thomas Warne Lemmon, is the owner of an estate called Ewhurst Place, near Guildford, which is bounded on the south by an estate called Malquoits, belonging to the respondent, Walter Webb. On the southern boundary of the appellant's estate there were many trees, some of considerable age, which overhung a lane or roadway on the respondent's estate, and forming a means of access for carts and waggons to a farmyard. The respondent, without notice to the appellant, cut off and trimmed some of the overhanging branches, which he said interfered with the user and enjoyment of his property. Thereupon the appellant commenced an action for a declaration that the respondent was not entitled to do this, for an injunction, and also for damages for trespass. Mr. Justice Kekewich held in effect that the branches which overhung the respondent's land and interfered with his property constituted a "nuisance of omission," it being negligence on the part of the appellant to allow the branches to overhang the land, and that the person suffering the nuisance was entitled to abate it, but only on giving notice. As no notice had been given, his Lordship held that the cutting was wrongful, and gave judgment for the appellant for £5 damages and costs. The Court of Appeal, however, reversed this decision, and gave judgment for the respondent, but having regard to the obscurity of the law as to notice made no order as to costs. Hence the present appeal. The contention on the part of the appellant was that the branches could not be cut off without his authority, and that the judgment of Mr. Justice Kekewich was, in fact, correct, because the respondent gave no notice before cutting off the branches.

Their Lordships, without calling upon the counsel for the respondent, upheld the judgment of the Court of Appeal, and dismissed the appeal. They were of opinion that notice was not a necessary step before proceeding to abate the nuisance.

Appeal dismissed accordingly, with costs.

QUESTIONS AND ANSWERS.

LILIES AT HEATHERBANK: ERRATUM.—In Mr. G. F. Wilson's letter on this subject, at p. 232, for "Lilium tigrinum splendens" read "L. tigrinum jucundum."

CORN COBS.—*L. H.*: There is usually no difficulty in getting the plants to fruit in this country, and the cobs ripen well in a good season, though they do not attain a very large size. Our summer is scarcely long enough nor sufficiently warm to bring the plants to the same perfection as in America; but if your object is only to get the young cobs for immediate use or trial, you can manage to do that in almost any season. Sow the seeds in boxes sometime in March, and transfer them to pots as they require it; repot before the plants become root bound, harden off and plant them out in the open ground about the end of May or the beginning of June, according to the weather, so that they may receive no check. If you can get early fruiting varieties so much the better.

CONIFER FROM HOLY LAND.—*Omicron*: The specimen you sent us is too young to be in character; but it is to all appearances Juniperus excelsa. When it gets larger and alters somewhat in character, we should be pleased to see it again. It may possibly be an introduction and not a native, so that fruit would be desirable when it can be obtained.

GAILLARDIAS AND PYRETHRUM.—*Omicron*: These could have been transplanted in October to great advantage, and we should now be inclined to leave them undisturbed till the middle of March, or soon after, according to the state of the weather. If the plants of Pyrethrum are large, you could transplant them now if desirable; but on the whole it would be advisable to leave both kinds until growth again begins to become active.

AURICULAS IN BLOOM.—*S. C.*: Yes, it is so; you can hardly expect the plants to flower so strongly in spring as they would have done had the first and strongest flower scapes not been so unseasonably produced. They will, however, flower more or less strongly when April comes round again. All you can do is to pull out the flower stalks as soon as you can lay hold of them. Do not cut off the top merely or the remaining portion may cause damping at this season of the year. Keep the plants on the dry side, pull off the withered leaves, and ventilate the frames freely on every favourable occasion, in fact, the sashes may be removed entirely during mild weather when not raining.

THE GREEN CHRYSANTHEMUM.—*G. Bevan*: There is nothing unreasonable in the idea of a green Chrysanthemum, any more than a green Rose or a green Dahlia. On the contrary, it is surprising that they have not been more common, seeing that so many seedlings have been raised all over the country, as well as abroad during the last few years. The particular variety you mention originated as a sport curiously enough, and may not yet be properly fixed, or in other words, it may not yet have shown the character it would assume if treated as others are for exhibition purposes. Possibly, the flowers might show more or less colour of some kind; in fact, some of the blooms have this year exhibited traces of pink and white or something approaching it. Time will prove what it is capable of doing.

CRUST-LIKE SHELLS ON FENCE.—*Alex. Hardy*: They are the pupae of the White Cabbage Butterflies, and you may remember that you were troubled with caterpillars in the autumn or your neighbour was. The curious, hump-backed cases are merely the pupa stage of the insects which rest in that condition till the weather becomes sufficiently warm in spring or early summer to hatch them. By destroying them you will save yourself much trouble next summer, provided both sides of the fence and walls in the neighbourhood are well searched for the chrysallids before the winter is over.

CYMBIDIUM TO NAME.—*T. H.*: The flower you sent was not Cymbidium Lowianum, but C. giganteum. It is a good variety in its way for the species it represents on account of the intensity of its colouration. In the typical form the sepals and petals are light greenish-yellow, striped longitudinally with reddish-brown, as well as the side lobes of the lip. The stripes were so broad in your flower as to almost completely obscure the yellow; and the stripes on the side lobes of the lip were even more intense. We therefore consider it a good variety of C. giganteum.

NAMES OF PLANTS.—*Capt. Twiss.* A light variety of Odontoglossum odoratum which gardeners would call O. gloriosum.

COMMUNICATIONS RECEIVED.—G. F. W.—E. B.—R. A. B.—G. R.—W. B. H.—A. W. G. W.—R. L.—E. W. & S.—S. & S.—G. J. I.—A. J. B.—A. M.—W. B. H.—J. C.—J. G. P.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., High Holborn, W.C.—Seed Catalogue for 1895.

BARR & SON, 12, King Street, Covent Garden, W.C.—Spring Flowering Bulbs.

W. BAYLOR HARTLAND, Patrick Street, Cork.—"Little Book" of Seeds and Plants, &c.

LONDON SEED TRADE.

December 11th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report little enquiry for Clover seeds. Some few parcels of yearling English Cowgrass have changed hands at full prices. The quality of new crop English Red Clover is poor. Alsike and Trefoil steady. White Clover dull. Ryegrasses unchanged.

COVENT GARDEN MARKET.

December 12th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Coh Nuts and Filherts, per 100 lhs.	21 0	23 0	Plums .....half Sieve	0 0	0 0
Grapes, per lh.	0 6	1 6	Strawherries, per lh.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, perlh.	0 6	1 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onlons.....per hunoh	0 4	0 6
Cahhages ... per doz.	1 6	2 6	Parsley ... per hunch	0 6	
Carrots ... per hunch	0 6		Radlshes... per dozen	1 6	
Caullflowers, Eng.dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per hundle	1 6	2 0	Smallsaladlng, punnet	0 4	
Cucumbers .....each	0 6	1 0	Splnach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per hunch	0 2	0 6	Turnlps .....per hun.	0 6	
Horse Radish, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Evergreens, invar. doz	6 0	24 0
—specimenplants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Follage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, perdoz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena vlrldis, doz.	9 0	18 0	Palms in varlety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
,, gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0
Azalea.....doz. bchs.	6 0	12 0
Bouvardias, per bun.	0 6	1 0
Carnations...per doz.	1 0	2 0
Chrysanthemums, doz. blooms	2 0	6 0
,, doz. bunches	4 0	12 0
Eucharis ...per doz.	3 0	4 0
Gardenias 12 blooms	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9
Hyacinth (Roman) doz. bch.	9 0	12 0
Lilac (French) per bch.	5 0	6 0
Lilium Harrisii, doz. blooms	6 0	8 0
Maidenhair Fern, 12 bs.	4 0	6 0
Marguerites, 12 bun.	1 6	3 0
Mignonette... 12 bun.	3 0	4 0
Narciss (French) doz. bch.	4 0	5 0
Orchid Bloom in var. per bloom, from	0 3	1 0
Pelargoniums 12 sps.	0 6	0 9
Pink Roses...per doz.	2 0	4 0
Pyrethrum doz. bun.	2 0	4 0
Primula, double, bun.	0 6	0 9
Roses, yellow, dozen	2 0	4 0
— Red..... doz. blms.	1 0	1 6
— Tea ..... per dozen	0 6	2 0
Scarlet Geraniums, doz. bchs.	5 0	6 0
Tuberoses, per doz	0 4	0 6
Violets (French) Parme, per bch.	2 0	3 6
Violets (French) Czar, per bch.	1 9	2 0
Violets (French) doz. bch.	2 0	2 6
Violets (English) doz. bch.	1 6	2 6

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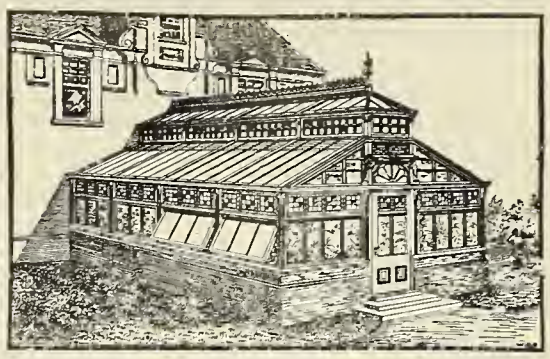

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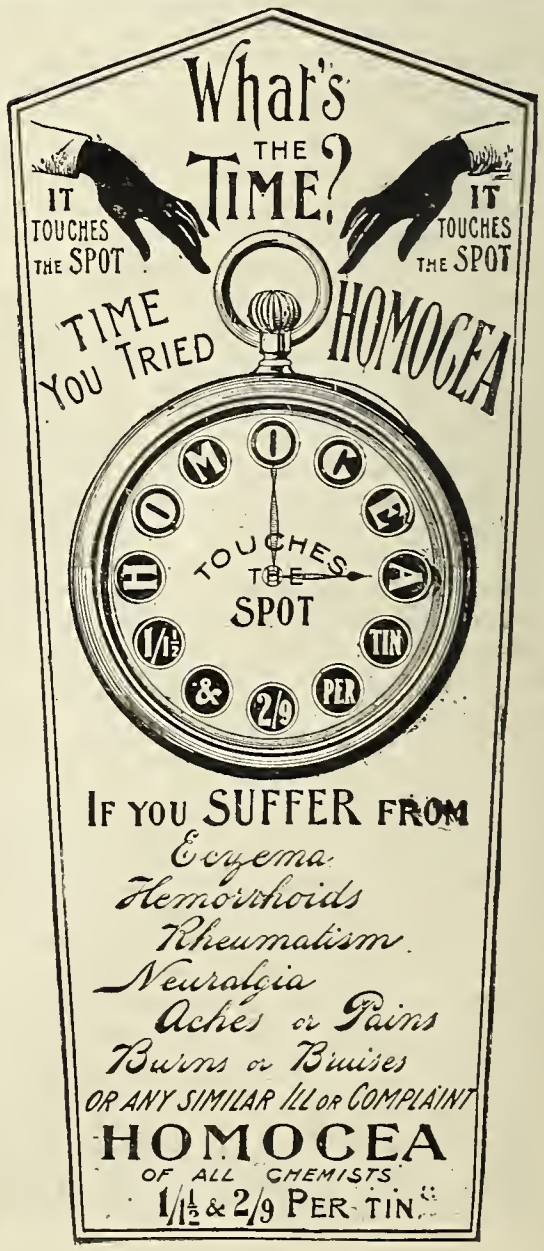

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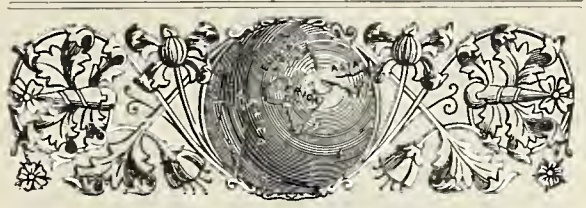

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 22nd, 1894.

EFFECT OF SPRAYING WITH FUNGICIDES ON FRUIT TREES.—Pears, Plums, and Cherries in the United States are affected with fungoid diseases termed leaf blights, and Apples are subject to another termed powdery mildew. Even in the nurseries where the young stock is raised these destructive fungi are productive of serious consequences, by destroying the foliage of the trees, thereby stunting and injuring their growth. The professors of the Division of Vegetable Pathology, of the U.S. Department of Agriculture, undertook a series of experiments with the view of testing the effect of repeated applications of fungicides upon the growth of the trees. These experiments were carried on for a space of two years, till the trees were considered to have attained a saleable condition. During this time the Apple trees were unusually free from mildew, and did not show sufficiently appreciable effects to warrant any calculations being made as to the benefits derived from spraying; so that attention was chiefly centred upon the Pear, Cherry, and Plum trees. Two kinds of stocks were used on which to bud Pears—namely, Japanese and French seedling Pears, which were planted alternately even in the same rows so that they might be subjected to the same cultural conditions in similar soils. Plots of trees were set apart to be sprayed with fungicides, while others were left to their own resources without treatment, by way of control and comparison with the treated ones. The stocks were treated during the summer previous to their being budded, but, whether they received treatment or not, the Japan Pear stocks showed their superiority in vigour over the French ones.

The fungicides employed were Bordeaux mixture, ammoniacal solution and potassium sulphide solution. The first-named consisted of 6 lb. of copper sulphate, 4 lb. of lime, and 22 gallons of water, and proved by far the most effective as well as most beneficial to the healthy development of the trees. The second was an ammoniacal solution of copper carbonate consisting of one quart of ammonia, to 3 oz. of copper carbonate, diluted with 30 gallons of water. The growth of Pears, Cherries, and Plums, but particularly of the first two, was materially increased by the use of the Bordeaux mixture, as shown by the weight and height, as well as the girth of the trees and the number of branches. The foliage was not injured in the slightest. Here, as in other cases, five, six, and seven applications of the fungicides were given during the course of each of the two years; only in the case of one variety of Pears did the French stocks show an advantage over the Japan roots. Independently of its merits as a fungicide and insecticide, the Bordeaux mixture seems to act in some way as a fertiliser, or something similar, which has not as yet been explained. The plots that received seven applications showed better results in some cases than those which were treated only five times. The untreated Pear, Cherry, and Plum trees were dwarfer, thinner in the stem, and had to a greater or less extent lost their foliage through the effects of fungi. Those which were sprayed with the ammoniacal solution were slightly better, but the fungicide generally produced an injurious effect upon the foliage independently of the fungi, so that the Bordeaux mixture is to be preferred. During the course of the first and second summer, the cost of treating 1,000 trees did not exceed 6½d.; but owing to the greater size of the trees during the third summer, the cost was 2s. 6½d. to 2s. 9d. per 1,000, making a total cost of 3s. 6½d. to 4s. 2d. till the trees were two years old, and fit to sell.

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ADVANTAGES AND AMENITIES OF SPRAYING.—It is occasionally asked whether the frequent spraying of trees with fungicides or insecticides would not exercise an injurious effect upon the soil, and the plants in it, as well as exercising an unwholesome effect upon the fruit of the trees. It has been repeatedly shown by chemical analysis that the fruit of properly sprayed trees and vines is perfectly harmless even when eaten in quantity. As to the trees themselves it has been amply demonstrated that five to seven applications of the Bordeaux mixture to nursery stock of fruit trees, not only check the ravages of fungi, but exercise a distinctly beneficial effect upon the healthy vigour of the trees. This must increase the marketable value of the trees, and in the experiments above recorded the enhanced value of 1,000 Pear or Cherry trees was £2 14s. 2d. on an average, while in some cases the increased profit rose to £8 6s. 8d. The ravages of fungi and blights are not usually so important in this country as to necessitate systematic spraying but insects often enough prove harmful, and might be subdued in the case of mandibulate species by means of the Bordeaux mixture, Paris Green, or London Purple. These operations would prove more serviceable in the case of fruit-bearing trees in gardens and orchards. Here the Bordeaux mixture would also act as a fertiliser, independently of its properties as a fungicide or insecticide. Whatever its influence upon the functions of certain plants, it has been determined that it increases the quantity of sugar in grapes that have been sprayed for mildew, and in Beet that has been treated to stay the ravages of a Peronospora. Paris Green and London Purple can be rendered harmless to foliage by the addition of a little lime to the solution, and if they have no distinct fertilising effect upon the trees, the

latter must benefit largely by the destruction of the caterpillars of the Winter Moth and others that must inevitably weaken them by destroying the foliage. The increase of good fruits insured by the action of spraying cannot be ignored when making an estimate of the value of spraying.

Mr. Alfred Outram, who for the last twenty-three years has represented Messrs. B. S. Williams & Son as traveller, has, we understand, relinquished his engagement with the firm, and seeks another engagement.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., have just opened a commodious and handsomely appointed West End establishment at 169, Piccadilly, W., to meet the requirements of the floral and decorative branch of their business.

A Colossal Oak.—One of the largest and oldest trees that exist in Germany is an Oak found near Brandenburg at Dahlen, not far from Berlin. The trunk measures 26 yards in circumference. The tree was planted about 1436.

The Devon and Exeter Horticultural Society's Shows for 1895 are announced as follows:—Rose Show and General Summer Flower Show, June 28th; Fruit and Chrysanthemum Show, November 7th and 8th. The Devon and Exeter Gardeners' Association Hyacinth and Spring Flower Show will be held on Wednesday, March 20th.

The Manchester Botanical Society's Exhibitions in 1895 have been arranged to be held as follows:—Spring Show in the Town Hall on March 15th and 16th, and in the Gardens at Old Trafford, on April 27th. The Annual Whitsuntide Show will be opened on May 31st. A Rose Show will he held on July 20th, and a Chrysanthemum Show in the Town Hall on November 22nd and 23rd.

A Large Plane.—There is a large specimen of a Plane in the Botanic Garden at Liege, Belgium, and the *Bulletino della R. Società Toscana di Orticultura* speaks of it under the name of Platanus occidentalis, but we think it more likely to be P. orientalis acerifolia, which is known on this side of the North Sea as the London Plane. The girth of the tree in question near the ground is about 16 ft., or slightly over.

Helianthus lenticularis.—Considering the favour with which Sunflowers are received at present, that under notice should prove an acquisition. It was introduced from North America in 1893 by MM. Vilmorin Andrieux et Cie, of Paris. When planted out in a good position the plant will attain a height of 12 ft. in a season, forming a perfect pyramid, adorned from the base to the summit with flowers of medium size and of a brilliant yellow. The *Bulletino della R. Società Toscana di Orticultura* says it is of inestimable value for the adornment of large parks.

Nepenthes bicalcarata in Flower.—At the last meeting of the Scientific Committee, Dr. Masters showed specimens of the flowers of this plant, which has not been known to blossom in this country before. The inflorescence is an umbel, and not an elongated raceme, as in other species. It was received from the Edinburgh Botanical Gardens.

Royal Botanic Society.—At the annual Meeting in August last a resolution was carried recommending the Council to consider the expediency of opening the gardens to the public on week days on payment at the doors. The Council has since decided to so open the gardens on Whit Monday in next year, Many of the Fellows, however, deem this concession wholly inadequate. Mr. J. S. Rubinstein, for many years an hon. auditor, and by whom the original resolution was brought forward, has accordingly given notice that at the general meeting on Saturday, January 12th next, he will move that after the 1st March the gardens be opened on Monday, Thursday, Friday, and Saturday in each week on payment of 6d. on Mondays, and 1s. on the other days.

Royal Agricultural and Horticultural Society of Ghent.—The programme of the 161st exhibition of this society is now published, and indicates that the show in question will take place on the 21st, 22nd, and 23rd of April, 1895. Prizes are offered in 217 classes for exhibits of the most varied kind, including Orchids, new plants, stove and greenhouse plants, palms, Cycads, ferns, ornamental subjects of large size, flowering plants such as Clivias Amaryllis, Lilies, Cyclamen, Gloxinias, tuberous Begonias, Pelargoninms, Irises, Carnations, &c. Groups of ten to forty plants of Rhododendrons and Azaleas in flower will also be a feature as well as flowering shrubs, and various specified classes of plants. The prizes will consist wholly of gold, silver-gilt, and silver medals of various values, according to the exhibits.

Shirley Gardeners' and Amateurs' Improvement Association.—The monthly meeting was held at Shirley, Southampton, on the 17th inst. Mr. B. Ladhams, F.R.H.S., presiding over a fair attendance of members. A paper was contributed by Mr. Jesse Jones, The Gardens, Terrace House, Southampton, on the "Cultivation of the Eucharis," illustrated by some excellent, photographs of a group and specimens from plants under his care. The soil, potting, temperature, watering and stimulants were each considered, and too frequent potting condemned. His specimen, which was in the best of health, had not been repotted for seven years. Directions were also given for the treatment of bulbs, which had become diseased. The "Eucharis Mite" as a first cause of damage to plants has no place in Mr. Jones' belief, but rather that bulbs which have been allowed to get into a state of decay from improper treatment will develop insect life is a certainty. A number of interesting questions were put to Mr. Jones and answered satisfactorily, and a very hearty vote of thanks was accorded to him for his exhaustive paper.

Bristol Amateur Horticultural Society.—The first annual general meeting of this Society was recently held at the Colston Hall, the chair being taken by the president, Councillor J. Walls. The secretary and treasurer presented their reports, which showed that the Society had made a very successful start, and had much increased in membership; their finances being also in a satisfactory state. An interesting address on the aims and objects of the Society was given by the president, and the prizes won at the recent Chrysanthemum Show, as also at the smaller monthly friendly exhibits of the Society, were distributed by Mrs. Walls. The resignation of the chairman of committee, Mr. Leonard M. Day, due to the pressure of other engagements, was received with regret, and he was awarded a hearty vote of thanks for past services. Messrs. W. E. Turner and Ernest G. Machon were re-appointed as secretary and treasurer respectively for the ensuing year. An excellent programme for the monthly meetings was submitted, and included lectures from many gentlemen well known as distinguished horticulturists.

Royal Gardeners' Orphan Fund Concert at Altrincham.—The Annual Concert, organised by the Altrincham Gardeners' Improvement Society, in aid of the Royal Gardeners' Orphan Fund, was held at the Literary Institute, Altrincham, on Wednesday evening, the 5th instant. For such an eminently charitable purpose it was only to be expected that the public would signify their sympathy in a practical manner, and the result was that the large hall was packed to its utmost capacity. Several ladies and gentlemen, well known in the musical world, and the splendid band of the Altrincham Orchestral Society, kindly came to the assistance of the Committee, and their efforts met with hearty approval. From a musical point of view the concert was a grand success, and financially it exceeded all expectations, as, after paying all expenses, there was a balance of £50 10s., which sum has been forwarded to the Hon. Secretary, Mr. A. F. Barron. This is our third annual concert. Two years ago we raised £20, last year £35, and this year the handsome sum named above. The Committee worked hard to achieve this splendid result, and they are highly gratified with the success which has attended their endeavours. If other Gardeners' Improvement Societies organised entertainments on similar lines the funds of this most deserving charity would be considerably enlarged.—*Chas. Hewitt, Hon. Sec. and Treasurer.*

The Original Discovery of Insectivorous Plants.—Concerning this discovery some correspondents have been contributing notes to the *Revue de l'Horticulture Belge*. More than a century ago M. Diderot wrote in the *Elements de Physiologie* that the "Dionea of Carolina (Venus Fly-trap) has leaves spread upon the ground, and has hinges; these leaves are covered with papillae; if a fly places itself upon a leaf, that leaf and its companion close like an oyster, feel and guard their prey, suck it and only reject it when exhausted of juice; here is a plant almost carnivorous." According to the opinion of another writer the phrase "carnivorous plant" belongs to Diderot; he was the first to find it, but it was an English naturalist named Ellis who in 1765 related to Linnaeus the special mode of nutrition of the leaves of the Dionaea, and who supposed that the plant nourished itself, perhaps, with the insects imprisoned between the lobes of the leaf. The great Swedish botanist believed him that the leaf released the insect when it no longer struggled. The observation of Ellis and the phrase of Diderot were confirmed by Curtis in 1834; by Cauby, the American botanist, in 1868; by Dr. Burdon-Sanderson in 1873; and, at last in 1875, the illustrious Darwin demonstrated in a defined manner how the capture of insects is effected, as well as the digestion and absorption of their bodies.

Agathea coelestis.—Any plant that possesses a fairly robust constitution, and will flower freely throughout the whole of autumn and winter's short dark days, is worthy the special attention of every gardener. More particularly is this the case when the flowers boast of such a lovely azure hue as do those of Agathea coelestis. The ranks of winter flowering subjects have it is true been considerably augmented of late years, further additions are constantly being made. Still there is even now a decided lack of blue flowers. As to the probable reason for this we will not at present venture an opinion, the fact, however, remains that it is so. While the plant may be had in bloom all the year round, it is as a winter flowering subject that it is of the greatest service, for during summer there are many showier plants to take its place. If a batch of cuttings are put in during spring, fine sturdy plants of bushy habit ranging from a foot to eighteen inches in height may be obtained that will bloom away as if they really liked it, no matter what the weather may be. While it is desirable to strike the cuttings in a gentle heat, once they are rooted an ordinary greenhouse temperature will amply suffice; indeed, they may be grown out of doors all the summer with the best results, although they must be housed before the advent of frost endangers their existence. A mixture of loam and leaf soil, with sufficient sand to keep the soil open, will suit them very well, for in this as in other matters relating to their culture, they are by no means difficult to please. They need abundance of water, and when the pots are filled with roots a few doses of manure water will be found to be very beneficial.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

The fourth annual dinner of the members and friends of this Association took place on Wednesday evening of last week at the Guildhall Tavern, E.C., when a large company of ladies and gentlemen sat down under the presidency of Mr. T. W. Sanders, and a very pleasant social evening was spent by all present. The usual loyal toasts having been duly honoured, the toast of "The National Amateur Gardeners' Association" was proposed by the President, who congratulated the members on the steady progress the Society was making and the good work it was doing in promoting a knowledge of the principles and practice of horticulture amongst a class which received but scant consideration at the hands of more pretentious horticultural societies. During the past year they had, as before, lost some members from various causes, but those losses have been fully compensated for by the accession of new members. They had, moreover, increased their stock of experience and greatly extended the measure of enjoyment which the members obtained from the subjects exhibited and the papers read at the monthly meetings. In addition to their individual membership roll, there were seven other societies affiliated with them, and they had branches also in Liverpool and New Zealand, but still they could do with more, and he hoped every member would do his or her best towards strengthening the Association by bringing in new members. Their monthly meetings during the year had been well in

advance of previous years, both as regards the character and excellence of the papers read, and the quantity and quality of the exhibits brought forward, and in regard to the latter undoubtedly their standard of merit had been raised to a very appreciable extent, and it was much more difficult now to obtain the maximum number of marks than heretofore. From an educational point of view this was a great gain, and in time would not be without its effect in enhancing the importance of the Society's operations. For the forthcoming year the Committee had arranged an excellent syllabus, and they had also been enabled to extend their prize list. In conclusion, Mr. Sanders paid a warm tribute of praise to the services rendered to the Society by the Secretary and Assistant Secretary, Mr. D. B. Crane and Mr. Rowberry, and the Treasurer, Mr. Needs, all of whom had worked hard in the past, and would, he felt sure, work harder in the future to make the Association useful to those amateurs whose interests were neglected by the older societies.

The prize distribution was then proceeded with, each of the recipient of awards being received with loud applause. The other toasts were—"The President, Vice-Presidents, and Officers of the Association," "The Ladies," "The Prize-winners," "Exhibitors and Donors of Prizes," "Kindred Societies," "The Committee," and "The Press."

BERRIED SOLANUMS.

At the present season of the year these ever popular plants form conspicuous objects in many a greenhouse, as well as being utilised to a very large extent in the decorations consequent upon the arrival of the time-honoured Christmas season. It would be difficult indeed to find any establishment where a few of them are not grown. Their brilliant scarlet or yellow berries form a most pleasing contrast to the healthy dark green hue of the foliage: accordingly it is not to be wondered at that they enjoy so large a share of public esteem. The two species most commonly seen would seem to be very closely allied to each other. Solanum capsicastrum or the "Star Capsicum" as it is commonly called, is a native of Brazil, and attains a height of about 2 ft. under cultivation. S. pseudo-capsicastrum, or to give its popular name, "The Jerusalem Cherry," which hails from Madeira, boasts of a somewhat stronger habit, as it grows to a height of some 4 ft. Both plants are well-known occupants of our plant houses. From the latter species several hybrids have been raised, one, S. p-c. rigidum, having bright orange coloured fruits. This is a desirable variety to grow, forming as it does an agreeable constrast to the crimson fruited sorts.

All three are remarkably easy of culture, and are on this account exceedingly good subjects for the furnishing of the amateur's greenhouse. They are great favourites, too, for the filling of vases within doors as well as for the adornment of the windows alike of the cottage and the villa. When used for such purposes, as light a position as possible should be assigned them, otherwise the berries will very soon drop, the beauty of the plant being as a natural result spoiled. Propagation may be readily conducted by inserting cuttings in spring in light, sandy compost, and plunging the pots in a gentle bottom heat, or they may be raised from seeds.

Very good results may be obtained if after all danger of frost has passed away, the young plants are planted outdoors on a warm south border. In such a position they will grow away freely enough, and at the commencement of autumn, may be lifted and potted off in suitably sized pots. This method is indeed preferable to that of growing them on in pots all the year, for, to start with, it minimises the necessary labour to a large extent, one or two waterings, if the summer proves a dry one, being all that is requisite, with of course the keeping of the plantations free from weeds, neither an expensive or a troublesome item of culture. Then again it often happens that from some cause or other, some plants set a much greater number of berries than others, and as the value of the plant necessarily lies in the freedom with which the brightly coloured fruits are produced, it is obvious that it is but a waste of time to pot up plants that are but sparsely fruited. When planted out in the manner suggested a selection of the best shaped and most profusely berried examples may be made, the rest being discarded. When grown on in pots, a selection may also be made it is true but in such cases a great deal of the labour expended will have been lost or will at least yield a scarcely adequate return in the way of a good percentage of handsome and useful plants.

GARRYA ELLIPTICA.

During summer the leathery, dull green leaves of this Californian shrub are passed by amidst the glitter and sheen of hundreds of brighter subjects both in respect to flowers and foliage. The leaves are indeed to some extent glossy, but in the neighbourhood of smoky towns that character is more or less entirely obscured by the deposit of filth from the atmosphere. In autumn, however, soon after the leaves of deciduous subjects have dropped, the catkins of Garrya elliptica begin to develop. Spring is considered the proper time for it to flower, and such would, no doubt, be the case after a severe winter, which keeps it at rest; but the past autumn being so mild, the bushes were in full bloom by the middle of November. The male catkins are the showiest, and from the tips of the shoots develop a tassel or cluster of long, drooping strings of flowers, so to speak, resembling a necklace of peculiarly formed beads. The flowers in themselves are neither large nor particularly showy,

Fruit Spike of Garrya elliptica.

but they, together with the connate and cup-like bracts hanging mouth downwards, are singularly effective. If cut and used for floral decorations, the shoots with their flowers remain in good condition for a long time. The female flowers are produced on different plants, and when the climatical conditions are favourable they give rise to a pendulous spike of black berries as shown in the accompanying illustration. If male and female plants were more often grown in contiguity, fruit would doubtless more often make its appearance than it does at present.

PUBLIC PARKS AND GARDENS; PAST AND PRESENT.

At the fortnightly meeting of the Exeter Gardeners' Mutual Improvement Society, last evening, Mr. F. W. Meyer, landscape gardener to Messrs. Veitch & Son, who recently designed the parks for Devonport and Truro, read a paper on "Public Parks and Gardens—Past and Present." In the first part of his paper Mr. Meyer gave an interesting history of celebrated gardens generally, shewing the gradual development of the art of laying out beautiful grounds. He described the most ancient gardens on record—namely, those of the early Egyptians, the Persians, and the Chinese, and quoted extracts from the Greek writers Herodotus and Diodorus, dealing with the ancient hanging gardens of Babylon, which existed many years before the Christian era. The first public gardens in Europe were those of the Greeks, and the so-called "Akedémy" gardens in the suburbs of Athens, with their "Philosopher's walks," the favourite haunts of Socrates, Plato, and their disciples were mentioned. Roman Gardens were also described, and, after a brief reference to the mediaeval period, the lecturer described the gardens of the Renaissance, and the subsequent Italian and French styles, giving as an example the enormous formal gardens at Versailles, with their miles of clipped trees and stupendous terraces and fountains, which, in spite of all their pomp and splendour, were so depressing and monotonous that even Louis XIV., who had them constructed, soon tired of their formality, and retreated to the more modest and secluded Trianon.

Dealing next with modern gardens in the irregular style, Mr. Meyer said the present generation had learnt to appreciate the beauty of form in nature, and the modern landscape gardeners therefore tried their best to develop in their works a style of natural beauty, which could be practised successfully only by those who had closely studied the subject. The cradle of this natural style was China, and it was a remarkable fact that a country generally considered to be several centuries behind the times should in this respect be so far advanced. The first European country to adopt the natural style was England, and from there it spread all over the Continent. Public parks and gardens should be places of enjoyment where the people could breathe pure air, where they could find repose and recreation after their daily toil, and where among tasteful arrangements of plants and flowers they could learn to appreciate the beautiful in Nature, and educate their taste and refinement by studying the effect and development of plant life, and acquire in addition a most useful knowledge of plants generally. Modern public gardens on the Continent were dealt with at some length, including the public park and Botanical Gardens at Brussels and Antwerp, the Bois de Boulogne in Paris, the new public grounds at Zuric, the phenomenal glacier garden in Lucerne, the Theirgarten and Humboldshain in Berlin, all of which Mr. Meyer was able to speak from personal experience. With regard to public parks and gardens in England, the lecturer considered that in London Battersea Park was the best, while as an educational field Kew Gardens far surpassed all others.

Speaking of Devon and Cornwall, Mr. Meyer said it was to be regretted that in counties so favoured by Nature the public parks and gardens should be, generally speaking, so far behind the times, and, as a rule, be planted with common rubbish. He mentioned Kimberley Park at Falmouth as a notable exception. The Morab Gardens in Penzance contained many good plants, but they were spoiled by too many needless walks. In Torquay a praiseworthy effort was made to introduce into the new public gardens beneath the cliffs some rare and handsome plants, but their effect was utterly spoiled by the tasteless arrangement of artificial rockwork. The magnificent natural rocks had been plastered with cement and studded with a profusion of white spar; but the crowning piece of folly was a large slab from which an ugly and most unnatural looking waterspout fell over the glaring white stones. He was strongly against defacing such natural beauty, which he considered little less than a crime. Mr. Meyor humorously suggested that the designer of this "Torquay Niagara" deserved to be punished by being put into a cage in front of his work and made to look at it for the rest of his life. With regard to public pleasure grounds in Exeter, the lecturer severely criticised the Belmont Gardens in the higher part of the city, where the plantations consisted mostly of common Laurel, and where a great portion of the ground was bare of grass, and the paths were in a deplorable condition. Northernhay might be made much more attractive if some of the rubbish on the lower slopes were cut away, and better plants substituted. Bury meadows had at least the advantage of a nice piece of grass on which children could play, but the heavy looking evergreen shrubs all clipped into correct beehive patterns did not add to its attractions.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids received Awards according to merit from the Royal Horticultural Society on the 11th inst.:—

Cypripedium Swinburnei magnificum, *Nov. var.*—The parents of this hybrid form were C. Argus Moensii and C. insigne Maulei, the former being the seed bearer. The upper sepal is roundly ovate, but revolute at the sides, thus reducing its apparent size. The ground colour is pale greenish and evenly spotted with brownish-purple in lines, and white at the margin and apex. The oblong, slightly declining petals are 2½ in. long, yellowish on the lower half, conspicuously blotched with blackish-purple, and pale purple on the upper half. The lip is of large size, rather depressed or flattened above, greenish, and heavily shaded with purple round the mouth. The strap-shaped leaves are grayish-green, with dark green reticulations, and the vigour of the plant may be judged from the fact that the scape was 2 ft. high. Award of Merit. Exhibited by T. W. Swinburne, Esq., J.P., Corndean Hall, Winchcombe, Gloucestershire, and E. Ashworth, Esq. (gardener, Mr. E. Holbrook), Wilmslow, Cheshire.

Cattleya guttata Prinzii Viscount de Figueiredo, *Nov. var.*—The sepals of this beautifully distinct variety are oblong and creamy-white, spotted with bright purple, while the elliptic-oblong petals are even more brightly spotted with purple. The tube of the lip is also creamy-white, with deep purple tips to the lateral lobes; the terminal lobe is reniform with a broad claw, corrugate, and deep amaranth-purple. There are three red spots at the apex of the column. The typical C. g. Prinzii has the ground colour of the sepals and petals of a pale rose-purple suffused with yellowish-white. Award of Merit. Exhibited by the Right Hon. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring.

Laelia Euterpe, *Nov. hyb.*—The seed parent of this hybrid was L. crispa superba, and was fertilised by L. pumila Dayana. The oblong sepals are blush and the ovate petals are a shade darker, crisped at the edge, and rolled back at the edges near the base, giving them a rhomboid appearance. This latter character is doubtless due to the seed parent. The tube of the lip is similar in hue, deepening to pink at the edges; but the lamina is elongated, much undulated, and as well as the side lobes of a crimson-purple with darker veins. The throat is creamy-white, lined with purple, but especially along the centre where the veins approximate, much as is the case in L. crispa. The shape of the petals is that of L. pumila. Award of Merit. Exhibited by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Cypripedium William Lloyd, *Nov. hyb.*—This was raised from C. bellatulum crossed with Swanianum, and is notable for its rich colours. The scape is 6 in. to 8 in. high. The upper sepal is round or transversely oval, heavily shaded with vinous purple all over except at the tip, which is white, and the veins are of a darker hue. The petals are oblong-spathulate, 2 in. long, rosy-purple all over, and densely spotted and warted with deep purple for three parts of their length, but most intensified at the base. The lip is blackish-purple, and similar in shape and hue to some of the finer forms of C. barbatum. The staminode is reniform and dark, sanguineous purple with a pinkish edge. Award of Merit. Exhibited by Mr. P. Weathers, Silverhall Nursery, Isleworth.

Schomburgkia chion dora Kimballiana.—The type of this very uncommon species has white flowers with a purple spot on the lip, and was introduced from Central America in 1886. The variety under notice has warm, bright rose sepals, and petals with a darker rosy-purple lamina to the lip, and was introduced in 1888. The sepals are oblong, the petals spathulate, and all are wavy. The lip is three-lobed, toothed at the edges, and the lamina is bifid; numerous purple edged lines run along the centre. The pseudo-bulbs are fusiform, about a foot long, covered with scars, and similar to those of Epidendrum bicornutum. The flower scapes vary from 2 ft. to 2½ ft. high, are branched, and bear numerous flowers of a tint very different from those generally seen in cultivation. Award of Merit. Exhibited by Messrs. Hugh Low & Co., Clapton.

Masdevallia Peristeria.—The flowers of this rather interesting species are broadly and shortly cylindrical, and rather fleshy. The free portions of the sepals are triangular and pale yellow, densely covered with numerous very small, purple warts, they terminate in tawny-yellow stout tails 1½ in. long. The oblong, erect petals are pale yellow, and the relatively large lip is tongue-shaped, and covered with purple papillae. Botanical Certificate. A fine dark variety was shown by the curator of the Royal Botanic Gardens, Glasnevin.

Bulbophyllum mandibulare.—This singular species was first described by Reichenbach in 1882, and comes from Borneo. The leaves are oblong-elliptic, leathery, 8 in. to 12 in. long, and borne singly on the small pseudo-bulbs. The scape of the plant shown was 18 in. long, and carried two flowers. The upper sepal is oblong and dusky-yellow; the lateral ones are united by their contiguous edges, strongly keeled along the midrib of each, similar in colour to the upper one, but slightly tinted with red. The petals are oblong-elliptic, half the length of the sepals, and dark reddish-brown, with deeper veins. The tongue-shaped lip is yellow, covered with purple papillae. Botanical Certificate. Exhibited by C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham.

Orchids from Balmedie.—A large boxful of blooms, consisting chiefly of Cattleya labiata and varieties of Cypripedium insigne, has been sent us by Mr. Wm. Hutchinson, gardener to W. H. Lumsden, Esq., of Balmedie, Aberdeenshire. The flowers of the Cattleya were notable for their size and firmness of texture, the latter quality seems to be peculiar to individuals to a certain extent, for some of them were distinctly more leathery, so to speak, than the rest, although no fault could be found with any in this respect. In most cases the petals were slightly reflexed and relatively rigid, the wavy petals of some assumed a stiff ascending direction, while others were spreading and recurved above the middle. The lamina of the lip in nearly every case was dark crimson-purple, and in some cases was of huge size. Though none were distinct enough to bear a special name, we should speak of the whole as good and showy representatives of the type. The flowers of Cypripedium insigne were above the average size, leathery in texture, and showed a considerable amount of variation in the amount of spotting and colour generally. In two cases four central rows of spots were notable for the size of the blotches, which extended on to the white portion at the top of the upper sepal, while sepals and lip were very dark. About half of the dorsal sepal was white in another case with numerous small purple spots upon the white portion, while a third had no spots on the white portion, which was equally extensive. Accompanying the others was a good form of Laelia pumila, a variety of Cypripedium Spicerianum, and some flowers of Dendrobium aqueum, better known as D. album, all in good form. A flower of Lycaste Skinneri alba was notable for size, and the leathery character of both sepals and petals. The throat of the lip was pale sulphur, and the crest slightly darker.

THE PLANT HOUSES.

The Stove.

We have now come to about the middle of the dull season, and plant life is, as a natural consequence, in many cases well-nigh dormant, whilst in all instances root action is considerably lessened in vigour and effectiveness, excepting, as a matter of course, those plants which are being forced. Even in this latter instance, it takes a deal more time and trouble to induce any plant to produce flowers at so lifeless a time of year, than it does when the season is a little farther advanced. This difficulty will, however, be considerably modified during the passage of the next few weeks; as the days soon lengthen perceptibly, once the New Year has turned, and it necessarily follows that increased light means an increased stimulation to plant life.

Many of the stove fine foliage subjects need but comparatively little water during the winter months, although they must never be allowed to get dry. The quantity of water given must be decided by circumstances; the vigour of the plant has to meet with serious consideration, as well as the state of the weather, amount of fire-heat applied, etc. All successful cultivators have found out by practical experience that plants have individual requirements as well as persons, it therefore follows that those who are most succcesful in the treatment of decorative subjects are, as a rule, those who study most closely the individual requirements of the plants under their charge, and who, as a natural result, endeavour to supply these particular wants.

The minimum night temperature in the stove should now range from 58° to 60° Fahr. Air must be given by means of the bottom ventilators whenever it is practicable to do so. During foggy periods, however, the house must be kept shut as closely as possible, and the atmosphere must on no account be allowed to get dry. We have so far this season experienced a comparative immunity from these dreaded fog visitations, a fact upon which every plant cultivator may well congratulate himself; however, as the old proverb says, "we must not crow until we are out of the wood," and we most decidedly are not "out of the wood" as yet.

Continue the cleaning of all plants infected by insect pests, for the presence of thrips, scale, mealy-bug, etc., is strikingly illustrative of bad gardening—of a screw loose somewhere, as we have heard old gardeners term it. The best of plants may soon be ruined if neglect with regard to their cleanliness is tolerated.

Greenhouse and cool Conservatory.

The gardener often views the close approach of the festive season with anything but a feeling of comfort, for in very many instances it means a great deal of extra trouble in the way of decorations, this department often being severely taxed to produce the necessary material. It is, to say the least of it, decidedly provoking for a gardener to see his plants standing for several days, as is often the case, in a cold church or lecture hall, particularly if the weather at the time chances to be of an inclement nature. Where decorations are extensively carried out, the flowering plants have often to be considerably mutilated in the attempt to keep pace with the demand for cut bloom. The wise gardener will have made his preparations with regard to supply as complete as possible. Late flowering Chrysanthemums are, of course, a boon, and a few plants of white varieties will prove invaluable. These, too, may be supplemented to a considerable extent by Hyacinths, Narcissi, Freesias, and other bulbous subjects, while Azaleas, and Camellias amongst the hardwooded, and Salvias and Primulas amongst the herbaceous sections, will be of inestimable service.

Keep the atmosphere in the greenhouse as sweet and wholesome as possible, ventilate freely whenever an opportunity presents itself, taking care, however, to avoid draughts. The house should not be left open too late in the afternoon, for if closed somewhat early, the necessity for hard firing at night may be to a large extent obviated. A night temperature of from 42° to 45° Fahr. will be found to be the most suitable, although during very severe weather an occasional drop to 40° will no do harm whatever.

Continue the judicious application of weak liquid manure to such plants as need stimulation—watering in all cases being performed in the morning, that is to say between the hours of 10 a.m. and 12 noon. This allows sufficient time to expel a great part of the moisture in the atmosphere, which if not dissipated must inevitably result in harm to the plants, particularly in the case of low night temperatures prevailing.

Pits and Frames.

Shifting Plants.—This is an operation that requires not a little care and consideration, for, as may readily be imagined, to convey flowering plants that have been carefully nursed in a warm and growing temperature, to the show-house, particularly if this is situated some little distance away, is often attended with considerable risk, if cold and nipping winds prevail. It is advisable, therefore, to afford the subjects thus conveyed some shelter from the unkindly elements during the period of transit. For this purpose nothing is better than a covered in hand-barrow, an indispensable article where a great deal of shifting has to be performed during the winter months. Staking, where necessary, should in all cases be performed before the plants are removed, or they will be extremely liable to sustain

injury from the jolting, which carefully as they may be carried, they have to endure in a greater or less degree during the journey.

A little care and attention must be exercised in the management of forcing pits containing fermenting material for the plunging of those plants which are being subjected to forcing. The atmospheric temperature must be in proportion to that of the plunging material. The mean of the latter should exceed by several degrees that of the former. Thus, if the bottom heat is 75° Fahr., or thereabouts, the atmospheric temperature should range from 64° by night, to 72° by day, or 75° with sun-heat. Pits of this kind are very suitable for the forcing of Roses, Azaleas, and indeed the generality of hard-wooded subjects, the introduction of which, as mentioned in a previous calendar, must be executed with an eye to the forming of suitable successions.

Cold frames, also, must on no account be neglected. Whenever a favourable chance occurs, their inmates should be thoroughly looked over, and all dead leaves picked off, all moss removed from the surface of the soil in the pots, and the ashes on which they stand raked over. But little water will be required by the majority of the plants, and what little is needed must be judiciously given, for, should frost at any time find its way into the frames, the dryer the atmosphere, the less likely will the plants be to sustain injury. In such cases, moreover, the frame must be kept closely covered for a day or two to admit of a gradual thaw, otherwise the consequences may be of a rather serious nature.—*A.S.G.*

THE ORCHID HOUSES.

White Scale on Cattleyas and Laelias.—Advantage should be taken of the dull winter months where there is very little that can be done in comfort outside, to thoroughly clean the stages and walls of all dirt and the plants from all insect pests, for during the busy summer months, unless there is plenty of help, they are sure to become infested little or much with that destructive pest, the white scale. I say destructive, because if left undisturbed, they will soon suck the very life out of the plants. They are most artful, too, in their mode of attack, selecting, as they do in most cases, the undersides of the leaves and the inside of the bracts that envelope the bulbs, and where left to their own devices for long will work down amongst the roots, and when they do, the difficulty of getting rid of them is increased two-fold. When talking to an enthusiastic amateur on this subject recently, I was asked how we managed to keep it in check, as he had found some difficulty in keeping it under, and I replied, by simply sponging, especially when they are located in the apex of the bulbs, or along the rhizome. For this purpose we use an old tooth brush, than which there is nothing better. It beats the pointed stick with a bit of sponge on the end hollow, as the work is done quicker and more effectually without damaging the plants in the least. Rain water with a little soft soap added is, we think, the best solution to use when sponging, but the addition of soap, unless the water is hard, is immaterial, as the lather caused by the friction hampers the work somewhat.

Imported Plants.—I fear the primary cause of so many plants being infested with this scale, is the laxity shown with newly-imported plants. Before potting up, they should be thoroughly cleaned, and every rotten bulb, leaf, or decayed root, be cut away. If this is done and the plants are treated in a rational manner afterwards, the trouble with them would be reduced to a minimum,

Yellow Thrips.—Do they cripple the spikes of Odontoglossums? is a question often asked, but there can be no doubt whatever about it, and what is more, they will, in time, kill the plant outright if not got rid of. We have had our ups and downs with this beautiful class of Orchids, and like most people, have had to pay for our learning. The best remedy that I know of, and one I have used for some years, is dipping the plants in a strong solution of Tobacco water. Two pounds of the best Tobacco paper (not rags), will make four gallons, which will kill any thrips that may be about without doing the slightest damage to the plants.

Last October twelve months we bought a batch of semi-established O. crispums which were literally alive with thrips. We turned them out of their pots and removed every particle of material from their roots, afterwards dipping them them about three times in a solution of the above character. They were then potted up into small pots, and since that time they have never looked back, and are now a fine batch of plants just pushing strong spikes.—*C.*

THE VEGETABLE GARDEN.

Horse Radish.

Now that the foliage of this has died down, the crop should be lifted, and after selecting the best growths for kitchen use and storing some away in sand, the others should be laid in at the foot of a north wall, in which position they will keep fresh and crisp for a considerable time. The young slender roots should then be selected for planters. All little rootlets ought to be rubbed off, so that a clean, straight one be left, as such make the best sets. The ground on which Horse Radish is grown cannot be too rich, and if it can be dug two spits without turning up the subsoil the roots are more likely to grow strong, and such are always the most juicy. Many gardeners grow this crop in any out-of the-way corner, but this is a great mistake, for if a little be well grown it will be far better than having a lot of inferior quality. If the ground on which this crop is grown is very stiff, holes should be made 2 in. or 3 in. in diameter and deep enough to take the sets. These holes should be made in rows about 2 ft. apart, allowing 6 in. or 8 in. between them in the row. Some light rich soil should be prepared for filling them in. Horse Radish treated in this way seldom fails to give satisfaction even in the worst of soil.

Store Houses.

During bad weather all roots of every description should be looked over, and any that are found going to decay ought to be at once removed. Place seed Potatos on their ends in order that the growths made may be of a robust character. There is more in this than most people are aware of, for the less the tubers waste their energies on producing worthless sprouts that will have to be rubbed off, the stronger will they grow after being planted. It is a mistaken idea to think that because tubers will keep making new growth after the other is removed this does not weaken them. Such, however, is the fact, as we have more than once proved Early varieties, particularly those that were lifted and stored away soon after growth was completed, start more readily than others remaining in the ground till October; these will need to be examined and spread out thinly at once.

Seakale.

Where a quantity of this has to be forced, the roots may now be lifted, and if these are laid in at the foot of a north wall and afterwards covered with rough litter to exclude frosts, supplies may be drawn from them at any time they are required. The ground can then be dug and prepared for future crops. Seakale is one of those winter vegetables that is always in great demand, and as but little heat is required to induce it to grow, every garden should have a good stock of roots available for forcing. If these are now lifted as described above, there will be no anxiety on the part of the gardener about not being able to force them should the ground become frozen hard.

Peas.

Seeds sown towards the latter end of last month will, owing to the mild weather, be pushing through the soil. A quantity of sifted leaf soil should be ready at hand, and if severe frosts should set in the plants should be covered by spreading this about 2 in. thick along the rows. Should the weather continue mild sprinkle a little lime along them to ward off the snails. Do not, however, tread on the ground in doing so, but place a board alongside the rows, as this will prevent the soil from being carried on to the paths.

Lettuce.

Have everything in readiness to protect the plants in the seed bed that are intended to be transplanted in spring. A very slight protection will often save a crop that might otherwise be lost if allowed to take its chance. Too much coddling should be avoided, as this has a tendency to make the plants tender.—*Kitchen Gardener.*

Gleanings from the World of Science.

Peach Yellows.—This is a disease affecting the Peach and others allied to it, such as the Nectarine, Almond, Apricot and in some cases Japanese Plums. Happily it is but seldom met with in this country, a fact due perhaps to climatal conditions. An extensive area of the north-east corner of the United States is affected by it, and in those regions where the Peach flourishes most luxuriantly, and is most extensively planted for commercial purposes. It takes ten or fifteen years to effect a complete destruction of an affected orchard; but as a rule the progress of the disease is very slow in its early stages, that is, after one or two affected trees have been detected. The disease is slowly spreading farther afield, and when it occurs in a new locality it has generally been traced to young trees which have been brought from an infected district.

The Characters of the Disease.—The presence of the malady may be detected towards the ripening period of the fruit by the premature ripening of the latter and its unusually high colour. The skin is more or less covered with red spots which extend into the flesh as well, rendering it insipid or even bitter, The ripening may take place a few days or even some weeks before the proper time. Again in autumn the affected trees unfold their winter buds forming short shoots, small rosettes of leaves or broom-like growths, all of which are unseasonable and unmistakably indicate the progress of the disease. These latter signs are best seen after the normal foliage has fallen. A lengthy account of the yellows is given with illustrations in the *Farmer's Bullettin*, No. 17 of the United States Department of Agriculture. The broom-like growth that arises after the tree has been labouring under the disease for some years remind one of the so-called witches' broom on the Birch and other trees, or of bunches of Mistleto when the rest of the tree is leafless in winter. Though previously vigorous with green and healthy leaves, the growth becomes stunted, and the foliage in summer assumes a red or yellow hue, the tree gradually becomes less vigorous, and finally dies.

How the disease is spread.—The most common method by which a fungoid disease spreads is the scattering of spores from unhealthy to healthy trees. This is all the more rapidly effected if the fungus produces spores upon the surface and exposed to the action of wind or even a gentle breath of air; and this is usually the case. In other instances, however, as in the case of bacteria and also in the case of some animals such as nematoid worms, the disease is communicated or conveyed by soil or water. The yellows is simply transmitted by budding and grafting. Shoots or buds taken from the most vigorous and healthy shoots of a diseased tree contain the virus of the malady within them in a latent condition, and when placed even on healthy stocks will show the disease, it may be on the first growths made, The buds on the latter develop into unseasonable growths in the autumn, just as the unhealthy tree from which they were taken, does. The stock also gets infected by having a bud from an unhealthy tree inserted upon it. So far as has been ascertained an unhealthy tree will not communicate the disease to a healthy one by mere contact, even if prolonged, of their branches; there must be a union of the tissues. No fungus, bacteria nor animal parasite is known to have any definite relation to the yellows, which is, nevertheless, an infectious disease, though science has been unable, hitherto, to show how it is transmitted except by innoculation. It spreads, however, and finally makes a clean sweep of a healthy orchard. Peach yellows seems allied to what is known as variegation.

Means of Prevention.—The disease first appeared at South Haven in 1869 amongst a few trees in an orchard, and in five years had spread alarmingly. The Michigan Peach growers have been fighting the disease for the last twenty years, and their method is to grub up and burn root and branch of every affected tree. This has retarded the disease to a great extent, but has not, and seems powerless to exterminate it. In other regions where this has not been pursued, Peach growing has in several cases been abandoned. Yet the Michigan growers profitably carry on the cultivation of Peach orchards. Young trees are planted in the places from which the diseased ones were removed, and they prove as thrifty as any others in the orchard. In some States the removal of affected trees has been enforced by a law agreed upon for the common good, and in some cases it has been made a misdemeanor to buy or sell fruit affected with the disease; and this insures the rooting up of unhealthy trees. Manures have been applied, but without any preventive effect upon the disease.

A HOMILY FOR THE CHRISTMAS SEASON.

In one of his books, the late lamented Robert Louis Stevenson says "Little do ye know your own blessedness; for to travel hopefully is a better thing than to arrive; and the true success is to labour." To those who find in the realisation of the thing upon which they may have set their hopes one of the chief delights of life, the philosophy contained in the foregoing sentence may appear harsh, but after all there is something about it which operates to brace up nerve and fibre to the task of doing. To the gardener it may be something worthy of his best endeavours to arrive, but the process of travelling along the way which leads to the end is, to the patient and intelligent worker one of constant revelation, if he be an observant man, and every revelation adds to the store of his knowledge and experience. When he arrives at a point upon the attainment of which he has set his heart, he may be led to think his work done, whereas in the sum of experience it is only the casting up of another column of figures, for the arithmetic of life is an unceasing task at "which we work, and work to our heart's content, till death idly jumbles all together, and rubs all out." There is no *ultima thule* in the experience of a life, it is augmented daily—no man can say he has gained all the knowledge he should acquire, and it is particularly so with the gardener, and especially one who is bent upon raising new forms of beauty in flowers, for ever present in his mind must be an ideal towards which he works, and *that* realised, he instantly conceives another ideal more perfect in detail than the preceeding one, and towards the realisation of that the best energies of mind and body are bent. Thus he travels hopefully with a set purpose before him, and it is through his labour he will find success.

We put the matter thus—that the gardener may find an ever present interest in his garden and the work it finds him to do. Winter brings its round of duties, as does the long days of the benificent summer. The repose of winter, which is to ordinary vision a period of inactivity, is yet absolutely necessary for the garden and all things in it. Try as it may, no human intelligence can keep vigorously active in leaf and flower all the year through. It must have its period of rest, when its natural powers are dormant, but it needs some attention notwithstanding, for success in its culture comes from a round of attentions. In tropical countries, where winter never comes to bring the restorative of a period of rest, there are seasons of drought which answer a similar purpose; and the gardener in the case of many tender plants imitates these conditions in his greenhouse and stoves, for by these and other means every tree and plant must have its opportunity to refrain from growth, and arrest the flow of its juices.

Some plants have, at times, certain appearances which indicate a condition of repose as exhibited in the phenomena designated the sleep of plants. Says Charles Darwin in his book on the "Movement of Plants"—"The leaves of many plants place themselves by night in widely different positions from what they hold by day, but with the one point in common, that their upper surfaces avoid facing the zenith, often with the additional fact that they come into close contact with opposite leaves or leaflets, clearly indicating that the object gained is the protection of the upper surfaces from being chilled at night by radiation. There is nothing improbable in the upper surfaces needing protection more than the lower, as the two differ in function and structure." But there is really analogy between the sleep of animals and the sleep of plants, nor does the latter designate that suspension of the active functions denominated rest. Thus much by way of parenthesis. The repose of winter is then necessary to success in the work of the gardener.

At the Christmas season he may be said to stand in the parting of the ways. On the one hand he looks back upon a season that has brought perchance many disappointments, which may outnumber successes; but failures often occur through the pressure of conditions over which the gardener has no control. He has had to contend with frost when balmy spring weather should have happened, and when it was rightfully his due; he has had heat so early in the year as that tree and shrub leapt forward into activity only to be chilled by cold in May and June; when he wanted sunshine and dryness, mist and dullness with heavy rainfalls have been his heritage; and he has laboured with moderate success. But if he has been faithful to his task he has laboured looking for the time when the original birthright is to be given back to him—a power over the elements, and a command over the material world.

He is looking forward with intermingling hopes and fears into the new year rapidly approaching. What will that bring him? Of labour, much; of success, what portion? Who can tell. So far, winter frost has scarcely touched him, but who can tell how soon the wintry blasts will come from the northern hills, bringing keen and perhaps lasting frosts in its train, And spring invariably comes with halting steps, teaching him the lesson of patience:—

"When Nature falters, fain would zeal
Grasp the felloes of her wheel,
And grasping, give the orbs another whirl."

And there are times when a cry of passionate entreaty bursts from him:—

"Turn swiftlier round O tardy ball,
And sun this frozen side;
Bring hither back the robin's call,
Bring back the Tulip's pride."

The spring season brings one lesson the gardener must learn at once and through the year never forget—a lesson which every garden has taught to every man since Adam and Eve went forth from Paradise. That the work of the gardener embraced two things: one to prepare for plant and cultivate the things he would have grow in the garden; and to suppress and extirpate the plants he would not have grow there—the natural growth of weeds and useless plants.

And then comes the summer, refulgent summer with its glowing days and the luxuriant and exuberant beauty, upon which the sun gleams. It is then success follows hard upon the heels of labour. Has it ever occurred to the gardener to wonder at the apparent wastefulness of this redundant beauty! Probably not a thousandth part of what is thrown broadcast over the face of the earth was ever seen by human eye; and we have reason to believe the lower animals do not possess what we term the sense of beauty. But rains are needed in summer as well as sunshine. They serve important purposes in the economy of Nature, they purify the air; every animal adds some impurity to the air which the rain washes. The driest seasons are by no means the most healthy. A wet summer is often a very healthy one; the air is purified, brightened and rendered healthful by the copious rainfalls, and the impurities carried down into the soil, nourishes the plants the gardener rears. The winds of summer have their benificent uses also. An intelligent gardener once made an interesting experiment; he selected some trees of the same kind of equal age, size and breadth, and planted them very near together. One he secured so that it moved freely when the north or south winds blew, and was stiff and immovable when it came from east or west. After a few years he found the stem of each secured tree oval and not round, and the longer diameter of each was in that direction in which the tree had been freely moved by the winds, and slowest on the sides which were guarded against all motion.

And then autumn, the period of harvest and the treasuring up for future use; the season of reward for labour done. The autumn is said to be the happiest season of the year for the gardener, and those of us who know his patience, perseverance, courage, endurance and devotion to his work, can always desire that the autumn of his life, like that of the year, shall be the happiest part of it.—*R.D.*

PRIMULA FLORIBUNDA.

A batch of this pretty little Primula is at present a pleasing sight in the greenhouse at Kew. Why is it, I wonder, that plants of this description are so seldom seen outside the bounds of botanic gardens? The flowers are of a bright yellow colour, and, although rather small, are produced in great abundance upon the erect growing scapes, which are some 6 or 8 in. in height. The leaves of a beautiful dark green colour are rather deeply toothed and elliptic-lanceolate in shape. The plant is a native of the Western Himalayas, from which it was introduced in or about the year 1883. There can be but little doubt but that it is a real acquisition to the list of suitable greenhouse subjects and one well worthy of the gardener's attention.—*G.*

NOTICES OF BOOKS.

A Manual of Exotic Ferns and Selaginellas: Also notes on their History, Culture, and Management. By E. Sandford London: Elliot Stock, 62, Paternoster Row, E.C., 1894.

This is a cheaper edition of the book written by Mr. E. Sandford, gardener to C. J. Fletcher, Esq., Dale Park, Arundel, Sussex, and published some years ago. The work consists of several short articles on such subjects as basket ferns, fern cases or shades, insects that infest ferns, propagation, the construction of ferneries, soil, potting, preserving and drying fronds, and other topics. The greater portion of the book is occupied with short descriptions, given in an easy style, of something like 1,000 species and varieties of the more popular ferns in cultivation. As there are something like 3,000 known species, it is evident that a large proportion of them have been introduced at one time or another; but as they are scarcely so popular as they were some twenty years ago, it is more than probable that the number of species in actual cultivation in private establishments is smaller than it was then. In speaking of the popularity of ferns from the purely amateur point of view, we do not overlook the fact that the commercial interest has greatly increased in the case of relatively a few ornamental and easily grown kinds which are reared in thousands by the market growers.

The arrangement of the book is alphabetical, and in that respect agrees with most of the modern ones on different classes of garden plants that bid for popularity. A portion at the end of the book is devoted to Selaginellas similarly arranged. In speaking of the method of raising ferns from spores, the author advocates the sowing of them upon small crumb-like pieces of peat in pots or pans. Those who now raise Ferns in large quantities for commercial purposes, use various composts for this purpose, but finely sifted loam is much more largely used than peat; in fact the latter is very little used. Some use a sharp or gritty compost, but in all cases it is fine so as to favour the separation of the prothalli into small pieces when being transplanted. The article on the preserving and drying of fronds must prove interesting to a good many amateurs who wish to preserve fronds for various ornamental purposes and educational utility. Some fronds may be bleached to mix with others of the natural hue when mixed with various dried grasses. A simple method of photographing the outline of Fern fronds without the use of any special apparatus will doubtless commend itself to amateurs who wish to turn the beautiful outlines of their Ferns to various purposes in ornamental design, or even for comparison with other species. Very little of the folk lore of Ferns has been given by the author, doubtless on account of the space it would occupy; but amateurs take special delight in stories attached to the plants they cultivate. The vegetable lamb is apparently the only instance of the kind which has been given.

In his short preface the author makes no pretence to priority of names; but so far as that is concerned and his acknowledged incomplete synonymy we do not complain. Indeed, a host of synonyms only confuses the amateur. But there are some names not recognised by the botanist at all. For instance, Selaginella caesia arborea is only a garden name for S. Willdenovii, which grows to a height of 12 ft. to 20 ft. Then, on the other hand, S. Wildenovii is applied to S. Braunii, a species only growing 12 in. to 18 in. in height. These are, of course, mistakes widely disseminated in gardens, but they should be corrected in books. S. Lyallii is recorded as a species, whereas it is only a variety of S. laevigatum, the latter name being only given as a synonym of the so named S. caesia arborea. S. Kraussiana is said to be a native of South Europe, but so far as that continent is concerned the species is only recorded from Sicily. It really comes from the Cape, Natal, the Azores, Madeira, and some other places. There are also errors of orthography of minor importance, but generally speaking the editing has been carefully done, and the type and printing leave nothing to be desired. The book runs to 286 pages, including the index.

The Fruit Growers' Year Book.—The leading text book of the fruit growing industry. Edited under the direction of the Earl of Winchelsea. London: "Cable" Office, 30, Fleet Street, E.C.

A Shillingsworth of puff.

BIGNONIA TWEEDIANA.

This handsome species was introduced from Brazil in 1838, and was described by Lindley in the *Botanical Register*, t. 45, for the year 1840. The flowers like those of several other species are of large size with a wide tube, and an oblique deeply five-lobed lamina. They are of a uniform clear yellow, and very effective when fully expanded. Occasionally attempts are made to grow it in the open air, but except under the most favourable conditions it does not give great satisfaction out of doors. The greenhouse is really the best place for it, and if this is freely ventilated during the summer months so much the better. Being of a rambling nature it succeeds far better when planted out than if its cultivation in pots were attempted. The roots must, however, be considerably restricted, otherwise the plant will not flower very freely. In this respect it agrees with others of its congeners, and they are exceedingly numerous. It climbs by means of hooked tendrils; but in order to restrict it to the allotted space, the strong leading shoots will have to be tied to the rafters or wires, as the case may be, and not allowed to ramble about at their own free will, otherwise they would soon become unmanageable, and obstruct too much of the light from reaching the plants underneath. After the flowering is over a number of the shoots may be cut away so as to admit light and air amongst those left as well as to reduce the general bulk of the plant. A number of shoots may be left hanging down loosely so as to avoid the formality which close pruning would give. The accompanying illustration shows a bit of a spray in bloom.

Bignonia Tweediana.

A HOLIDAY TRIP TO NORTH WALES.

(*Concluded from p. 250.*)

Snowdon.

As our next excursion is to be a kind of pilgrimage and our Mecca Snowdon, the king of Welsh Mountains, I will invite you to assume that we have arrived at Llanberis, one of the most popular starting-points from whence to ascend this celebrated mountain. It is a lovely morn—this Friday, the 14th of September—although the mists still hang about the mountain peaks, obscuring their contours, and rendering their elevations less distinct. On our left, however, the beautiful lakes of Llanberis known respectively as Llyn Peris and Llyn Pardarn, lie blue and bright in the sunshine and the vale. Beyond the great slate quarries, which somewhat mar the majesty of the scene; but which, at least, give life and animation and work to many thousands who would otherwise feel the pinch of poverty proportionally greater.

The famous Pass is also close by, while on the right, the waterfall comes tumbling down in a fine cataract of about sixty feet. Llanberis has been called the "Chamouni" of Wales, so while we are pondering on the beauties of the place, a tourist similarly knapsacked and alpen-stocked comes up, salutations are exchanged, a pleasant companion is acquired, and the "one touch of nature" ties the silken cord. Our friend is a desideratum; he is a man of experience, he was up the mountain the day before; he is acquainted with foreign travel. So after paying several small "tolls" to wily women for opening gates and dispensing milk, we are, at last, fairly on our pilgrim's progress. But, as we ascend, the mists begin to thicken, and, although we are traversing the flanks of two or three minor mountains we cannot see their ridges. We can, however, hear the distant waterfall, and now and then the boom of the blasters comes up the valley in sonorous sounds.

These wave-sounds inpinging against obstacles in their way produce echoes, and these reverberate again and again until the commotion which produced them has gradually fainted away. The half-way hut is now reached,—*i.e.*, half-way in height,—but the fog is so dense that we can hardly discern it, or the ladies either, who, mounted on sure-footed steeds, await the dispersal of this great check to mountaineering. We, however, push on with care and caution; when, lo! the cloud lifts, the sun peeps out, and we are made aware of an awful chasm nearly 2,000 feet beneath us. We pull up, and take a little light refreshment, which forethought suggested, and without which no mountain climber would care to risk the fever of fatigue. While thus engaged, there is still ample scope for study of surroundings; for contemplation of possible contingencies, and for conversation relative to similar situations.

Now the track turns southward, winds up the steep flank of Carnedd Ugan, one of the buttresses of Snowdon, then turns westward over the ridge, and

passes a spring about 2,800 ft. high, from which we obtain a magnificent view of the apex of the mountain we are in search of. Up, up, up, and here we are on the tip-top of our aspirations! How sublime! Old Sol, himself, welcomes us. Even he extends his glory to greet us. His friendship is decidedly characteristic, if warmth of feeling may be taken as a criterion of good fellowship. Peak after peak of other mountains are distinctly visible; scenes such as are only possible at such elevations now crowd themselves upon us, we are above the clouds; we feel, in fact, elevated. This elevation is due, not to anything we may have imbibed on the upward journey, but to natural causes. We are, then, justified in giving vent to those sensations over which we have no control, and we claim to be superior to those poor mortals who dwell 3,580 feet below us.

In this frame of mind we resolve to assist Nature, and therefore order a cup of Mazawattee, at the wooden shelter, as the best means to attain this end. We pay a superior price; but that is of no consequence, we are superior people. By-the-bye, when Sir Edward Watkin takes his railway to, and builds his hotel upon, the top of Snowdon, all will be well. We again return to Nature, wild, weird, wonderful. We remove the surplus moisture from our brows, conscious that, in Nature, nothing is lost, and that even our superabundance now may, later on, contribute to cloud some mountain moor, or swell some mountain stream. We take another look, and agree with Burke that "the extent of this prospect appears almost unlimited. The four kingdoms are seen at once, Wales, England, Scotland, and Ireland, forming the finest panorama the empire can boast." We look again and again, and then begin the downward path towards Beddgelert. Such is life! Shifting scenes, lights and shadows, mirth and tears.

There are those who find delight in going up Snowdon at night to see the sun rise. Some few sleep there with a like object, although this latter process is, according to bardic tradition, attendant with some evils; to wit, one may awake either a poet or a madman! I fear there is some truth in this quaint alternative, for, though I am certain I did not slumber, I became possessed of a feeling akin to the former, which is, indeed, by some considered to be synonymous with the latter. Thus—

Those who sleep here must early scan the skies,
If they would see the sun in glory rise;
But we descend, and westward bend our course,
While Sol glints all the heights with radiant force.
At every step fresh glories meet our view,
And solemn splendour spreads her feet anew.
Down, down, we go; examine Nature's book,
Or mark the course that ancient glaciers took.
Snowdon, thy craggy crests are still sublime,
Though strangely scarred by rude, relentless Time!

There is no doubt that the ozonic property of mountain air is largely stimulative; hence it excites our nervous systems, and affects, physiologically, our brain centres. At any rate it affected mine; therefore I sue for sympathy, as I have now cooled down, and, I believe, again become quite normal.

Pardon this digression. Now we are on the serrated ridge of Clawdd Coch—a veritable wall—with chasmic valleys on either side, down which we hardly dare to glance. So narrow, indeed, is the path we are pursuing, that it is enough to frighten even the domestic cat, of whose conjuring capabilities you are all doubtless well aware. Having, then, with great caution and feline sagacity footed our way safely over, we begin again to breathe, and are not at all surprised to find on the other side sundry persons who lack sufficient nerve to venture more. Some were much excited and vowed vows; while others, less emotional, expressed content.

Here my guide and faithful Achates departed; he to get back to civilisation with all speed, I to explore the mountains for plants and pleasure. Before he went, however, he told me that he used to speak contemptuously of the monarch of Wales; but that was before he became acquainted with it. So it is in other phases of life; we are often biassed against this or that for want of further knowledge. Being now alone, as it were, my attention soon became absorbed in the

FLORA OF THE MOUNTAIN.

There was much, however, which was unknown to me in this wild elevated region, so that I can only record those things with which I am acquainted. But as this is a very large subject, and the hour-glass runs low, I will be as brief as possible. First of all we will treat of the Club Mosses (Lycopodium), which are essentially Alpine in their habitats. Moreover, they are the oldest representatives of an extinct class, which can be traced back to a far-away period known as the Silurian. They are, therefore, interesting on that account. The Alpine Club Moss is found growing at great heights, while the Stag's Horn Moss declines to ascend beyond 3,000 feet. Several other species occur here, but affect different soils and situations. But if Mosses abound, what shall we say of Lichens? Everybody knows they are ubiquitous—they upholster the hardest rocks.

"Art's finest pencil could but rudely mock
The rich grey lichens broidered on a rock."

The greater the botanist then, the greater the ability to see gardens of beauty where simpler folk would discern nothing but barrenness and waste. A bit lower down I came across stunted specimens of the Parsley Fern (Allosorus crispus); but, as I descended, this became more and more plentiful, until I realised such a picture as I never before had seen. The best pieces, however, seemed to luxuriate where the sun's declining rays poured forth their fullest measure of warmth and vivification. In the damp shady places the Beech Fern peeped forth from between huge boulders of stone, which had evidently occupied higher elevations at some distant date. The Common Polypody, too, began to make its presence felt, the Hard Fern exhibited its hardness, while the Aspleniums cheered our checkered course over the dark and dangerous clefts and crags.

That the descent of these rude and rugged rocks is not accomplished without risk, I quote the following paragraph from an evening paper dated October 5th:—

The facts of a somewhat strange adventure which occurred on Snowdon last Sunday morning has just transpired. It appears that a number of young men ascended Snowdon on Saturday night. Everything went well on the outward journey. In descending, one of the party missed his footing when about half a mile from the summit, and was precipitated down the slope for about twelve yards. Fortunately for him he had a luncheon basket on his side attached to a leather strap. This basket came into contact with a piece of rock, and eventually stopped the man, but not before he reached the brink of a rocky precipice, some twelve or fifteen yards deep. One of the advanced guard—Mr. Lester, of the Black Lion Hotel, Carnarvon—witnessing the danger the poor fellow was in, at once stripped himself of his coat and vest and accomplished a most daring and dangerous feat by crossing ricketty rocks to where the man was lying. Arriving there, Mr. Lester found him in a semi-conscious condition. With one hand he took hold of a piece of rock, while with the other he endeavoured to take a firm grip of his friend by the collar. This caused the young man great discomfort, almost approaching strangulation, until at last he managed to have the better part of his body hanging over the precipice. Mr. Lester stood firm, and kept the man as quiet as he possibly could. Another man (Mr. R. G. Jones, Llanddeiniolen) had taken a circuitous route, and climbed the rocks from below to Mr. Lester's assistance. At last, but none too soon, he arrived at the very spot where he was wanted. Taking hold of the man by the legs he managed to hoid him up until Mr. Lester got a better grip of his collar. Had Mr. Jones been a minute later both men would have fallen below and met a terrible death, for as soon as Mr. Jones had taken hold of the man's legs the piece of rock by which Mr. Lester was clinging gave way. Eventually, the latter got another hold, and got his man, at the risk of his life, once more to the path. The party arrived two hours later at Peny Pass, with a bitter experience of a night on Snowdon.

The event here chronicled is only one of many which happen from time to time on this mountain. This occurred about a fortnight subsequent to my visit, while one, ending in fatal results, took place about a fortnight previously. But danger is more or less synonymous with delight, whether it be on high or low lands. Certain it is that the rarest of our wild plants are only to be found amid the most inaccessible crags of our highest mountains.

The genus Saxifragra, for instance, loves the cool air of elevated regions, and some species are never found away from these conditions. S. stellaris thrives beside the mountain rill; S. oppositifolia prefers the darker recesses; and S. nivalis enjoys the most inclement exposures. Arabis petraea, or the Alpine Rock-cress, is quite common; Silene acaulis is sometimes called the "Snowdon Pink"; and Sedum Rhodiola lives a lonely life.

The Alpine Hawkweeds, Cudweeds, Mountain Everlasting (Antennaria dioica), Cerastium alpinum, Thalictrum alpinum, and a host of other things are distributed over the flanks and summits of Snowdonia. Many of these, we are told, are but remnants of an Arctic flora; they are found not only on the Welsh and Scotch Highlands, which are the oldest in the world, but on Continental ranges, and therefore have the same common origin. It would be interesting to discuss this origin—it is a fascinating topic; but time determines otherwise. Let us then continue the descent. Here is one of the roughest roads I have ever experienced; boulders piled on boulders in the acme of confusion. If I had not descended so far I should be inclined to return. But no; having put my hand to the plough, the movement must be forward. One of the charms (?) of botanising in an unknown district is the probability of finding one's-self submerged in a bog to the extent of half one's height. There is, however, a limit to descent, and I have attained that limit. My fervent wish in these circumstances was that my boots were boats, for I had evidently "rushed in where angels feared to tread." But even these conditions were opportune, otherwise I should not have been aware of the Bog Moss, the Sundew, the Pimpernel, the Grass of Parnassus, or the Sedges and Rushes, which became to me only too apparent. I would not have minded this, only the sun was going down as well as myself, and I realised for the first time that I was all at sea!

In this predicament, I am bound to add that all interest centred in myself. There was no alternative. It was a question of self-preservation, and, therefore, I scanned the horizon with a keen and critical eye. Ah! two dark, human forms were now visible in the dim distance. I hailed; they answered. After traversing more bog and otherwise escapading, I came up to them. They were one. That is to say they were man and wife. He could not speak our barbaric tongue; she knew a cypher or two, and comprehended my plight. Anyhow, I had regained the beaten track, and

My heart was full of pleasure,
My knapsack ditto treasure,
My boots, well—couldn't measure.

About a mile further on we came to the village of Rhyd-ddu, a lovely spot, as I subsequently found out, situated on the lower slopes of Snowdon, between Llyn Cwellyn and Beddgelert.

Here I remained for the night, at the "Quellyn Arms," under the protection of widow Jones, and surrounded by scenery of the most beautiful order. After a substantial repast I began to look about. Everything was Welsh, even the literature. In the visitors' book I found some consolation, for I noted there that a Saxon family of six persons from Ealing had been up the mountain a month before and had seen nothing! I had seen something; hence my consolation.

Although I have by no means exhausted my notes—for I rambled twenty miles the next day, back to Llanberis, through the most enchanting scenery—I am quite sure that I have exhausted your patience, even if I have not merited your condemnation. But if, on the other hand, you can admit some justification, the pleasure of perusing these lines will be greatly enhanced, and the success of a most interesting holiday positively assured.—*C. B. Green, Acton.*

SPECIALISM IN GARDENING.

I HAVE read with deep interest the remarks of "G." in your number for Dec. 8, and am entirely with him in thought. It seems to be out of all reason to tax men's brains to such an extent as is now done. Some men are at a place, may be, for six months, and just when they have got the measure of its capabilities, for some reason or other leave and go to another situation of a totally different character. This is constantly going on, with the result that numbers of men are knocking about half their time and never really perfect themselves in anything. Take as an example the iron trade; you find in that industry that there are rivetters, fitters, strikers, moulders, and others, all employed in perfecting one thing. In my opinion specialism means going the right way. The present day gardener has too much on his hands to keep ahead of the requirements of many establishments.

Personally, I would sooner spend a lifetime as a propagator, grafter, or budder of such things as Ivies, Ampelopsis, Clematis, Roses, fruit trees, &c., all of which are fast becoming specialties in their line, and for good men at this work there are places plentiful enough. It means that the man who will push ahead will stand the best chance of succeeding. I would rather, far rather, have the chance of following some particular branch of nursery work, than of filling many a private place with their barely living wages. A good all-round man to-day is worth his weight in gold, and should be valued as such by those who profit by his skill and industry.—*J. G. Pettinger, Strawberry Dale Nursery, Harrowgate.*

BRUSSELS SPROUTS.

I HAVE sometimes thought that this popular vegetable holds the unique position of having been improved till it has been spoiled in the process, it having suffered in quality more than any other vegetable from the mania for big things. The very large samples seen in the greengrocers' windows at the present time compare very unfavourably in respect to flavour with those which are not more than half the size, and which can be both cooked and eaten whole, while they are sweet and delicate in flavour, and of a better colour when cooked. It is well-nigh impossible to send the monster knobs from the shop windows to table in a satisfactory condition on account of their strong, somewhat pungent, and certainly, to many, highly disagreeable flavour. A strain which produces sprouts moderate in size is far better for the private grower, who ought always to make his plantings of this the largest of any winter greens, because of its superior hardiness and productiveness.

Whatever the conditions of soil and climate the first consideration should always be with this and others of the Brassica family to get them in early. On wet cold soils, where a supply has to be kept up from October till March, the first sowing may be made in October on a warm dry border. Sow thinly and if necessary thin out to prevent them getting drawn up weakly. Those drawn out may, if required, be pricked out on a south border. On warm soils a sowing made in March will often be early enough, followed by another in April for the later plantings. A sowing in a pan or box under glass during February will often come in handy, being so easily protected from the depredations of insect enemies, which too often are the cause of the most provoking losses among early sown seeds.

There is no question but that if Brussels Sprouts and the Kales generally could be sown at once in the quarter the crop is destined to occupy, the results would be much better than they often are when the plants are allowed to stand too long in the seed beds waiting till the ground is vacant for a convenient opportunity to plant them out. I once put this into practice. Having the land well manured, ploughed, and harrowed down, I marked it out into rows 3 ft. apart, and planted five or six seeds at the same distance apart in the rows. My great difficulty was to protect the seeds from the greenfinches, but this was overcome by placing No. 60 pots over the seeds till they had germinated, when the seedlings were thinned out to one plant, choosing the most promising before they became crowded. This was on a poor shallow soil. The principal objection, and one which will of necessity preclude very many from putting this plan into practice, is the limited space they have at command for the growth of vegetables; but I considered that the results amply repaid the outlay for the space occupied by the crop and the labour attendant upon the planting and watering under the usual course of cultivation was saved.

When early sprouts are required the first planting should be made during May, the earlier the better, and a yard apart each way is not too much for these. Later plantings may follow up to the end of July in very warm rich soils. On heavy, cold or poor land the end of June is quite late enough for profitable results; these later plantings may be placed 6 in. or more closer. A planting of these and other Kales on a north border, or where they are screened from the sun, is a good plan, prolonging the season for them from two to four weeks, Too heavy a coating of rank manure on ground in fair condition should be avoided, the tendency of it being to produce open sprouts in place of the close buttons, which it should be the aim of the grower to prodnce. Whenever they seem likely not to button properly, a dressing of salt will serve to steady the growth. This is a fine manure for this crop spread over the surface a week or two before planting. The removal of dead foliage, frequent hoeings, and stirring of the soil all assist in the well-doing of this and other crops, and cannot too frequently be insisted on.—*W. B. G.*

ON PREPARING MANURE.

IN many places very little attention is given to the preparation of manure for the enrichment of land, it is no uncommon thing to see manure from stables, cow sheds, etc., thrown into the open either in big heaps or spread abroad; but both, in my opinion, are equally wrong, as when thrown out fresh into large heaps the most valuable of its fertilising properties is lost in the form of ammoniacal vapour, while if spread about thin the urine gets washed out of it and often escapes into drains or water courses, where it cannot possibly benefit the land. I make it a rule never to allow either to take place. In the absence of a pit to put the manure in, which I much prefer, it is thrown into heaps, and if there is any possibility of them becoming too hot, a quantity of liquid manure is thrown over them. When a fair-sized heap is made it is left flat on the top, and if found to heat much again more liquid manure is poured over it. As soon as heating ceases the whole is thrown into a conical heap to keep off heavy rains, and left to rot until wanted. We do not make the heaps too large, as the centres are liable to get dry. In this way we secure manure of the very best, and a far different article to what is too often put upon the land. Where the ground is heavily cropped it is of the utmost importance that the manure should be good and plenty of it used.—*Con.*

ON FORCING SEAKALE IN POTS AND BOXES.

AMONGST forced vegetables Seakale holds the premier position, and this being so the question naturally arises as to which is the best way of forcing it. During the last twenty-five years I have resorted to many expedients in order to obtain Seakale out of season. Many people are apt to think that Seakale cannot be obtained without going to a good deal of trouble and expense in providing special accommodation, and some believe it absolutely necessary to have special pots to place over the crowns in the open quarters; but very good Kale may be had without either.

I obtain a constant supply all through the season by placing the crowns in large pots, boxes, or paraffin casks cut in two, which are placed in cold or warm houses according to the season. If we want a supply quickly we put the crowns in a warm position until they begin to grow, and then remove them to cooler quarters. We make a point of keeping the crowns constantly moist by putting a good coating of moss over them, and when growth commences air is excluded as far as possible by placing a pot, box, or barrel over the crowns. To have Seakale really good it should be allowed to come on gradually and have an abundance of water. In this way we keep up a daily supply throughout the season till it comes on naturally in due season in the open air. I like this way far better than covering with manure in the open ground.—*Con.*

TWO GOOD BROCCOLI.

THE county of Cornwall is noted for its Broccoli, and one need not therefore be surprised to find that the Cornish growers hold good strains of the sorts that pay them best to grow. Two of their most popular varieties are Penzance Early White, and Wilcove's White, both splendid types having large white heads. There are so many sorts on the market now, that it is very difficult to get true stocks, but making a point of obtaining my supply from Messrs. Lamoureux, of Plymouth, I have been well served in this respect. Penzance Early White comes into use early in February in mild winters, and in our case forms a follow on to the Self-Protecting, which are lifted and kept in cold pits through the winter. Wilcove's is a very late variety, often shaking hands with the Early Cauliflowers. It is of the purest white and of splendid flavour, but an old sort and very difficult to obtain true.

When residing in the Isle of Purbeck, I found there a true and well selected stock of Wilcove's White, and when I took charge of a certain garden one of the conditions I had to observe was that I should annually save a dozen of the best selected heads for seed, a custom that had been observed on the place for many years, the original stock having been obtained from the raiser. Although nearly twenty years since I left that place, I have always repented that I did not keep the stock after I left, but I have made a commencement to work up the strain again.—*Con.*

CLASSIFICATION OF THE CHRYSANTHEMUM.

By H. BRISCOE-IRONSIDE.

PERHAPS you will allow me now that the Crysanthemum season of 1894 has practically come to a close, to endeavour to initiate a discussion, and to invite expressions of opinion, with the view of establishing a more reliable basis for the classification of the Chrysanthemum.

I think the present time is especially appropriate for ventilating this subject for two reasons; firstly, there having recently been issued a second supplement to the official catalogue of the National Chrysanthemum Society and therefore there is ample time for mature consideration ere another supplement, or better still a new catalogue be compiled; and secondly, because the time has surely arrived for some some steps to be taken in the matter.

During the last seven or eight years the advance of the Chrysanthemum has been by leaps and bounds, and it requires no evidence from me to give proof of this fact, the number of new varieties introduced being ample corroboration. The craze for abnormally large flowers began more or less with the introduction of Etoile de Lyon in 1888, since when the idea with raisers and growers has been practically nothing but size, to the almost entire extinction of the old and, in some respects, more beautiful varieties.

It is, of course, many years now since the desire for large Chrysanthemums first originated, but, I think, I may say that the year 1888 set the present state of affairs in motion, and opened, as it were, a new epoch in the history of the flower.

There is, in my opinion, very great beauty in many of the very large Chrysanthemums, and I think there must be few who will not admit that exhibition blooms of flowers such as Viviand Morel, Avalanche, Edwin Molyneux, &c., are gorgeous, glorious, and grand, representing as they do the wonderful work of Nature, and the immense progress in cultivation. On the other hand one can at the same time fully appreciate the beauty and grace depicted in smaller flowers such as Source d'Or, Mdlle. Elise Dordan, &c., and yet it is impossible to compare their distinguishing features one with another.

It is true that many persons prefer small to large blooms of the Chrysanthemum for various reasons, and *vice versa*, but then this is so with most flowers. If you take the Rose for example, you cannot compare a Maréchal Neil with a La France, nor the old Cabbage Rose with a small Moss.

It is the desire for size that is responsible for the abnormal productions which we now see, as Raisers tax their minds in considering what will create the largest and most original flowers, and with that object every crop imaginable is sought after. Thus are produced some of the most astonishing hybrids, with the result that, if it is not impossible to classify them, it is at least a matter of uncertainty and caprice how they should be classed.

There are, at the present time, ten sections in the Official Catalogue of the National Chrysanthemum Society, viz.:—I., Incurved; II., Japanese; III., Japanese Incurved; IV., Japanese Reflexed; V., Reflexed; VI., Large Anemones; VII., Japanese Anemones; VIII., Pompons; IX., Pompon Anemones; and X., Singles.

I propose to deal with the sections in their order as above, and I will make a few observations that I may venture to think appropriately apply to each section. The characteristics to which I shall refer preface the sections in the Official Catalogue.

SECTION I. INCURVED.

Extract of characteristics:—"Should be as nearly a globe as possible, deep, florets broad, smooth

rounded at the tips, hollow centre or eye a serious defect, regular petals, etc." This section is notorious for the differences of opinion amongst experts, one will say what a splendid incurved, while another will assert of the same flower that it is a Japanese incurved. There is no doubt that several varieties classed under this section have some Japanese blood in them, and, in fact, pollen is taken from a Japanese with a view of raising a large flower that may be sqeezed if possible into this section. We have seen this year one or two new introductions of this type, and I have a few myself. They have mostly very large and broad petals and an inclination to coarseness; and to count the florets is a matter of no great difficulty, although Chas. H. Curtis, recently certificated, is a very notable exception in this respect. Now the petals of this variety as seen when certificated were in exact opposition to the official characteristics under this section, as the florets are neither broad nor rounded at the tip, but simply the reverse.

Then, as regards J. Agate, some class it as an incurved, while others affirm that it is a Japanese incurved, and there seems to be no sufficient explanation to account for its being classified other than as an incurved, but I believe it is only eligible as a Japanese incurved.

Does not this latter case alone illustrate the vast importance of the subject to which I am directing the attention of your readers, as if this variety were classed as an incurved it would doubtless serve as a back row flower, while as a Japanese incurved its value is practically nil.

Take also Refulgens sent out so long ago as 1873 There is seldom an exhibition in which this variety is not seen, and yet I have heard experts assert that it should not be classed under this section, owing, I suppose, to its frequently having the characteristic defect of hollowness and an eye.

These are only a few instances showing the inconsistencies under which this section abounds, and it is now becoming more so every year, inasmuch as several of the good old, but weak sorts are dropping out and being replaced by others more robust and having noticeable traces of Japanese blood in them. If then a very strict line be not drawn there will beyond doubt be terrible confusion and dissatisfaction ere long. If one studies for a few moments the official catalogue and compares the varieties placed under this section with the characteristics, I think it is seen that it is the exception rather than the rule that conformity is established.

Let us take a stand of incurved blooms. Do they convey to one's mind the impression of having broad petals rounded at the tip? *e.g.*, could Barbara, Prince Alfred, Mrs. Coleman, Lord Wolseley, Mr. Brunlees, Nonpareil, Jeanne d'Arc, Miss Haggas, Empress Eugènie, Princess Beatrice, Nil Desperandum, Cherub, and I might qncte all, be described as having broad petals rounded at the tip? And, moreover, may not the Runle family be accurately defined as representative incurved, and would it be correct to assert that broad petals were characteristic of these three varieties?

Now let us consider Lord Brooke, Mr. H. Broomhead, Louise, Robert Owen, etc., which are classified as Japanese incurved, do not they as justly conform to the characteristics governing this Section I. as the incurved varieties to which I have already referred? Under all these circumstances I venture to say that the official characteristics are misleading, and do not accurately define the section. We now come to—

SECTION II.—JAPANESE.

Characteristics.—Irregularity and difficulty in defining, etc. This being my summary from the Official Catalogue under this heading. But I think it will be better for the purpose of my argument if I also now deal with the two following sections, viz.:

SECTION III.—JAPANESE INCURVED.

Characteristics.—Incurving of the petals, regular or irregular as the case may be, of the florets, many being remarkable for the broad grooved petal they possess, a feature more noticeable in these varieties known to have been introduced direct from Japan While in the ordinary Japanese section the florets may assume any form, and in the Japanese reflexed section the florets must more or less reflex, *in the Japanese incurved they must be sufficiently incurved or curled as to form blooms more or less globular in outline*, etc. (the italics are mine).

(*To be continued.*)

THE DARWINIAS.

AMONG hard-wooded greenhouses plants, the Darwinias, commonly called Hedaromas, and not unfrequently known by the still older name of Genetyllis have always been favourites with exhibitors, and are just the one amongst them which tests the skill of the grower, because they are among the more difficult subjects to grow into specimen plants in a satisfactory manner, and no one is likely to succeed with them unless they can give them all necessary attention, not that the attendant labour is so very great. Careful attention is the thing required, especially in watering, for if allowed to get too dry they receive a check and are soon injured, while on the other hand, over-watering is almost certain death. Then again, as regards potting, no haphazard way of doing this is permissible for potting materials and workmanship must be of the very best.

The compost should be one half of yellow fibrous Loam, the other half of brown fibrous Peat, and plenty of coarse silver sand. Pot firm, the same as you would a Heath or an Azealea, and only give small shifts. They are comparatively easy to propagate from cuttings made in April and May, using the same material as for established plants, only sifting it fine, and after well draining the pots press it in firmly and give a good watering with a fine rose allowing the pots to stand an hour or two before inserting the cuttings, over which bell glasses must be placed. Half-an-inch must be allowed for these to stand on. Use young side shoots for cuttings, from an inch to an inch-and-a-half in length and when all are put in give a good watering and allow them an hour or so to dry before placing on the bell glasses. Place them in a gentle bottom heat, remove and wipe dry the glasses every morning and when the cuttings commence to grow tilt the glasses upon one side a little for a few hours, and give more air by degrees till the glasses are entirely removed. About August they will be ready for potting off, when they will do best in a cold shady frame, kept close and shaded from bright sunlight till established. The species generally grown are Hookeriana, the earliest, Macrostegia and Fuchsioides, this is an autumn and winter flower.—*W.B.G.*

A GOOD WINTER BROCCOLI.

MOST gardeners find some difficulty in keeping up a constant supply of Broccoli through the first two months of the year, and especially if they are situated in a low damp situation and are badly off for glass accommodation. I have both these difficulties to contend with, but I have managed to keep up a continuous supply the whole season through for the last three years. For the winter supply we depend upon Veitch's Self-Protecting, which gives us a constant supply for three months, and, given a true stock, I know of nothing to beat it in its season. During the last six years I have tried several of the January varieties, and every season they have been destroyed by frost just as they began to fold in. They are, consequently, of no value in such situations as ours.

When I was living in the Isle of Purbeck, Snow's Winter White could be relied upon for a supply in January, but it is worthless with me now. Self-Protecting is our Sheet Anchor, and I make it a rule to plant a large quarter of this variety from plants obtained from two sowings made at different dates, in March and again at the end of April, and in this way we get a longer season of produce. Our custom is to sow thinly in drills on an open piece of ground, and the plants come up strong and vigorous. As soon as our seedling plants are large enough they are planted out between the rows of early Potatos, which are purposely set at 30 in. asunder between the rows, and by the time the plants are well established the Potatos have been lifted, and the Broccoli have plenty of room to grow. Our plan is to well dress the land and bastard trench it in February, so that by the time the plants are put out it has settled down, and they find a good firm root run. We plant always at 2 ft. apart. These plants generally begin to fold in at the end of October, and thus come into use when the Cauliflower crop is coming to an end. Early in the season they do not require any protection, as the leaves fold so perfectly over the heads. On the appearance of severe frost they are grown over and protected by their leaves, and should an extra cold spell set in, a handful of dry Fern is placed amongst the leaves. When leaving them out becomes dangerous to their safety, we go over them, and taking up the big ones lay them together in patches, so that a mat can be thrown over them. The remainder that have folded in are dug up with large balls of earth and placed in garden frames, which are kept open as much as possible, but protected in frost. In this way we have had nice useful sized heads as white as snow till the middle of February, when the Penzance variety generally takes up the running.—*Con.*

GARDENING MISCELLANY.

THE FRUITING OF STEPHANOTUS FLORIBUNDA.

THIS, as you justly observe, is not exactly a rare occurrence. Still, at the same time, there are many who have known the plant for a number of years who have never seen it in fruit. It occurs to me on reading your account of its fruiting at Park Place that having some years back raised a number of plants from seed which were somewhat widely distributed, that it would be interesting to know if at any time there has been any wide difference discovered among the seedlings which have at various times been raised. For a plant which has been under cultivation the length of time the Stephanotis has been not to have developed some variation either in floriferousness or size of individual flowers is not exactly what might have been expected, seeing that it sooner or later takes place among the generality of cultivated plants. Although the divergency from the original type may be but small, it still exists, and often where unexpected. One thing in reference to seedling plants worth noticing, is the great contrast in appearance between plants so raised and those struck from cuttings. Almost any one after once having their attention drawn to it, would recognise seedling plants ever afterwards at first sight; they are more robust in growth, the foliage, too, is of a much darker green, and the growth darker in colour. —*W. B. G.*

APPLE—PEASGOOD'S NONSUCH.

WITHOUT doubt this is one of the handsomest Apples in cultivation, and that it is deservedly held in high esteem by great numbers of fruit growers is evidenced by the conspicuous place it has taken at most of our fruit shows during the past season. It was raised by Mr. Peasgood of Stamford, and was awarded a first class certificate by the fruit committee of the Royal Horticultural Society on the 18th September, 1872. The fruit is large, roundish in shape, the skin being yellow suffused with red upon one side as well as being profusely streaked with crimson. It has an agreeably acid flavour, is suitable alike for kitchen use or for the dessert table, and thoroughly deserves a place in every collection.

ORNITHOGALUM THYRSOIDES.

THERE are several varieties of this species hailing from the Cape of Good Hope, and that originally introduced to this country in 1757 by Messrs. Lee & Kennedy was figured and described in the *Botanical Magazine*, t. 190, under the name of O. aureum. It was then considered to be a distinct species, but has since been referred to O. thyrsoides as a variety of it. It is again figured, however, in the *Bulletino della R. Società Toscana di Orticultura* for November, under the name of O. aureum. The typical O. thyrsoides has yellow flowers; those of O. t. aureum are golden yellow; those of O. t. flavescens are saffron-coloured; and in O. t. flavescens they are much deeper yellow than the type. There is also a variety named O. t. album that is white with exception of a dark centre, and bears large spikes or dense racemes of flowers. The scape varies from 6 in. to 20 in. in height bearing numerous relatively large flowers with long, pointed segments. The bulbs are about the size and form of those of Lachenalia tricolor, and when grown in substantial but permeable soil lightened with sand, and grown in a greenhouse or such as is devoted to Cape Heaths, they will thrive and flower from June to August. Propagation may be effected by means of offsets.

GOMPHIA OLIVAEFORMIS.

A PLANT of this now in flower in the Palm house at Kew under the name of G. decorans affords a particularly pleasing picture with its large terminal racemes

densely packed with the rich yellow flowers. Although the genus is an extensive one, and probably comprises upwards of eighty species, with two or three exceptions at most, they are unknown quantities to the general horticultural world. To judge from the above plant some valuable additions might be made to the list of stove flowering subjects if the genus received the share of attention to which it would seem it is well entitled.

STROBILANTHES ISOPHYLLA.

A GROUP of these pretty flowering subjects is at the present constituting an attractive feature in the greenhouse at Kew. The plants are shapely well flowered specimens of their class in 32-sized pots. We should imagine that no one who has seen this plant in all its profusion of lavender-coloured flowers could fail to be struck with it, still it is a plant that, like many another useful and valuable subject, hitherto seems only to have received anything like suitable recognition in botanic gardens such as Kew. In such establishments, however, its value is well known, and to judge from appearances taken appropriate advantage of. Plenty of plants may soon be obtained by cuttings inserted in light sandy soil in a brisk bottom heat. They should be grown on in an intermediate stove temperature, although when in flower an ordinary greenhouse temperature will suit them very well. The plant was at one time known as Goldfussia isophylla, under which name it was figured in the *Botanical Magazine*.

AMERICAN OAKS.

THERE is a growing tendency to make use of our native Oaks in planting. For many years but few persons cared to plant them. Tradition had it that the tree was of slow growth, that it could not be transplanted, that in time Oaks became too large, and so on, so that many well laid out places which would have been more beautiful had Oaks been planted have not one of them among its trees. The Oak is a fast growing tree. I know a place in which almost all trees, native and foreign, are grown, and leaving out Poplars, Silver Maples, and a few other well-known, rapid-growing trees, the Oak keeps pace in growth with any of them. Even the English Oak, deemed a slow one in its own country, is not so here. Some of our best landscape gardeners are now using our native sorts largely. For avenue planting they are most useful, offering in themselves a great diversity of foliage and outline. Then there are those with coloured foliage in autumn, and those which keep green until the last. About this city, the Pin Oak (Quercus palustris) is an extremely popular tree. It is not only a favourite for lawn planting, but for avenue planting as well. Its value for these purposes has been shown by the fine appearance of an avenue of it in Fairmount Park, and by many a well-developed specimen on lawns. Besides this, it happens to be one of the easiest of all Oaks to transplant, excelling all others in this respect, save the Swamp White (Quercus bicolor), which also transplants very well. The finely-divided, dark green leaves of the Pin Oak, its drooping lower branches, and yellowish-scarlet foliage in the autumn make it the favourite. The Swamp White Oak, which has been named as fast growing also, grows just as well in ordinary situations as in the lowlands where it abounds. As a matter of fact, it is no more a Swamp Oak than the Pin Oak, both growing in much the same situation. It is a massive tree, with heavy foliage, and has rough bark, the opposite of the Pin in all these particulars.

Of other desirable Oaks which are not scarce in cultivation, I would name the Laurel Oak (Q. imbricaria), the Scarlet (Q. coccinea), the White (Q. alba), the Spanish (Q. falcata), the Lyre-leaved (Q. lyrata), the Bur (Q. macrocarpa), the Black Jack (Q. nigra), the Post (Q. obtusiloba), the Willow (Q. Phellos), the Rock Chestnut (Q. Prinus), the Red (Q. rubra), and the Black (Q. tinctoria). These are all large growing, to add to which are the small shrub-like species, Q. prinoides and Q. Bannisteri. The Laurel Oak (Q. imbricaria) is not often met with in plantation, but it deserves to be. To the ordinary observer it seems very little like an Oak, the leaves looking not unlike those of the Salix pentandra, known as the Laurel-leaved Willow. When from 15 ft. to 20 ft. high there is partly downward growth of the lower limbs, such as gives so much charm to the appearance of the Pin. The foliage of Q. lyrata resembles that of the English more than any other native one does. The Willow Oak is very well named if the foliage of the Weeping Willow be kept in mind, for its leaves are not unlike them. It approaches this city in its wild state, but it is what is termed a southern Oak. I am very partial to the Rock Chestnut Oak (Q. Prinus). It is well named, as its foliage closely resembles that of the native Chestnut tree and it has the same clean trunk when young. Strangely enough, when it gets old its trunk is furrowed very much, being almost as corky as a Sweet Gum. While many Oaks have more or less of beautiful tints of foliage in autumn, none are so beautiful as the Scarlet (Q. coccinea), and I think, unlike the Scarlet Maple, every Scarlet Oak colours to a more or less extent. The Red Oak takes on a slight shade of scarlet; the Pin behaves in the same way, but were I planting for colour, I should rely on Q. coccinea alone.—*T. Meehan, Germantown, in Country Gentleman.*

CHRYSANTHEMUM CULTURE.

IN our last issue we gave a *resume* of an excellent paper recently read in the Isle of Wight by that experienced grower, Mr. Charles Orchard, and from which, by the courtesy of the author, we are now enabled to quote more fully. Said the author on the important matter of

PROPAGATION.

There is a diversity of opinion as to the best time to propagate, some advocating autumn, others early spring, for putting in the cuttings. I must confess I like the cutting as soon as I can get it, if the object is large flowers for exhibition, because the first cuttings are usually the strongest, and if they are left till February on the plant they get weak and lanky, or if we remove them, as they should be removed, to get a second crop for later propagation, the second batch are very rarely so strong as the first suckers. Take the cutting off with a sharp knife about level or just under the soil, and insert separately in small thumb pots. First put a small piece of crock at the bottom, and a pinch of moss or fibre for drainage; use light sandy soil for the first propagation, and place in a cold frame or under hand lights in a greenhouse. They will not require much ventilation until they are struck. Some will be rooted quicker than others. They should then be removed to a shelf in a greenhouse, as close to the glass as possible, or to another frame where ventilation can be given. Avoid artificial heat as much as much as possible. The object from the first is to keep the plant hard and sturdy. Always bear in mind that you are dealing with a hardy herbaceous plant, and you should try and keep it such. If they are coddled or drawn too much through artificial heat or close confinement, they will suffer more when exposed entirely to the air in March or April. Keep them in the pots until they have thoroughly filled the pots with roots and then shift into 4 in. or 6 in. pots. Drain these pots with one piece of crock and a few pieces of half-inch bones at the bottom, or horn shavings, at the top of which put a piece of fibre to save the soil from mixing with the drainage.

The soil I recommend is two kinds, good loam or rotten turf from a pasture. Not too wet or yet too dry, but just fairly moist. The other kind of well decayed leaf mould, rotten manure from an old hotbed and silver sand in equal parts. Rub well through a coarse sieve, and pick out all worms or other insects during the sifting. Well mix all together, and in potting ram the sides of the ball with a stick and pot firm. Place the plants in a cold frame or pit, sprinkle with a fine rose, keep close just for one or two days, and then ventilate as much as possible. On all fine days draw the lights completely off. If possible the plants should be opened out a little to allow a circulation of air around the pots before finally removing them to the open air. This should be done by about the first week in April, according to the weather. When taken outside the plants should be placed on a good bed of cinder ashes in an open position, but sheltered from the winds. Do not be in too great a hurry to get them into their flowering pots. I should sustain them and keep them in vigour by giving them weak manure water at every watering. Prepare the the manure water in this way. Put about half a bucket of cow manure and two gallons of soot in a coarse canvas bag, and put into a cask the size of a paraffin tub, and fill with soft water if possible. Well poke the sack with a stick to get out the essence without having the sediment, and feed the plants with this diluted about one-third or half to clean water, through all stages after the pots get full of roots. The reason I advise delaying the final potting as long as possible is this. So many hurry the plants on in the early stages. They get a fine healthy lot of plants, fat and full of promise, but by the month of September the plant has exhausted all its energies, and will not take up the stimulants that are given to it. Every part of the plant, root, and branch should be in perfect health, and in full activity during the final stages of flowering, or the result will be coarse, ill-formed, or badly developed flower.

THE FINAL POTTING

should be done by the second or third week in June. Ten inch pots are quite large enough for the strongest growers, and such varieties as Viviand Morel, Chas. Davis, W. Seward, C. Shrimpton, will produce very fine flowers in 8 in. pots or even in a size smaller. The soil should be the same as previously recommended. If anything, use a little coarser, and mix about a quart of bone dust to a bushel of soil, or two quarts of horn shavings. Some of the stronger concentrated manures might also be used mixed with the soil, but more sparingly, or the soil would be poisoned instead of benefiting by it. If procurable, use a medium size oyster shell to cover the bottom for drainage, and break up other shells, and use with a few half-inch bones, hoof parings or other shavings, rising about an inch to an inch-and-a-half of drainage. The thick shells of the deep sea oysters are the best to break. It is the salt and calcarious matter contained in these that is so beneficent to the plants. Cover the drainage with rough fibry turf in the usual way, and ram well and pot firm. Do not fill the pot too full. Leave about an inch for a top dressing to assist the plant in September and October as before mentioned. Put a stick or bamboo cane to each and tie up securely.

The plants should be placed in rows either by the side of a gravel path or an open plot, with boards or tiles underneath to keep the worms from the pots. They should be tied to wires strained horizontally to stout stakes at the back of the plants. The number of wires would depend upon the height of the plants. Three are generally found to be sufficient. Water sparingly at first, and increase the supply as the pots get full of roots. On hot days they will require it night and morning; and after very hot days, if the plants appear exhausted, they would be greatly benefited by a sprinkle with clear water from a syringe. The use of liquid manure should greatly depend upon the nature of the soil used for the final potting. If any of the ingredient in the shape of artificial manure has been used, the soil would be rich enough, and no more stimulant would be required until the plant was fairly pot-bound, which would be about the time the buds were well set. It should then be applied moderately at first, and increasing in strength as we go on, and ceasing altogether when the flower is about half developed. Should, from any circumstance, the ordinary garden soil had not been enriched as advised, then the plants should be watered with weak liquid manure water from the time the roots had got fairly hold of the new soil until they were in flower.

PINCHING AND DISBUDDING.

If the object of the cultivator is to get as large a flower as he possibly can, either for exhibition or conservatory decoration, then all side shoots should be pinched out, leaving only three leading shoots. These three shoots should show a flower bud sometime during the month of August, according very much to the variety, and the previous treatment of the plants. The chief aim of the cultivator should be to get the plants to show their buds about the second or third week in August, but so diversified are the habits of the plant, and the temperature and character of the seasons, that all the skill and forethought of the most experienced cultivator will not always avail to produce the required effect. That is why each variety has its year. Climatic influence sometimes helps, and at other times hinders the cultivator, and so throws his reckoning out of gear. I could enlarge much on this subject. Nearly every

variety has its characteristics, and by watching the breaks in the early stages, and stopping or pinching back, much might be done to retard or delay the

TIMING OF THE BUD.

To the exhibitor that requires his blooms on a given day, for a certain object, experience alone will teach him how to handle each individual variety. But my remarks and advice are not intended merely for the exhibitor only, but for general application to a large body of cultivators, and to make the most of a flower in its natural season. Then I say the best flowers are those produced from buds taken about the second week in August. Some of the Japanese varieties might be taken the first week, and the incurved varieties the third or fourth week. In fact, our experience teaches us that no matter what date we aim at, it is a good month from the time we begin, to the time we finish disbudding all the varieties. By taking the buds, I should explain to our amateur friends that in it lies the whole essence of the production of these fine flowers. By watching the tops of the shoots at the time mentioned, a small flower bud should appear varying from the size of a large pin's head to a marrowfat pea, according to the variety. This bud will be surrounded by two or three shoots or other buds. These shoots should be pinched out with the thumb and finger, or the point of a knife, so as to concentrate all the strength of the plant to the growth and development of the bud. And this is what we mean by taking or securing the bud.

HOUSING.

About the end of September or the beginning of October, the plants should be got under cover, taking in those that are showing colour first. A cool vinery or Peach house, where plenty of ventilation can be given, is a good place to develop these blooms. Tiffany or canvas should be thrown over to shade from the rays of the sun. Some varieties scald very much, especially that variety, Wm. Seward. If the object is to produce large blooms for an exhibition, then each variety must have the position most suited to it. The more forward ones should be kept in the coolest and most shaded position, and the later ones on a stage, or near the glass to bring them forward The incurved varieties intended for exhibition, should be stood on a shelf or stage, and have their flowers hung down to prevent them reflexing. A good cool shed, thoroughly water-tight, is a capital place to keep back or retard any varieties coming on too fast—a shed, where the doors can be thrown open to admit plenty of air and light. Plants for greenhouse or conservatory decorations should be put into their places at once, and regulated according to height. If intended to stand close together in a group, it is a good plan to dust the foliage with flowers of sulphur to keep off mildew. I also practice giving each pot a tablespoonful of Clay's Fertiliser as a final dressing, and water only with clean water. Liquid manure water is rather objectionable to use in a conservatory. Regulate your groups according to position and taste. The flower buds will then turn to the light, and the foliage will also face the front to a great measure by the time the plants are in bloom. Give plenty of ventilation, especially when first housed, and water more sparingly as the flowers get fully developed.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*Compost*: Aspidium triangulum, otherwise called Polystichum triangulum.—*G. R.*: 1, Libonia penrhosiensis; 2, Peristrophe speciosa; 3, Peperomia Saundersii; 4, Begonia semperflorens carminata gigantea; 5, Selaginella Braunii.—*W. C.*: 1, Jasminum nudiflorum; 2, Linaria Cymbalaria; 3, Chimonanthus fragrans grandiflora; 4, Garrya elliptica.—*F. M.*; Laelia pumila Dayana.—*W. J. G.*: 1, Polypodium vulgare; 2, Blechnum spicant; 3, Microlepia hirta cristata; 4, Adiantum bispidulum; 5, Acalypha Macafeeana; 6, Gymnogramme schizophylla; 7, Asplenium viviparum.—*G. T.*: Zygopetalum Mackayi. *F. Parker*: 1, Pteris serrulata; 2, Adiantum cuneatum; 3, Selaginella Braunii; 4, appears to be Adiantum formosum, but the piece was not in character, being young and without spores; 5, Asplenium bulbiferum; 6, Daphne odora; 7, Oplismenus Burmanni variegatum, erroneously called Panicum variegatum.

SOIL FOR BEGONIAS.—*Compost*: That tuberous Begonias can be grown with the use of peat in the open ground we have no doubt; but we do not recognise any particular benefit which they would derive unless the natural soil is clayey, heavy, and adhesive. In that case the peat would lighten the soil and make it porous. What you speak of we term bog soil and not the peat that is used for Orchid potting and for Heaths; but as it varies immensely in character you may be able to get some of a drier and looser texture that would suit your purpose. The old turf you propose to use as well as good decomposed manure will answer admirably. Should your soil be of a light and sandy nature the two latter ingredients would be highly suitable, and if not particularly beneficial the peat would do no harm. Heavy dressings of manure are usually given to beds and ground on which Begonias are to be planted in the neighbourhood of London, and the results are highly satisfactory. If you had stated the character of your soil we would have been in a better position to advise you as to the best materials in the case.

FRUITS TO NAME.—*W. Keen*: 1, Glou Morceau. 2, Old Colmar.

COMMUNICATIONS RECEIVED.—B.F.—R.D.—A.H.—W.T.—C.H.—H.J.H.—C.H.T.

TRADE CATALOGUES RECEIVED.

SUTTON AND SONS, Reading.—Amateur's Guide in Horticulture for 1893.

EDWARD WEBB & SONS, Wordsley, Stourbridge.—Spring Catalogue of Seeds for 1895.

WM. CUTBUSH AND SON, Highgate Nurseries, London, N.—Catalogue of Chrysanthemums, Herbaceous plants, Dahlias, Carnations, &c.

LONDON SEED TRADE.

December 18th, 1894.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report seed market dull but steady. White Clover offers more freely. Rye-grass firmer.

COVENT GARDEN MARKET.

December 19th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per bit. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	21 0	23 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	0 6	1 6	Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	1 0	1 6	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumbers .....each	0 6	1 0	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Evergreens, invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
,, gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
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Carnations...per doz.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Primula, double, bun.	0 6	0 9
,, doz. bunches	4 0	12 0	Roses, yellow, dozen	2 0	4 0
Eucharis ...per doz.	3 0	4 0	— Red..... doz. blms.	3 0	6 0
Gardenias 12 blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 6	0 9	Scarlet Geraniums, doz. bchs.	5 0	6 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Tuberoses, per doz	0 4	0 6
Lilac (French) per bch.	5 0	6 0	Violets (French) Parme, per bch.	2 0	3 6
Lilium Harrisii, doz. blooms	6 0	8 0	Violets (French) Czar, per bch.	1 9	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) doz. bch.	2 0	2 6
Marguerites, 12 bun.	1 6	3 0	Violets (English) doz. bch.	1 6	2 6
Mignonette... 12 bun.	3 0	4 0			
Narciss (French) doz. bch.	4 0	5 0			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, JANUARY 2nd.—Sale of Japanese Lilies at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 29th, 1894.

CLASSIFICATION OF CHRYSANTHEMUMS.—It must be apparent to many of our readers besides our esteemed correspondent, Mr. Briscoe-Ironside, that the classification of the host of Chrysanthemums that make their appearance every year is becoming more and more complicated and difficult to define. Hitherto we have relied mainly upon common sense to discriminate between the various terms such as incurved, Japanese, Japanese incurved, Japanese reflexed, &c., together with a recollection of such types as we knew to have passed muster in the different classes hitherto well authenticated. It never occurred to us to consult the description and delimitations laid down by the official catalogue of the National Chrysanthemum or any other society, otherwise we could not have failed to notice the inappropriateness of many of those same rules. Nevertheless, we could not fail to see that the different classes were being outraged by the admission of new varieties that did not conform to the old types. We are perfectly well aware that the blooms of certain varieties differ according to the buds from which they are taken, and the season at which they expand; and also that many of them behave quite differently in America, or in Italy, from what they do in Britain. So far as our classification is concerned, we must be limited to their behaviour in this country; and the best form which skill and good cultivation will produce must be reckoned the typical form of any particular variety for purposes of classification, however much the same may rebel against the rules under other conditions and circumstances. As an instance of curious behaviour it may be stated that Madame C. Audiguier may, and does, under certain conditions, represent the three sections—Japanese, Japanese reflexed, and Japanese incurved, the latter being its usual and typical form. Several that are reckoned incurved in America prove to be Japanese incurved in this country, and instances might be multiplied.

Our correspondent forcibly illustrates another phase of the subject when he compares J. Agate as an incurved and as a Japanese incurved, its value being simply nothing in the latter class for exhibition purposes. It was doubtless a consideration something akin to this that induced the Catalogue committee of the National Chrysanthemum Society to form the section Japanese reflexed to receive such favourites as Elaine, Amy Furze, Maiden's Blush, Triomphe du Nord, Val d'Andorre, L'Africaine and others of that type which were ousted off the show boards by their larger and more favoured compeers, such as Etoile de Lyon, Viviand Morel, Avalanche and others. The remedy was only half completed and practically valueless to save the varieties in question, seeing that no classes were instituted to receive them in the exhibition schedule. One class in the schedule of November last, stipulated for twelve large-flowered reflexed blooms, but this only brought forward the old or Chinese reflexed type represented by such varieties as Dr. Sharpe, Cullingfordi, and several of the Christine type. Elsewhere we frequently notice that reflexed and Japanese reflexed are admitted when Amy Furze, Jeanne Déleaux, James Lynch, Clara Jeal and Viviand Morel make their appearance. Now, whether the official catalogue of the National Chrysanthemum Society is taken as the standard or not, few can fail to perceive a heterogenous mixture in the above. Taking the admittedly true reflexed type, what forms could be more unlike than Dr. Sharpe and the globular, muddle-headed, Christine type, like an over-worn mop. We fail to see that the latter are reflexed at all, because, when at their best, the petals point into space in all directions. Then again, why might not John Shrimpton be admitted on the same board as Cullingfordi. In our opinion it is only a question of size, not form; and the same hard fate rules the destiny of many a beautiful flower, new and old, because unable to compete with the more favoured large ones.

The old Japanese section has been divided into incurved Japanese, and reflexed Japanese, with the indefinable residue to constitute the type. The definition of the Japanese reflexed section is "with flat, straight, spreading or reflexed florets." Here we have alternatives, and flat, straight spreading florets might include Etoile de Lyon, Hiver Fleuri, Mrs. F. Jameson and others. Then, if reflexed varieties are admitted, why are not the drooping petalled sorts admissible? Such as Sunflower, Mademoiselle Lacroix, William Seward, Viviand Morel, Charles Davis and many others. Bouquet de Dames is passed as a Japanese reflexed; but surely this is merely a conventional understanding, seeing that the blooms are almost globular when at their best. The incurved Japanese section is equally indefinable whenever we pass beyond such well defined types as Louise, Robert Owen, Comte de Germiny, Viscountess Hambleden and others that are akin to them. Surely such sorts as M.

Freeman, Stanstead White, Mrs. Frank Thompson, W. H. Lincoln, Wm. Tricker, Louis Boehmer and Owen Thomas are on the border lands of this section, for they are far from being globular. On the other hand, Rose Wynne is described as a Japanese variety, whereas it is as closely and compactly incurved as Viscountess Hambleden to which it is related. Doubtless the character of the above varies according to season and cultural conditions; but everything goes to show the impossibility of laying down rules for the division of the Japanese type into several sections, that would be truly applicable and yet be understood by the average exhibitor.

The large Anemones and the Japanese Anemones are now getting much in the same condition; for it would puzzle a genius to draw a line between them that would not infringe upon one or the other. As far as the single varieties are concerned, we are afraid it would not mend matters to include the small flowered varieties amongst the Pompons, because well grown and badly grown plants would put the exhibitor out of his calculations in the matter of size. We do not see that huge size has anything to recommend it in this section; on the other hand we agree with our correspondent that the section for single varieties should not be a receptacle in which to deposit the rubbish from the annual batches of seedlings, otherwise we should very soon be satiated with the whole race of them.

Extensive Timber Fire at Tottenham.—A fire involving the destruction of some immense stacks of timber belonging to Mr. W. Duncan Tucker, of Tottenham, broke out on the 19th inst., but fortunately was confined to the stacks on the west side of Lawrence Road, so that the conduct of business will not be interfered with.

National Rose Society.—The exhibitions of this Society for 1895 are announced as follows:—Gloucester, June 27th; Crystal Palace, July 6th; and Derby, July 17th.

Gardeners' Royal Benevolent Institution.—The annual general meeting of the supporters of this Institution will be held at "Simpson's," 101, Strand, on January 17th, when fourteen pensioners will be placed on the funds, six by election and eight by resolution in accordance with Rule iii. 5. There are forty-three candidates.

Mr. Thomas Lockie who has succeeded the late Mr. Robert Petfield, as gardener at Diddington Hall, Huntingdon, was recently entertained by his friends at supper at the Swan Hotel, Clewer, near Windsor, and presented with a handsome gold watch and chain, and a diamond brooch for Mrs. Lockie, on his leaving Oakley Court, where he had been gardener for twenty-two years. Mr. Lockie is noted as the raiser of several very fine varieties of Cucumbers, and as a good all round man in his profession.

Proposed National Vegetable Exhibition.—Mr. A. Dean, Hon. Sec., writes "Kindly permit me to inform the readers of the GARDENING WORLD that this object is so far advanced that a meeting of the General Committee, some eighty in number, will be held in the Library of the Royal Aquarium, Westminster, on January 15th next, to confirm preliminary arrangements, and appoint an Executive Committee to carry out the exhibition. Cards of invitation, which include free admission, are being sent out to members. There may be in some quarters disappointment that the exhibition cannot be held at the Crystal Palace, but it has been found impossible during the ensuing year. On the other hand the Royal Aquarium where, with the kind consent of the authorities, it is proposed to hold the show, is not only very central and convenient, but is practically the only place in London where such an exhibition can successfully be held. So far it is purposed to have the show on three days during the second week of September next, and a capital and representative schedule of classes has been carefully prepared, and it is earnestly hoped may meet with very cordial acceptance. Special prizes for these prepared classes, and promises of subscriptions for management expenses, are now all that is needed to render the proposed National Vegetable Exhibition of 1895 a great success."

DEATH OF MR. WITHERSPOON.

WE regret to learn of the death, on the 15th inst., of MR. J. WITHERSPOON, of the Red Rose Vineries, Chester-le-Street. Mr. Witherspoon was locally well-known, and was in many respects a remarkable man. He was born at Red Rose Hall sixty-four years ago. His father, who was a gardener, apprenticed him to the trade of a cartwright. In this line he developed considerable mechanical skill, and ultimately established himself in business in Chester-le-Street. He was well employed and made a little money; but a change came over the course of his trade, and he then gathered up his monetary resources in order to buy land and devote himself to his father's profession. In this he proved more successful than he had done as a cartwright, and became one of the most skilful Grape growers in the kingdom. The deceased took a keen interest in public affairs, and in the political controversies of the time. Years ago, he was associated with the Conservative party, but ultimately gravitated to the Liberal side, and became an enthusiastic admirer and supporter of Mr. Gladstone, to whom he never failed to send, as a birthday present, a fine bunch of Grapes on the 29th day of December, in each year.

WINTER STUDIES.

AT this particular season of the year, when, owing to the shortness of the days, and the resultant length of the nights, most young gardeners of a studious nature finding time hang rather heavily upon their hands, are induced to take up some course or courses of study. This is more especially the case with those young men, who are so to speak immured in the country where the nearest town is a sufficient distance away to preclude the possibility of their paying it very frequent visits, even if they had the desire to do so. In the vicinity of large towns these conditions are necessarily modified to a very considerable extent, as very few young men find the time hang very heavily under such circumstances. No one has yet been successful in putting old heads upon young shoulders, and therefore it is not to be greatly wondered at, that in the hurry and bustle of the life going on all around them, young men are not contented with being merely spectators of the gay scene but are tempted to become actors in it also. The consequences soon become pretty evident for drawn into the giddy vortex of the maelstrom of "life," young gardeners are apt to forget the question of study, or if it does not entirely slip from their memory, it at least receives but exceedingly scanty attention. Accordingly, the golden hours of opportunity are suffered to glide by on idle wings, useless because they have been wasted.

As the days lengthen and as in the words of the old proverbs "the fig tree putteth forth her leaves reminding us that summer is nigh," the ordinary young Briton filled to overflowing with sport loving instincts finds wondrous charms in the excitement of the cricket field, or other manly sports. We would not for an instant suggest that the hours spent in healthy enjoyment with the bat and ball, or in visiting fresh scenes enthroned upon the saddle of a cycle are wasted—far from it. What we would be inclined to say would be, that while the old proverb of "all work and no play makes Jack a dull boy" will find plenty of supporters, the converse of this old saw, that "all play and no work" is just as true. While a certain amount of bodily exercise and recreation is essential, the mind is just as much in the need of food and stimulation, as is the more material part of us.

We have known many young men who as the nights began to get longer, have announced their intention of going in for certain branches of study, and this too in perfectly good faith. They have perhaps worked well for a few weeks, according as their power of will was strong or weak; but presently as their ardour began to cool, and their energy to flag, so their studies became less and less vigorously prosecuted until finally they have ceased entirely. Perhaps the phrase of "the donkey's gallop" would most appropriately express their way of working. Another mistake that is frequently made is in starting too many subjects at one and the same time. We have known young fellows to take down a book upon a certain subject and read away diligently at it for about half-an-hour, when its contents would become distasteful and it would be returned to its place and another one on a totally different subject taken down and perused in the same desultory fashion, the results being that the time is really wasted in nearly as pitiable a manner as when nothing is attempted at all.

There can be no doubt that it takes a good deal of determination, of "grit," as a Yorkshireman would term it, to stick to any particular branch of study, and this of course, more particularly in the case of those who live near large towns, where as has been observed, the temptations to throw study to the winds, are essentially greater than they are in the country. Still no dissentient voices will we think be raised against the statement that the keeness of competition that now prevails amongst almost all trades and professions, a competition from which gardening is by no means free, should prompt those who wish to rise to the top of their profession, to make themselves as proficient in their art as circumstances will permit them. In the battle of life we have continually forced upon us the conviction that knowledge is strength; therefore it behoves those who desire power to follow assiduously after knowledge.—*Z.*

FREESIAS.

WHEN grown well, and it is so easy to do this, that no excuse can be admitted for failure, there are very few subjects which return so much pleasure for little trouble and expense as the Freesias. Not a sudden outburst of bloom for a few days only, but a lengthened period of most deliciously perfumed flowers. They occupy very little room, and are much best if potted up early. It is a wise plan to select the bulbs and have two distinct sizes. If we have even sized bulbs we get a corresponding uniformity throughout.

They increase so rapidly that one never need fear loss of stock once a few are purchased. Turn the old ones out of pot and sort them into two sizes fit for flowering, then set the small offsets into pans or boxes, and they will make splendid bulbs for next season's use. A low temperature will ensure a dwarf and sturdy growth. A pit or frame is quite sufficient until severe weather sets in, when they may be removed to the temperate house and stood upon a shelf or bench close to the glass.

Too much heat is the chief cause of failure. Use a compost of turfy loam, sand, and leaf soil, and place from seven to nine bulbs in a 5 in. pot, covering them about a quarter of an inch with soil and making all firm. Cool, steady treatment will give sturdy growth and more flower.—*Experience.*

PALMS FOR DECORATIVE PURPOSES.

How often do we see a great many of the plants that are used for table decoration, or for the filling of vases, etc., rendered unsightly by the huge pots in which they are grown—receptacles that really give one the idea that the plant is all pot, so much is the latter in evidence. A great many people run off with the idea that to grow any plant successfully and well, the root room must not be restricted to any great extent, and hence the large size of the pots used, a fact that militates not a little against the handiness and effectiveness as decorative subjects of the plants they contain. In the case of a group of plants being required for the adornment of some particular corner of the mansion upon any especial occasion, nobody likes to see a number of unsightly pots showing through conspicuously—accordingly, great pains have to be taken, and in many instances a greater number of plants used, than would otherwise be the case, to hide what must always be a glaring defect in the arrangement of such a group.

The National Chrysanthemum Society's Catalogue.—Centenary Edition. Containing 1,000 new varieties. All the novelties. A history and complete bibliography of the Chrysanthemum, by Mr. C. Harman Payne. Price, 1s.; post free, 1s. 1½d. Publisher, GARDENING WORLD, 1, Clement's Inn Srand, London, W.C.

Where specimen plants again are required for the decoration of the dinner table, the pots have, as a rule, to be encased in ornamental vases of various kinds. Now if the pot in which the plant is growing is of the large size so commonly used, one of two alternatives must be adopted; either to knock the plants out of their pots and temporarily place them in the ornamental vases, or else encase the large pots in still larger vases with a reckless disregard to the rules of proportion. Needless to say, both these systems are faulty, the latter one, of course, from its unsightliness, and the former from the reason that to knock the plants out of their pots in such a manner cannot fail to be injurious to them in a greater or less degree, a severe strain being thereby occasioned upon the resources of the department of supply to furnish sufficient decorative material, unless, of course, expense is no object, and the gardener is able to order what plants he wants from his nurseryman regardless of cost.

Establishments where this is practicable are, however, comparatively few in number, and are even now decreasing year by year. It becomes therefore a matter of importance to find out the best method of obviating this evil, and the remedy we would suggest is, "use smaller pots." It is a great mistake to suppose that all plants need such large pots. With many fine decorative subjects, palms particularly, large pots are most decidedly not an essential to the health, and well being of the plant. We have known specimens of Phoenix rupicola with fronds of that rich dark green hue so dear to the heart of every plant grower, which, when turned out of the exceedingly small pots in which they had been growing so well, proved to be nothing but a mass of roots, with scarcely a vestige of soil in the whole of the ball. all they appear to need is a sufficiency of water, and given this, they will grow away without complaining.

In potting good turfy loam should be used to which may be added a little leaf soil, some sharp sand, and a few pieces of charcoal. The compost should be closely packed around the roots and rammed firmly. One good potting of this kind will last most of the palms for several years. Stimulation may be given by application of manure. We have used "nitrate of soda," with the best of results, and consider it to be a manure of first-class merit. The good it does, soon becomes evident after its application and starved yellow looking plants will recover themselves in a manner that almost appears miraculous, so rapidly is the change effected. But like other chemical manures it must be given with greatest of care and its application should never be intrusted to the hands of an inexperienced person, or harm instead of good will most likely be the result. A small pinch may be scattered over the surface of the soil, and repeated at intervals of from eight to ten days according to the individual health and vigour of the plants, throughout the growing season.

With regard to the most suitable plants to grow, it is manifest that from the hundreds of the species comprising the natural order Palmae, the list might be made to assume gigantic proportions. A number of kinds have however, become very popular as decorative subjects, by no means the least important among them being the prettty Cocos Weddelliana, thousands of which are used each year for decorative purposes. Indeed it is passing strange where all this annual supply of material is stowed away, at any rate the demand seems at present to show no signs of decreasing. Howea (Kentia) Fosteriana, H. australis and H. Belmoreana are also grown in large quantities, as well as Acanthophoenix Cunninghamiana or as it is popularly called Seaforthia elegans. This last mentioned plant is of free growing habit, and may often be met with in our greenhouses and conservatories, with its graceful plumy head supported upon the tall straight stem so common to the members of this genus. Livistona chinensis is also widely known in gardens under the name of Latania borbonica. It is usually of dwarfish spreading habit, and its fan shaped fronds attain to a considerable size. Phoenix rupicola, P. canariensis and P. reclinata, are all pretty widely distributed, not so however, the Caryotas so unique in habit amongst their fellow members of Palmae for their bi-pinnate leaves. C. urens, C. Cumingii and C. sobilifera, are all handsome plants of noble habit and exceedingly beautiful appearance, and as such worthy of more extensive cultivation than they at present enjoy.—*Phoenix.*

CLASSIFICATION OF THE CHRYSANTHEMUM.

By H. Briscoe-Ironside.

(*Concluded from page* 268.)

Section IV.—Japanese Reflexed.

Characteristics or accepted type Elaine with flat, straight spreading or reflexed florets, etc. Now, I think it is to be regretted that we have three sections for Japanese, as the classification seems to me even more difficult, certainly as inconsistent, as the incurved section I.

There are, comparatively speaking, few Japanese that do not either reflex or incurve in some way or other; and I would ask you, Sir, if Boule d'Or, E. Molyneux, Yellow Dragon, and Stanstead White, be correctly classified as Japanese incurved (see italics), and Val d'Andorre—and I will be so bold as to take the official typical flower Elaine as Japanese reflexed—what should remain, except, perhaps, a few stiff or erect-petalled varieties, to be classified under the principal section II. Japanese? What prevents flowers such as Etoile de Lyon, Carew Underwood, etc., from being classed as Japanese reflexed? I fail to comprehend where the Japanese reflexed class begins and ends; also the Japanese incurved section, if it be not confined strictly to the Lord Brooke or Louise type.

Let me make a few comparisons as illustrating the inconsistency that I think is seen in these three sections:—

Variety.	Classed in Catalogue of N.C.S.	Variety.	Classed in Catalogue of N.C.S.
W. H. Wellam syn. Spiralis syn. Marvel	Jap.	*and* M, Astorg ...	... Jap. Ref.
Moonlight	... Jap.,	*and* Yellow Dragon	... Jap. Inc.
Avalanche	... Jap.,	*and* J. Délaux ...	... Jap. Ref.
Lord Brooke	... Jap. Inc..	*and* E. Molyneux ...	... Jap. Inc.
W. H. Lincoln	... Jap. Inc.,	*and* Comte de Germiny	... Jap. Inc.

I do not wish to be too severely held to these few selections, as they have been made somewhat hurriedly, but I think they should serve to show my meaning. I will now proceed to

Section V.—Reflexed.

The characteristics are well defined, and liberties in introducing new varieties into this section cannot so easily be taken as in some of the other sections. They are flowers not much encouraged at the present time, and evidently possess too much character for the cultivator as, unlike the Japanese, they do not covet greatness, and refuse to have greatness thrust upon them.

Raisers seem to pay but little attention to them, probably due to the fact that unless the Dr. Sharpe type is obtained, there is uncertainty in classification as, for instance, Amy Furze, classed as a Japanese reflexed, but which is, nevertheless, occasionally allowed in reflexed stands; and for this reason I should like to see a broader line drawn between reflexed and Japanese reflexed.

It is admitted that the majority classed under this section are too flat, and there can be no difference of opinion on this point. If the flowers *should be perfectly circular in outline*, why, then, are such varieties classed under the section?

Section VI.—Large Anemones,

and

Section VII.—Japanese Anemones

might, I think, serve under one Section. These flowers are now being grown as large as possible, and to the deprivation, in my opinion, of some of their beautiful characteristics.

To my mind an Anemone with a full and high disc surrounded with medium-sized petals is to be preferred to one with a small and flat disc, having large and course ray petals, conveying the idea as it were of an old-fashioned jam tart with its barrenness of jam in the centre. Also, a type such as Fabian de Mediana when frequently exhibited as it is with little or no disc (in one large bloom of this variety shewn this year there was no trace of a disc) must be surely verging on the border line. I am the more convinced that this is really the case, as I have a pure white seedling of this variety, identical in foliage with the parent (which, as we all know, is somewhat conspicuous in this respect) and similar in every other way, but no practical disc have I yet seen in any of its blooms.

Section VIII.—Pompons.

Characteristics are small blooms averaging 1½ in. diameter, dwarf growth, neatness and compactness and

Section IX.—Pompon Anemones.

I would like to see these two sections embodied in one with a part of the next section also, but I will refer to this latter presently. Now how often do exhibitors abuse these two sections in trying for size? yet it is always refreshing to find that the judges, with but rare exceptions, strictly adhere to the characteristics mentioned. Frequently have I seen Pompons exhibited which, had they been new varieties, might have been almost classed under the reflexed section or regarded as unclassifiable.

There is not, however, so much scope for differences of opinion in the classification under these two sections, as the Floral Committee of the National Chrysanthemum Society, when considering new Pompons, prefer to see them in bunches not disbudded, and moreover size here is a distinct disadvantage. We now come to the last section, viz.:—

Section X.—Singles.

Characteristics, any size and form, but they should not contain more than a double row of ray florets or disc florets of sufficient length to form a raised disc or cushion as in the case of the Anemone blooms, etc.

I shall venture to disagree with these characteristics as I think it would be more satisfactory, if for "double row of ray florets," "*single* row, etc.," were substituted, and after "ray florets" the meaning is not clear to me. I may state that I and others could introduce several new varieties having a double row of petals only, and good discs, and when grown on the terminals still more characteristic, and any question on the score of having too many petals the tweezers would speedily determine without detection.

Now I think this is the very flower to be avoided, and, in my humble opinion, a single Chrysanthemum, however cultivated, should not develop with more than one single row of petals. Admiral Symonds, although a most useful flower for cutting and a splendid colour is, in my eyes, a great offender of what I think should be typical of this section. I saw a bloom of Purity exhibited this year with at least three rows of petals! When it is considered how many seedlings are discarded in consequence of their semi-doubleness it seems to me that this section might in conformity with the official characteristics be filled to overflowing in a short space of time, and that this is not so already is probably due to the possessors of such flowers not themselves considering them true singles. Sunset, introduced a few years ago, and considered by some a Japanese, and which I cannot find catalogued, could I take it be classed a single.

It must have been apparent to those who saw the exhibits of this section at the last December Exhibition of the National Chrysanthemum Society that, to give satisfaction to every one in the judging (at all times a matter of some difficulty) was impossible on this occasion, owing to the fact of some stands having the large types, and other stands exhibiting the smaller flowers. It is therefore desirable I think that this section be divided and I would suggest that the small singles be included in the Pompon section.

I would also suggest that two more sections, or at least one, be added to the catalogue, viz.: first, a section for Hirsute Varieties. This seems to me to be required as we have a separate competition for this type, and, inasmuch as the distinguishing features are in some instances more or less absent, an authoritative list would be advantageous and obviate possible dispute. And, second, a section or list of varieties (which may or may not be already classified under previous sections) suitable for decoration. Although at the present moment I do not feel justified in pronouncing a decided opinion as to the advisability of such a section, an official list would certainly prove a boon to many cultivators of the Chrysanthemum.

My propositions then in brief as to section are:—I.—Incurved (as at present). II.—Japanese (now II., III, and IV.). III.—Reflexed (now V.). IV.—Anemone (now VI. and VII.). V.—Pompons (now VIII., IX. and partly X.). VI.—Large Singles (now partly X.). VII.—Hirsute Varieties (new section). VIII.—(Or list), Decorative Varieties.

I would further take the liberty to suggest in regard to Section I. (incurved) that the small flowering varieties be described as "small" in the Official Catalogue with the view of introducing classes in our exhibitions for small incurved of the Rundle and Barbara types.

The characteristics of the various sections, a

matter that appears to me of the utmost importance, should, I think, have very full reconsideration and discussion, and be decided by the officials of the National Chrysanthemum Society, supported by a specially selected committee.

I will not conclude without expressing the sincere hope that my remarks, suggestions, or propositions will not be taken amiss by anyone, more especially by my friends on the Catalogue Committee of the National Chrysanthemum Society, as I particularly desire them to understand that it is not only in the interests of the Chrysanthemum that I write, but also to endeavour to minimise (unsuccessful though I may be) the difficulties of the work which they so generously undertake. I trust, therefore, that those interested will enter into a discussion on the matter which I have raised.

And now, Sir, it remains for me to apologise for troubling you with such a very long epistle, and I thank you in anticipating the hope that you will allow your journal to be made use of for this subject, the importance of which may be the more appreciated when it is considered that the catalogue of the National Chrysanthemum Society practically governs almost the whole of the Chrysanthemum world, and the few experts, renowned as they are, who compile this estimable and most valuable work have the somewhat unique position of not having their opinions disputed (or only to a certain extent), or governed by a second chamber.—*Burgess Hill, Sussex, 15th December*, 1894.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Catasetum macrocarpum Shipwayi, *Nov. var.*—The typical C. macrocarpum is fairly common in cultivation, but is said to be getting rare in its native habitats in Guiana. It has greenish-yellow sepals, heavily spotted with brown upon the inner face, while the petals are without markings. The lip is yellow on both surfaces, but darkest internally, spotted there with crimson, and very deeply concave with a rather narrow opening. It is also three-lobed, although the middle lobe is much reduced. The sepals of C. m. Shipwayi are oblong-acuminate, and pale greenish-yellow, but soon fade to a straw-colour. The petals are very much broader, slightly longer, ovate-elliptic, and pink, slightly spotted with purple all over; but as the flowers are shrivelling up with age the spotting disappears from the apex downwards. The lip is golden-yellow, but darkest internally and wholly unspotted. It has a wide, squarish opening, minutely crenate on the edges, or sometimes entire, and the terminal lobe (if such it may be called) is continuous with the side lobes without any signs whatever. On the inner face there is an acute rim or knee, where the terminal lobe may be said to commence, otherwise there is no indication of it. The column is yellowish, fading almost to white. The variety C. M. Lindeni differs by its distinct squarish terminal lobe, a distinctly toothed edge, and a deep red blotch round the sides and at the base of the lip. C. m. Shipwayi comes from the same locality as C. Bungerothii, towards which it seems to have more affinity than the type, and is named in compliment to Colonel Robert Shipway, of Cricklewood, London, N.

Catasetum imperiale, *Nov. sp.*—This name has been applied by M. M. Linden and Cogniaux to a remarkable Catasetum, which has appeared amongst an importation of C. Bungerothii in the nursery of L'Horticulture Internationale, Parc Leopold, Brussels, where it is now flowering for the first time, and bears a fine spike of fourteen flowers. A flower before us shows it to be closely allied to C. Bungerothii, from which, however, it differs remarkably in colour and in some botanical points. The sepals are white, or nearly so, and the ground colour of the much broader, ovate-elliptic petals is similar but densely spotted with crimson on the lower half, while the veins there are raised into ridges more or less interrupted. The orbicular, concave lip is slightly dentate at the edges, and almost wholly of a dark crimson, deepening to blackish crimson on each at the base. There is a white blotch at the apex and another in front of the short, conical, saccate spur. The whole of it is fleshy and very endurable, lasting in good condition till the sepals and petals are fairly shrivelled up. The front of the column below the large stigmatic cavity is blackish crimson, and this colour on the back extends beyond the middle, while the rest is white thinly dotted with purple; the whole of it is polished and shining. The veins of the lip are so raised into interlacing ridges, forming a reticulation not seen in C. Bungerothii, and the concave portion in front of the opening to the spur is raised into numerous, tooth-like tubercles. We have little hesitation in saying that it is the grandest Catasetum in cultivation, and that it holds the same position in the genus as Maxillaria Sanderiana does in that genus.

Odontoglossum Pescatorei Prince of Orange.—O. Pescatorei as we are accustomed to see it has white flowers more or less spotted and marked with purple. Those exhibiting yellow colours are usually classed with O. excellens, or are considered natural hybrids, but that under notice is regarded as a true variety of O. Pescatorei. The flowers are of large size with broad segments of an orange-yellow, with several rich brown blotches in the centre of each, but as a rule one of the blotches is of large size, consisting in fact of a number of them run together while the rest are considerably smaller. There is a fine plate of it in the *Lindenia Pl.* 439, and which was prepared from an inflorescence sent by Sir Trevor Lawrence from his fine collection at Burford Lodge, Dorking.

Cattleya Mossiae Treyeranae.—The sepals and petals of this beautiful variety are bright rose with a deeper shade in some places. The lip, however, is the most distinctive and striking feature of the variety; the terminal lobe is of large size and golden yellow with numerous purple lines passing into a maroon tint. All the colours give place, however, to a white margin, which being much undulated or wavy gives the variety a most attractive effect. The variety has been named in compliment to Madame D. Treyeran the wife of a distinguished orchidist at Bordeaux, and there is a handsomely coloured illustration of it in the *Lindenia Pl.* 438.

Mormodes Cogniauxii.—Numerous species of Mormodes are known to science, but they are rather sparingly cultivated. The range of colour is considerable and in some cases quite attractive. The species under notice was recently introduced from Columbia by the Society *L'Horticulture Internationale* of Brussels, in whose establishment it flowered about the beginning of June last. The plants were of course barely well established, but served to show the character of the flowers which appear very distinct in colour from other species of Mormodes we have seen in cultivation. The oblong-lanceolate sepals spread widely and are rich orange-brown with nine darker nerves. The petals are somewhat shorter; but otherwise similar. The lip is fleshy, strongly revolute or folded back at the sides until the edges of the two sides actually touch, and stands in the same position with regard to the curved column as that of other species in cultivation do. It as well as the column is of a soft rosy colour, thus offering a strong contrast to the other parts of the flower. The species is allied to and similar in appearance to M. Rolfeanum; but the latter has smaller flowers with more abruptly pointed segments. The petals are only half as long as the sepals, and have more numerous nerves. The lip is thicker, less folded and of a blood red. There is a fine plate of M. Cogniauxii in the *Lindenia Pl.* 444.

Odontoglossums from Bird Hill.—Flowers of two very attractive Odontoglots come to us from Captain Robert Twiss, Bird Hill House, Bird Hill, Ireland. One of them is a variety of O. Rossii named O. R. albens and comes nearest O. R. aspersum, to which it is undoubtably allied but differs in the colour of the crest and column as well as the lip generally. The latter is liable to change, however, according to age. The sepals of O. R. albens are yellow but so heavily blotched with rich chesnut brown as to leave only a yellow netting. The petals are primrose yellow with the usual rich blotches on the lower half. The lip and column as far as the light will allow us to see are pure white. The crest of the lip is pale yellow with crimson lines on the inner face. The other sent us is a raceme of O. mirandum whose quaint and beautiful flowers are always welcome though far from common. The sepals are dark chocolate brown with a bright yellow margin and tip. The petals are similar in colour but broader with a pale yellow band along the middle of the base and then a chocolate stripe in the centre of this. The whole of the lip in front of the crest is dark brown and stands out in bold contrast to the two, long, diverging, twice curved and white horns of the crest. In the size of the flower and the form of the segments O. mirandum carries us back to O. Lindleyanum, of which it is indeed a variety, but in our opinion the strange and beautiful contrast of colours renders it the most distinct and handsome of all the forms of that species.

FRUIT UNDER GLASS.

Late Vineries.—The cleaning of these in the manner suggested in a previous issue should be prosecuted as vigorously as circumstances permit with a view to getting the work well in hand by the first two or three weeks in the new year, as after that things begin to move apace. Care should be taken, however, that the soap used in washing the houses be rinsed off the glass as soon as possible, or its transparency will be affected. In the case of outside borders, before proceeding to force it is advisable to cover with a good layer of fermenting material to protect the roots. Any heavy snowfall should be consistently removed from such borders, for when a thaw takes place the tender, fibrous roots are extremely likely to sustain injury from the deluge of cold snow-water. It is a good plan to afford outside borders some protection against heavy cold rains also, and if a few boards or sheets of galvanized iron are obtainable they may be with great advantage utilised for this purpose.

Early Vinery.—As soon as the shoots have reached a sufficient length, tying down should be commenced. This is an operation that requires a great deal of care and trouble, practised fingers as a rule being necessary. The bringing down of the shoots should be gradually performed, and on no account must undue pressure be brought to bear upon them or they will break out from the base, leaving the spur blind. Sufficient growths should be left to furnish the allotted space, thus, in some cases one will be sufficient, whilst in others two will be necessary. It is a good plan to tie the ligatures holding down the young growths to the wires in a running knot, as this allows them to be tightened or loosened as occasion may require. The regular syringing may be conducted as before, using soft water at the same temperature as the house until the vines are in rough leaf, when it should be discontinued. Let the night temperature be kept gradually on the increase at the rate of about 1° a week, the heat during the day rising in proportion.

Early Peach House.—The night temperature here should now be about 49° Fahr., rising to 65° upon sunny days. Plenty of air should, however, be given upon such occasions. Until the trees are in flower a moist atmosphere must be maintained by the liberal use of the syringe and the damping of paths, pipes, &c. When the flower buds commence to open the syringing must be stopped for a time, and a drier atmosphere maintained throughout.

Fig House.—The earlier supplies of this favourite fruit will of course be furnished by plants in pots which were plunged in fermenting materials in the early vinery about the commencement of the present month. Preparations should be made without delay for starting the Fig house, so as to form a suitable succession to the fruit contributed by the pot plants. The house must of course be cleaned, the walls whitewashed, and the trees pruned and painted with the same mixture as were the vines. A moist, even temperature of about 50° Fahr. by night, rising to a trifle over 60° by day must be maintained, regular syringings and damping also being essential, as in the case of vines.—*A. S. G.*

THE FLOWER GARDEN

Continue the rough digging of all vacant beds or plots during favourable weather, and any planting which was commenced at the latter end of November, as previously recommended, should be completed as soon as possible, always supposing the soil to be in fit condition for working on. The grass edges should also be neatly trimmed. By getting work of this kind forward during this comparatively slack part of the year a great deal of worry may be saved at a time when the advancing season calls for a multitude of operations to be performed all at once, and as a result the gardener is at his wits' end to know which

job to start first. Besides this, straightly cut, well-kept grass edges are of the first importance, adding, as they do, such an air of neatness and propriety to a garden. The edging tools should be clean and sharp, and in using should be held perfectly upright so as to ensure a straight and perpendicular edge.

If the weather keeps mild and open, Magnolias and other wall subjects of a similar character that have been covered with Russian mats to protect them from the possible inclemencies of the weather should be exposed to light and air. The coverings may therefore be rolled back (a proceeding that will not entail a great amount of trouble providing the mats have been properly adjusted), returning them to their place when frost threatens. This, although a simple, is a very necessary operation, for trees of this kind cannot fail to sustain injury from the want of light if they are placed in enforced seclusion for anything like a protracted period.

If fine frosty weather prevails a little time may well be spent in the manure yard, in turning and mixing of material that is destined for use in the flower garden or pleasure grounds. The application of raw or badly prepared manure is a proceeding not at all to be recommended. Advantage may also be taken at such a time of the hardness of the paths and grass to wheel or cart manure to the places where it is intended to use it.

In the event of a fall of snow a sharp eye must be kept upon ornamental trees and shrubs, which often receive a great amount of damage from their branches being broken by the weight of the snow lodging upon them. In many cases the loss of a large bough means the disfigurement of the tree to a considerable extent, a fact which should stimulate the gardener to obviate the evil by every means in his power. After a heavy snowfall no time must be lost in relieving the trees of their burden, or, even if the boughs are not broken, they will at least be bent considerably out of shape. The paths, too, should be brushed as soon as the snow has ceased falling, at least, if it shows any signs of lying for any length of time. Besides the assistance thus given to locomotion, the benefit accruing to the paths from the sweeping is considerable. They are thus in a comparatively dry state when the thaw sets in.

During periods when work outside is impracticable the tools may be looked over occasionally, for if not attended to they are extremely liable to rust, a state of affairs not particularly desirable. An oily rag rubbed over them now and again will keep them clean and in workmanlike style without causing much extra trouble.—*A. S. G.*

THE HARDY FRUIT GARDEN.

Continue the pruning and nailing of hardy fruit trees during favourable weather. It will not be possible to prune when the wood is frozen, and thus every spare moment must be used to the fullest advantage in case of a check presently. We have certainly been exceptionally free from severe frosts, at any rate, and, indeed, we may not even be troubled much in this respect, but with the glorious uncertainty of our climate, we are always face to face with all sorts of possibilities which may, or may not, present themselves. Under any circumstances, therefore, it is best to be prepared for contingencies as far as we are able.

The preparing of the ground on which it is proposed to form new plantations of fruit trees which, owing perhaps to lack of time, has not before been attended to, must be carried on without delay. The ground may be broken up to a depth of about 3 ft. if the subsoil is of fairly good character. If the ground requires draining, this most important operation must be performed first of all, as planting on badly-drained ground is the surest way to court failure in fruit cultivation. If the soil is not rich enough naturally, a heavy dressing of manure may be applied and well incorporated with the soil as the work of trenching proceeds. This will assist the trees to make healthy and vigorous growth. Some growers object to a too rich soil for fruit growing, on the head that it tends to cause gross and rampant growth, with a relative decrease in the fruitfulness of the tree. Should it be found, however, that the trees are growing too freely, to the detriment of their fruiting qualities, a judicious use of the pruning knife and the saw must be made, to induce them to see the error of their ways.—*A. S. G.*

THE VEGETABLE GARDEN.

Green Crops.

It is seldom indeed that green crops have been so plentiful up to the end of the year. Cauliflower and Autumn Broccoli are still in excellent condition, and all others of the Brassica tribe look flourishing. There is, however, ample time to have severe weather yet, for last winter the weather was mild till the new year, then one of the most severe weeks on record was experienced. Gardeners should therefore be well prepared and have everything in readiness to afford protection should it be required. All places do not suffer alike in this respect, and those who have taken charge of new establishments are somewhat placed at a disadvantage, inasmuch as they have not become acquainted with the locality or the requirements of the establishment. To such we would recommend to be on the safe side and take timely warning, so that should exceptionally severe weather visit us during the next month it may find them well prepared. Now many of the early Broccolis are very forward, and these would be almost sure to suffer; therefore any that may be showing the least signs of turning in should have the leaves gathered together and tied so as to protect the hearts. We all know that frost causes the outside leaves to fall down, and by so doing exposes the very part we wish to protect; but if the precaution be taken to bring the leaves together much mischief is prevented. Where there are a goodly quantity of cold frames, pits, sheds, or outhouses a portion of the most forward should be lifted and stored away in them, for by so doing it may be that the work of the season will be saved, whereas, if left to themseves the probability is they would be lost.

The early kinds of Broccoli are, as a rule, much more tender than the late ones, for the simple reason that they partake more of the Cauliflower. We have frequently pointed out the advantage of planting these a good distance apart in order that their foliage may be thoroughly developed and the tissues of the stems so hardened as to be the better able to resist the cold. One stout, robust plant is worth more than half a dozen that have become so drawn up as to scarcely be able to resist the force of the wind, much less than that of a severe frost.

The Seed Catalogues.

Catalogues are again pouring in, and the long lists of novelties they contain reminds us once more of the enterprise of the leading firms, and the pains taken by them to offer the best articles to their customers. Messrs. Sutton's list notwithstanding the misfortune that befel the coloured illustrations while passing through the press, is full of interest, and contains many novelties, and if they surpass those previously introduced by that firm, they will indeed be well worth growing. Again, in looking over Messrs. Veitch's new list at hand we find they too have many good things to offer us. Messrs. Sharpe, Webb, Carter and many other firms, too numerous to mention, all favour us with their long lists of improved forms of the various specialities they are interested in. It is somewhat surprising that the kitchen garden, as a rule, receives the most scant attention of all the departments. In many places we find the same old things grown over and over again, just as though it was impossible to improve on them; but if some of these sceptical individuals were to visit the large seed farms and trial grounds of some of these leading firms, we doubt not but what they would be convinced of their errors. On looking through these new lists to hand, we find notes from various authorities who have tested the various novelties mentioned therein, and there see that some of them are spoken of as being far superior to the older types, if this be so, then those of us who have to look carefully at the cost, would do well to try a few side by side with the older forms and prove them for ourselves. It is of course to the interest of all firms if they can offer something better than their neighbours, and as they have a reputation at stake it is not at all likely that they would try to palm off on their customers worthless or spurious articles.

Let us compare the seed lists of the present day with those of thirty years ago, we shall then see what an advance there has been made in most things. Of course there are many in those lists that would stand the test of the present day, still, there are others that are superseded in every respect. Let us hope that as time rolls on still greater things may be accomplished, and though the season of 1894 has not been all that could be desired in many respects, vegetables, as a rule, have been both good and plentiful; and if nothing worse happens in the coming year, we may look forward to having a time, if not of prosperity, one at least of plenty, particularly with the *Kitchen Gardener.*

Gleanings from the World of Science.

A new Fertiliser.—Experiments have been made, both in this country and in America, with the view of hastening the growth or maturity of vegetables, fruits, and other crops, by means of electric light; but it appears that a Frenchman of the name of Paulin has been using electricity as a fertiliser upon various food crops. His method is to fix a resinous pole in the ground, it may be 20 ft. to 60 ft. in height or more—the higher the better. To this pole a galvanised iron rod is fixed and insulated: at the top it terminates in five short copper wires that radiate in different directions, while at the base it communicates with iron wires permeating a given area of ground, at distances of 6 ft. apart. These wires are buried in the earth at such a depth as not to interfere with the operations of cultivation. They are arranged in parallel lines, and are all in communication with one another by means of one or more wires running at right angles to them.

Its Method of Working.—The new apparatus is termed the geomagnetifer, and requires no dynamo and battery for the production of electricity. The wires at the apex of the rod collect that which is generated in the atmosphere during storms of wind, rain, and snow. The whole of the expense in connection with the apparatus consists of the pole, the wires, and the cost of fitting and laying down or burying the wires. It will continue to act so long as the wires are not so much rusted as to fail in conveying the electric current.

Influence upon Potatos.—A geomagnetifer, 28 ft. high and set up in a field in which Potatos were planted, was inspected and reported upon by a commission of the Montbrison Society of Agriculture. The influence of this comparatively short stemmed apparatus, made itself felt over a surface of 65 ft. radius, as was evidenced by the extraordinary vigour of the Potato stems. The latter were about 5 ft. long and ¾ in. thick in places. Four squares were marked off upon the ground, each of 52 square feet; two of them were upon that portion influenced by the geomagnetifer, and two on the ground beyond the influence of the same. The Potatos of the first area when dug up weighed 198 pounds, while in the latter case they only weighed 134 pounds, or a difference of 64 pounds. Upon an acre of ground influenced by the geomagnetifer, the produce would amount to 30,800, but in the other case only 20,370 pounds. The variety of Potato grown was by no means an abundant bearer, ordinarily, and no special manuring was given. If such results can be confirmed the discovery must prove a valuable one, seeing that profitable returns can be effected without the employment of expensive chemical fertilisers.

Experiments with Spinach.—In this case a field was sown down with Spinach in the autumn of 1891, and in the April following an electrical fertiliser was constructed and the wires laid down. By the first of May it was evident that the apparatus was making its influence felt, for the vigour of the plants within the radius of the influence was great and indicated the outer line of wires by a straight line. On the 14th of the same month a patch of Spinach of eighteen square feet was pulled up from the influenced and another from the uninfluenced portion of the ground. The first lot weighed 53½ lbs., and the second 42 lbs., thus showing a difference of 11½ lbs. in favour of the geomagnetifer from that small area of ground. Other gatherings were made at different times till that on the 27th May showed that the excess of produce due to the influence of the geomagnetifer was about 4 lbs. for every square yard. Various other crops gave equally favourable results.

Deductions.—The value of this discovery will depend upon whether it can be used for any length of time upon the same ground without deteriorating the soil for the same or other crops. The exact effect of the geomagnetifer is not yet known. It may only bring about the decomposition of the humus in the soil and the manure supplied, so as to render them soluble at a more rapid rate than under ordinary circumstances, and so make them fit for plant food. It may stimulate the energies of the plants in a wholesome way, thus enabling them to appropriate the food ready to hand, or it may increase the supply of nitrogen in some way yet to be solved or ascertained.

SOME OLD CHRISTMAS CUSTOMS.

That the celebration of certain festivals had their uses in the days of old there can be no doubt, and especially so when the jingo spirit of the age was uppermost, and the cry of "St. George and England," "St. George and Victory," made, in the language of one of the old chroniclers, "heroes of cowards and men of children"; "St. Crispin's Days," and the "May Days," certainly served the purpose of bringing high and low together, when each youngster entered into the full tide of the month, and awakened a wish in his elders

"For the days which can never return."

That the observance of these festivals made the people glad and comfortable there can be no doubt —they had little else to interest them outside the monotonous routine of their daily life; they were so many dazzling spots which relieved the gloom of existence, as the sun gilds the dark horizon, as the human eye lights up the whole countenance, as a few glowing tints of the skilful painter impart a lively interest to the naked canvas—such was the "merry Christmas time," when distinctions of degree were forgotten, and lords and ladies, servants and masters, joined in the merry dance in the same festive hall.

Some of these old festivals are no longer observed, they have faded into obscurity; but the Christmas season has lost none of its accustomed cheerfulness. The festivities of that season had been well described by Sir Walter Scott in his "Marmion":—

"Heap on the wood—the wind is chill,
But let it whistle as it will,
We'll keep our Christmas merry still."

and further on—

"England was merry England, when
Old Christmas brought its spoils again.
'Twas Christmas broached the brightest ale;
'Twas Christmas told the merriest tale;
A Christmas gambol oft would cheer
The poor man's heart through half the year."

One of our Christmas institutions is the waits, which we have this season heard with their music making glad the stilly night. It has been presumed waits meant originally watchers, who were not merely night guards to tell the hour of the night or the state of the weather, but minstrels of the King's Court, who paraded the streets to prevent depredations. The Christmas minstrels were honoured with the name of the royal watchers. They, too, were called waits. The word *wait* is common to all Teutonic languages—to the German, Dutch, Danish, Swedish, etc., and is said to be the same as the Anglo-Saxon *Wecean*, to wake; and *waccian* to watch. Mention was made in Rymer's *Fœdera* that in the time of Edward IV. the waits were bound to pipe the time within the Court four times each night, for which they were provided abundantly with bread and ale, and entitled to eat in the Minstrel's Hall. At a later period the term waits was restricted to the bands of minstrels kept in London and other large cities, and mention was frequently made of them in the pageants of the time. These waits were eventually complained of, and probably with good reason.

The history of Carols appears to have succeeded that of the waits. Carol signified a song of joy, and was derived from the verb *cauto*, and *sola*, an interjection of joy. They were not always of a religious character, which they assume to be at the present time, but often sadly ludicrous and blasphemous, and formed the festal songs of Christmas. What is good among them has survived; and what is bad has ceased to exist. Some authors say that the singing of carols by men and women parading from house to house, dates from the very earliest period of Christmas celebration. When songs of gladness were appropriate for the occasion. Who does not know.

"Nowell, nowell, nowell, nowell.
To Mary thus spake Gabriell."

Nowell, or with the French Noel, the name by which Christmas is known in France, is supposed to be a contraction of Emmanuel.

The bestowal of Christmas boxes, denominated by many as "an absurd custom," is one of antiquity. The butcher and the baker sent round their apprentices to levy contributions, probably because the lads found some help of that kind necessary in keeping body and soul together; but the tide nowadays. appears to have turned the other way, the shopkeepers and employers are besieged. That the custom is dying out, though slowly, there can be no doubt.

The decking of houses as well as places of worship with evergreens is a custom still much followed, and flowers have come to play a most important part also especially in home decoration. An old poem on Christmas sets forth—

"From every hedge is plucked by eager hands,
The holly branch with prickly leaves replete,
And fraught with berries of a crimson hue;
Which, torn asunder from its parent trunk,
Is straightway taken to the neighbouring towns,
Where window, mantles, candlesticks, and shelves,
Quarts, pints, decanters, pipkins, basons, jugs,
And other articles of household ware,
The verdant garb confess."

Flowers have always been held in high veneration during the festive season, and especially at Christmas time; and foliage also—the Rosemary, Bay, the Holly, the Laurel, and the Mistleto—because green and enduring, and thus they form a striking contrast to the appearance of Nature at mid-winter.

At the Christmas season there were at one time strange ideas entertained relative to the mysterious character of the birthright of our Saviour, at which mention is made in Shakespeare's Hamlet.

"Some say that ever 'gainst that season comes,
Wherein our Saviour's birth to celebrate,
This bird of dawning singeth all night long,
And then they say no spirit dares stir abroad;
The nights are wholesome; then no planets strike,
No fairy takes, no witch has power to charm,
So hallowed and so gracious is the time."

I conclude with an extract from an old author—

"Merry is the cock, and the owl for twelve day is
Sprightly, because the spoiler of Satan was born."

And still, in some parts of the country, as a more modern writer remarks, "The idea is retained that the ox kneels down to a dove precisely at twelve o'clock; and some still would have it that, for a moment, all water blushed and became wine, and that come what weather it would the thorn of Glastonbury blossomed on Christmas night." Superstitious as these beliefs and practices were, they yet had in them something that had a tendency to better things, though we may have grown out of any beliefs in them.—*R. D.*

JAPANESE ANEMONES.

These are among the very best of autumnal flowers. We have several forms of Anemones among our earliest spring flowers, then comes a brief gap and we get the glorious Japan Anemones from the middle of August until winter sets in. They lend themselves so admirably to floral displays whether in the flower border or as cut flowers in the house. Like the year 1891, the past wet summer caused a freer growth than usual, and we had a grand display of bloom, more especially upon the old Japonica alba. It is such simple flowers as these that impart so much of the beauty found in old-fashioned and cottager's gardens. Our endeavour after perfect forms and size have certainly missed the mark as regards floral effects; in most cases, the results are much too heavy.

One thing about these Anemones is the extreme simplicity and rapidity with which they may be propagated and grown. Given a deep loam of not too stiff a nature and they are not easy to kill. Any small portion of root will grow, and if we give a slight mulching of rough manure in winter we are sure of a beautiful display the following season.—*Flora.*

GATHERING VEGETABLES.

Most gardeners at some period or other of their professional career have had to take their turn at the culling of vegetables for the kitchen. In many gardens a man is specially deputed to do this, but in the smaller establishments the duty frequently devolves upon the garden boy. It matters not by whom it be performed the fact remains, that it is one of the most important operations in the kitchen garden. It goes without saying that the serving of vegetables in a clean, attractive and workmanlike manner is of great moment. Good vegetables will certainly not appear to any the less advantage, and inferior ones may be made to wear a more passable appearance, when free from superfluous dirt, leaves, etc. Sometimes we see a basket of potatos, turnips and carrots carried off in anything but a cleanly condition, the basket in many cases containing a goodly quantity of earth for which as far as we are aware at present the kitchen authorities have not the slightest use.

Then besides the question of cleanliness that of freshness appeals very strongly to our consideration. The best vegetables must deteriorate in quality if kept for two or three days waiting upon the shelves of a hot scullery. It is the gardener's duty to see that his employer's table is furnished with all seasonable vegetables, also that these vegetables are sent in in the best possible condition. We should be sorry to say anything against the "queen of the kitchen," for we believe that cooks are as a class patient, long suffering and considerate, but in this matter we are inclined to think they do not always do the gardener the justice which is his due and lawful right. Thus we find that if any vegetable find especial favour in the dining room, the cook takes the credit for her skill in preparing these delicacies, but, if on the other hand, the vegetables are tough, stringy, or high flavoured, then it is the gardener upon whom the blame is thrust, for sending in unsuitable material.

From whatever cause resulting, possibly carelessness in looking after subordinates, we have known it to happen that old vegetables which have been gathered for several days, have been served in the dining room regardless of the fact that abundant supplies of fresh ones have been sent in daily, simply because the former happened to come to hand first. And in the event of complaints on the employer's part, and a consequent firing up on the side of the gardener, who would naturally resent the insinuation that the vegetables were not sent in in good condition, the cook has contrived to throw the weight of the condemnation upon the shoulders of the vegetable boy. Poor boy, what a nuisance he is to be sure!—at least in some people's estimation; what terrible things he does! and what a lot of looking after he takes. But anyway his presence is often a blessing in disguise, and all his wrong doings are abundantly compensated for by his value as a scape-goat, to bear the sins of his superiors.

Several gardeners with whom we are acquainted, who have been bitten in the manner described, have wisely given the boy instructions to carry away with him, on his return journey, any vegetables of the previous day's gathering which may be laying about. Of course these instructions do not apply so strictly to roots and tubers, but even these, however, are not improved by a week or so's keeping in the scullery. With regard to Beans, members of the Brassica family, Salading, etc., the full significance of such a method of procedure will readily be comprehended. It is an obvious fact that the gardener, seeing how largely his credit as a successful cultivator is involved, cannot keep too watchful an eye upon the doings of the cook and her assistants.—*G.*

CHRYSANTHEMUM
MR. C. HARMAN PAYNE.

The number of large Chrysanthemums continues to be augmented from year to year, and that under notice is one of them. The bloom measures 6 in. to 7 in. in diameter, and 5 in. to 6 in. in depth; its outer florets are drooping, while others are reflexed over them and imbricate, but more or less twisted. Furthermore, the florets are very long, of moderate width, more or less ridged, exceedingly numerous and of a rich shade of reddish-purple, distinctly mottled or marbled with white, particularly towards the centre of the bloom. Though not unique in this respect, it is more distinct than any of the few of that character which have hitherto been raised and brought before the public. The raiser was M. Calvat, Grenoble, France, who has been instrumental in raising many fine things in this popular class of plants, and who exhibited it at a floral committee meeting of the National Chrysanthemum Society on November 21st last, when a First-class Certificate was accorded it. Our illustration accompanying this was prepared from one of M. Calvat's blooms.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gadens, Chiswick; Secretary of the Fruit Commmitee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, Gardening World, 1, Clements Inn, Strand, W.C.

THE JAPANESE CHRYSANTHEMUM AND ITS CULTIVATION FOR SHOW BLOOMS.

By W. Rushton.

[A paper of considerable interest and value to Scottish growers of Chrysanthemums was read at the November meeting of the Scottish Horticultural Association, by that very successful exhibitor, Mr. W. Rushton, gardener at Cochno, Duntocher, and, by the courtesy of the author, we have now the pleasure of giving it wider publicity.]

Propagation.—As a general rule, with a few exceptions, I prefer to strike the cuttings early, as they give better blooms than those struck, say after the end of December. I begin early in October with late-flowering kinds such as Boule d'Or, Mrs. E. W. Clarke, Chas. Blick, Wm. H. Broomhead, J. S. Dibbens, Lord Brooke, and Robert Owen; and in the case of the following newer varieties I would strongly advise early insertion:—Silver Cloud, W. G. Newitt, Wanlass, F. S. Mathews, Le Prince de Bois, Eda Prass, and Mr. Ditrich. The bulk of the varieties are put in from the later half of November to the middle of December, and in January, February, and March, sorts that are too early to take cuttings of such as Mdm. Ed. Rey, Bouquet des Dames, Wm. Tricker, Viviand Morel, Chas. Davis, Van den Heede, Amos Perry, Edwin Molyneux, W. H. Lincoln, and Autumn Tints; also a few to bloom on the first break, viz.:—Mrs. F. Jameson, Mrs. E. W. Clarke, and Lizzie Cartlege. I have great hopes that the following newer kinds will give good returns if similarly treated:—Princess Victoria, W. G. Newitt, Robert Owen, Wanlass, and Silver Cloud.

Cuttings.—The cuttings should in all cases, if possible, be taken clear from the stems, and if not of too succulent a nature the better. They should be at least 3 in. long when dressed for insertion, very often, if smaller, they are slower in rooting, and do not so readily make such fine plants. It is not always possible, however, to get sucker cuttings, and then of necessity those from off the stem must be resorted to. The nearer they are to the base of the stem the better, as, when higher up, they are more likely to form premature flower buds. The chief point in favour of sucker cuttings is that they do not so readily set buds of this kind, although I do not think stem cuttings produce inferior flowers. Some varieties, such as Anna Hartshorn, Viscountess Hambleden, Viviand Morel, and its sport, are much given to forming premature buds. These, should, therefore, be removed as soon as they form until a free growth takes place.

Compost for Cuttings.—The compost for the cuttings must be of a free open nature. Many people are inclined to be careless in this matter, but I feel sure that it has far more influence upon the general welfare of the future plants than is often imagined. The cuttings are "setting up house" for themselves, and there can be no two ways about the matter, but what a sweet compost suitable for the plants' requirements, in which the new plants may begin their self-existent life, is of very great importance. I prefer the following mixture:—two parts of good fibrous loam that has been cut about twelve months, to one part of leaf soil, three-quarters of a part of river sand, and a twelfth of a part of charcoal. These should be passed through a ½-in. sieve and well turned over before using.

Pots for Cuttings.—The pots used are those of from 2 to 2½ in. in diameter, one cutting in each pot; the size of pot being in accordance to the strength of the cuttings, and their freedom in forming roots; the larger size for the stronger, and *vice versa*. In preparing the pots, place one crock over the central hole, over that a little of the rougher part of compost, then fill up with the finer part, and make rather firm. Place a little sand in the middle of the pot, for this, carried down with the dibber will serve for the base of the cutting to rest upon. The cutting should not be put too deeply into the soil, say about half-an-inch, for if inserted any deeper, they are more apt to damp off.

Propagating Frame.—I strike the cuttings in a span-roof house having a couple of beds in it under which there are pipes for the purposes of heating them. These beds are partially filled with leaves and litter, trodden firmly, on which I place 2 or 3 in. of ashes. In this the cutting pots are plunged, well-watered through a fine rose, and afterwards covered with sheets of glass one foot wide with a half-inch space between each to allow the escape of superfluous moisture. The beds are slightly heated, and the house is kept at a minimum temperature of, from 40° to 45°, Fahr. After the first watering the cuttings will rarely want any more water until they are rooted, but should they flag they receive a sprinkling with tepid water through a fine rose. As soon as they are rooted, and are past their flagging stage, they are placed on a shelf near the glass in the same house, care being taken to ward off cold draughts.

First Potting.—By the latter end of January, many of the plants will be ready for their first potting. Three or four inch pots are used and the compost is similar to that employed for the cuttings, excepting that less sand is given, and half a pail of horse droppings, that have been dried on the top of a boiler for a couple of days added. A four-inch pot of bone meal to the barrow load of soil is also given. I might state here, that all the pots and crocks used for the several pottings should be thor-

Chrysanthemum Mr. C. Harman Payne.

oughly clean and dry, also that no plant should be potted if the ball is either too wet or too dry; this latter caution holding good with regard to the compost. The plants are potted rather firmly, a label being used as a rammer. This finished, they are placed back again into the same house, no water being given for two or three days. This first shift should be given before the plants become anything like root-bound.

Removal to Frames.—In February I place the strongest plants into a large frame, made up on a slight hot-bed, composed of two parts of leaves to one of litter, over which is laid 3 or 4 ins. of sifted ashes. I find this better than a really cold frame, for the roots standing on the gentle heat are encouraged to push freely, a slight moisture rising, which keeps the plants nice and fresh, the minimum temperature being about 40°, Fahr. For some time the sashes are merely tilted up at the back, more or less, according to the state of the weather, but after a while they are ventilated freely. As the plants grow and gain strength they are placed in cold frames, where they must be guarded from frost.

Second Potting.—In March and April the plants receive their second shift; this time into pots of from 5 to 6 ins. in diameter. The compost used for this potting, is rougher, more loam is employed, and less leaf-mould, while a pail each of horse droppings, and burned soil and wood ashes, a 6 in. pot full of bone meal, and a 4 in. pot full of Thompson manure, or Cross's Fertilizer to the barrow load of soil are added. The pots are well, but not deeply, crocked, the rougher compost over the drainage is rammed firmly, and the plant is then placed into the pots, so that it is a little deeper than the rim, the soil round it being made firmer, than in the case of the previous shift. Firm potting should be the order of the day, for we must bear in mind that the "balls" of the plants should be permeated with smallish fibry roots, not big thick ones merely running around their outsides, the result being a good short jointed growth. It is from these plants that we get the best blooms, and we must therefore pot firmly and well, keeping the plants near to the light with a liberal supply of air whenever the weather is favourable.

Stopping Plants.—As before stated I work my plants to be in flower from the middle of November, and to do this, many varieties require special treatment, so that they may be rightly timed. This is done as previously mentioned by striking the cuttings early or late, also by stopping the plants at certain dates. In the last week of March, several early and late flowering varieties are stopped by taking out the merest point of the plants growth. The late kinds are allowed to break once, and those that are too early, if grown naturally, are permitted to make two breaks before the bud is taken. This remark anent the early kinds seems rather contradictory, but often we must take cuttings whenever they can be got, and most probably earlier than the date I specified for insertion. It is these early struck plants which require stopping, or else they will be in full flower three, four or five weeks, before the time. Amongst the late varieties I stop at the above date are, Mrs. E. W. Clarke, Dr. J. Grange, J. S. Dibbins, Mrs. F. Jameson, Robert Owen, Chas. Blick and Lord Brooke. I find it will be necessary to stop the following newer varieties at the same time, Waban, Princess Victoria, Eda Prass, Le Prince en Bois, Silver Cloud, F. S. Matthews and W. G. Newitt. In the middle of April, Boule d'Or, Mr. H. Broomhead, Edwin Lonsdale, Lady E. Saunders and President W. R. Smith. Whilst early in May, Stanstead White, Mr. Irvine Clarke, Mons. Bernard, Mdlle. Marie Hoste, Avalanche, W. W. Coles, Florence Davis and International are operated on. Time will not permit me to go into fuller details on this head, which I consider one of the greatest importance, for what is the use of growing them if we do not hit the time the blooms are wanted in their best possible condition. To find out their different characteristics we must observe their habits, and jot down the necessary information in a book kept for the purpose. I find it a good plan to give the plants new seven inch labels at their second potting, and on these make notes on the back of the dates when the cuttings were inserted, the different shifts, when they were stopped, and the time at which the buds were taken, if too early, or too late, besides any other information that may be of use. It is an easy matter to go through them at the time they should be at their best with the note book, and copy off the information written on the labels.

Placing the Plants Outside.—With the first spell of good weather in April I place the strongest plants outside, but, before doing so, I make a structure in which they are placed to guard them from frost and cold winds. This protection is made by forming a double line of Pea hurdles, 5 in. apart, stuffed with straw. At every second length there is placed a similar line at right angles. Each compartment, when finished, measuring about 12 ft. by 6. These can be lengthened as the plants become fit for standing out. The walls are constructed permanently on the North, East and West sides, the top and the sides being left open, but covered every night with similar hurdles, not so thickly lined. When the plants are first put out they are liable to droop if the weather is sunny, great care must therefore be exercised in watering them at this time, for to give water when it is not required, is very apt to do damage, in destroying the roots and souring the soil; they are better kept rather on the dry side for a few days, and syringed two or three time daily if the weather is bright, until the exposure hardens them.

Compost and Final Potting.—Success depends to a large extent upon the compost the plants receive at their final shift. What they seem to like is a happy medium between a heavy and light mixture. The compost I use is mixed at the end of March. Previous to this date the turf, which is cut in the months of December or January and left lying where cut until it has been well frozen through, is stacked layer about with dried horse droppings and a slight sprinkling of soot. Five roughly chopped barrow loads of the above, one of burnt soil and wood ashes, half a barrowful of leaf mould, a quarter of lime rubbish, a quarter of river sand, three quarters of a pail of burnt oyster shells, one pailful of rough charcoal, and three quarters of a pailful each of crushed bones and bone meal, half a pailful of Thompson's or Cross's manures, and one-fifth of a pailful of Ichthemic guano, are thoroughly mixed. These parts are repeated until enough is at hand for the whole potting.

Size of Pots.—With the exception of late struck cuttings and those plants of weakly or of extra strong growth, the general stock are potted into 8-in. or 9-in pots, those of a weakly habit into 6-in. or 7-in., and the strongest varieties into 10-in. pots. I am more inclined to favour 8-in. before even 9-in. pots, limiting the plants to a couple of blooms each. Unless we are favoured with a good season it is often impossible to ripen the wood sufficiently in large pots, which generally tells unfavourably upon the quality of the blooms. The pots are well but not deeply drained with crocks, over which I scatter from one to two handfuls of crushed bones, according to the size of the pots used or of the variety. These ensure a perfect drainage, and act as a beneficial manure, particularly during the latter part of the plant's growth.

Final Potting.—There is much difference of opinion regarding the best date for the final potting. Much depends upon the condition the plants are in and the locality in which they are situated. If an early one, they can safely be potted at a late date. Cochno is 500 ft. above sea-level, and this I find makes about a fortnight's difference in our vegetation compared with our neighbours who are much nearer the sea-level. I commence to pot in the first week in May with plants that were well supplied with roots, usually finishing the lot by the latter end of the month. I have no hesitation in saying that the above date is not too early in any part of Scotland, as our seasons are short and the most must be made of them, so that when the autumn is upon us we have pots well filled with roots and wood sufficiently ripened.

What is worth doing is worth doing well, and very specially does this saying agree with the final potting, but to do it thoroughly is rather a slow task. Having a lot of pots crocked in readiness, scatter the bones over the crocks as advised, put a layer of the rough part of the compost on the bones, ram this very hard, then lay a little of the finer part over this, leaving it deep enough to allow of a space being left about 1½ in. below the top of the pot after the putting in of the plant. Knock the plant out of the pot, carefully remove the crocks, turn the plant upright, and spread about one teaspoonful of Standen's Manure over the surface of the ball, and the plant is ready for potting. I have followed out this course for years, and it has proved to be a very successful one, In potting, do not put much of the compost in at any one time, but just a little at a time, taking care to ram it well until the old ball is slightly covered. This done, mark, stake the plants, and place them out into the position previously recommended, supplying them with water not later than from two to four days after potting. The plants are kept in this sheltered position until the middle of June, when they receive a single stake, the length of which is in accordance with the height of the variety when in bloom. The plants are then stood out in rows 3 ft. 3 in. apart, and the pots placed so that each plant may be clear of its neighbours. The pots are stood upon two pieces of wood, which are better than ashes on a board, both as a preventive against rooting through and the ingress of worms; it also allows freer admission of air to pass through the balls.

(*To be continued.*)

TRANSPLANTING SHRUBS.

The lifting and transplanting of these is treated as of small moment by many. All through what is generally known as the planting season, so long as there is not too much frost to allow of planting no check is made in the operations. Sometimes the soil is far too dry for safe removal of Conifers and other shrubs, at others it is sodden to such an extent that we should be wise to keep to the paths alone; otherwise, planting in heavy land is not often so successful as we would wish.

Again, the plants are too often lifted in a rough and ready manner, some nurseries being especially careless in this respect; a few years ago I had charge of some planting, when a valuable lot of Hollies arrived with scarcely any roots attached, Before planting, I called the purchasers' attention to this and immediately telegraphed: "Tops safe to hand, please send on *roots* as soon as possible." How can we expect such rough lifting to pay? If we have mutilated roots in small quantity, bad planting and little attention afterwards, how very great a contrast we find to the case where a little care has been exercised.

Now a word as to the season for planting. I am aware we cannot always select this as we would wish; many reasons prevent, our employer may not decide in time, or another more pressing work checks us. But if we use a little more care than usual we can plant fairly safe through an extended season. For the majority of Conifers I prefer early October; but this must be guided by the season to a great extent. We must not move them in active growth, but it is certainly a good plan to do so immediately they have ceased and while yet scarcely ripe. We thus get the advantage of new roots to a slight extent, and also secure a firmer setting of soil around these before hard weather sets in.

Drought, both from wind and frost have less effect when this is the case; but we must attend to watering for a time if the ground is dry. Here we so often see the mistake of applying water at the surface after the planting is done. Far better give a good soaking around the roots when the hole is no more than half full, leave it an hour or so, and fill in and tread up firmly. Firm planting, again, is of considerable benefit. We do not sufficiently realise how firm the soil soon gets in a state of nature; wind, rain and other influences all tend towards this. Use a medium sized plant if possible, although we need not hesitate to move large specimens of many subjects if due care be taken.—*Experience.*

EARLY PEAS.

In most gardens Peas are one of the things that the gardener strives his hardest to obtain as early in the season as possible, consequently he has to try several dodges in order to find out the one that is productive of the best results in the particular part of the country in which he happens to be placed—best results, of course, in reality meaning earliness. It would be well-nigh an impossible task to discover an establishment where Peas are not held in high favour. Indeed, in most instances, they are considered not as luxuries, but as necessities, and therefore looked upon in much the same light as the Potato. It would be a hard matter to find another vegetable of what we may term the higher class of which this can truly be said. Seakale is necessarily held in

great esteem, but while there are crowds of persons who value it highly, there are also many who do not care a jot about it, at least, with regard to the eating part of the business.

Asparagus, too, with all its delicacy of flavour and consequent high value as an esculent, meets with some people who declare that they care not for its flavour. In this latter instance we would fain confess that to our private imagination this smacks somewhat of the "Fox and the Grapes," this vegetable certainly being beyond the reach of a great portion of the community, among them, of course, being the cottage gardener, who with his few perches of land can ill afford the space necessary for the cultivation of Asparagus. With him it is a constant problem as to how he shall allot his ground to the growing of the vegetables that will give him the best possible return in the wisest proportions.

With regard to the culture of Peas, it is scarcely a vegetable that would pay the cottage gardener to grow. First there is the amount of ground occupied, then the trouble and expense incurred in the procuring of suitable staking material, and lastly the labour involved in the operation of staking. When we take all this into consideration it is manifest that the owner of small gardens will with very few exceptions be unable to largely indulge his taste for Pea growing. In larger gardens the question of profit and loss is, of course, not so essentially the standard by which the cultivation of any particular vegetable is gauged. The employer evinces a taste for any special subject, and accordingly it has to be grown regardless of the labour involved, the difficulties in the way, or the advisability of the operation from a profit and loss point of view.

To the gardener who wants to obtain early Peas, say towards the end of May, several plans are open. The first is to sow thickly in the open air during November or the beginning of December, the second to sow in a gentle heat in shallow boxes in the beginning of February, the young plants being afterwards dibbled in rows outside in a sheltered part of the garden; the third to sow in pots at a similar time or to plant out in clumps on a warm south border which has previously been well prepared by manuring and thorough digging, as soon as the state of the weather will allow of it being done. With regard to the first-named method and the wisdom of its practice from a cultural point of view a good deal has been said from time to time in the columns of the horticultural press. It must necessarily follow that seed sown in the open ground in late autumn is exposed to considerable risks from the inquisitive nature of mice, who soon find out whether anything has been put in the ground, and doing so exhibit particular diligence in annexing it.

Then again, if the winter proves a wet one, a great part of the seed sown perishes from rot. The exceptionally mild autumn we have enjoyed this year has in many instances caused the Peas sown in this manner to germinate, and in several localities we have noticed that they are even now pushing through the surface of the soil. It is true the Pea will stand a little frost with comparative impunity, but it exhibits a marked dislike to cold nipping winds. Therefore in the case of our experiencing a few of these, such very early subjects will be sure to suffer. From one cause or another it seldom happens that autumn sown Peas yield anything like a fair return—the plants that do survive usually being weak and unhealthy specimens of their class. Sometimes, however, if the winter is a fairly dry one it happens that good results are obtained, and thus in localities where the soil is light in character and well drained, this method of autumn sowing has something to recommend it. In heavy wet soils it is, however, by far the best plan to let it severely alone.

The second method of sowing in boxes in a gentle heat in February and dibbling out the young plants when the weather allows is really a good one, and is practised by many efficient gardeners, usually with the best of results. The last-mentioned system is, however, even superior to it, it has stood the test of a considerable number of years, and whenever adopted has always given satisfaction. The seed may be sown in 60-sized pots and placed on a shelf near the glass in a vinery that is being forced. They should be kept well on the dry side until germination has commenced. Little or no water will be needed, in fact, the moisture contained in the soil is usually sufficient. As soon as the young plants are well through the soil they should be removed into a cooler house or else they will become drawn and sickly. They should be kept near the glass and gradually hardened off until the middle of March or thereabouts, when, if the weather is favourable, they may be transferred to the position prepared for them.

In planting they may be knocked out of the pots and placed in the ground without interfering in the least with the roots, the check being thus reduced to a minimum. Covering material should be placed near at hand, so that protection may be expeditiously afforded them should occasion require. In the case of the dwarf varieties, such as Chelsea Gem and American Wonder, which, of course, may be planted much closer together than would be practicable when dealing with the taller growing varieties, a few posts may be temporarily driven in, and bars fastened to them in a horizontal position, so as to form a light frame work over which tarpaulin or Russian mats may be placed. The taller growing sorts, such as William I. and Ringleader, should be staked, and if a quantity of spruce boughs are obtainable these may be used as protective material, for which purpose they answer admirably. If, however, these are not to be had in sufficient quantity, dry bracken or straw will serve the same end, although the littery appearance caused by the latter does not enhance its value in the eyes of gardeners who are lovers of tidiness.—*Sangster.*

THE ORCHARD HOUSE AND ITS MANAGEMENT.*

During the last few years a great stir in hardy fruit growing has been taking place, and it has been the means of drawing special attention to this subject. Much has been said and written on fruit trees of all descriptions, their culture and management, and we have heard much on all sides of the question. It is a closely-allied subject to which I wish to draw your attention for a short time this evening. Most of you have, no doubt, read up this subject well, and have heard what is to be said for and against it. The subject has been so well threshed out, both in the press and the lecture room, that there remains little more to be said about it. You have also had some most useful object lessons on the same subject in connection with your own Society, that it may almost seem absurd for me to take the subject in hand. But we all have our pet theories to ventilate, so much so, that we sometimes step boldly in where "Angels fear to tread." I want to put forward some such excuse to you this evening for bringing the subject-title of my paper before you, viz., "The Orchard House and its Management."

Whether or not we have yet gleaned all that is to be learned about the growing of hardy fruits in the open, and have decided in our own minds whether it can be carried out as a paying concern or not, according to the point of view we take of it, there is yet, I think, something to be said in favour of hardy fruit growing with the aid of glass, and it is to that system of culture and treatment I hope to draw forth much valuable information in the discussion which I know follows the reading of papers before your Society.

First: Let us consider the house most suitable for our purpose and its aspect. For choice, a span-roofed house running north and south is the most desirable, as from this aspect we have a more equal distribution of light, and the plants would, therefore, be placed so that most is made of the accommodation. Having decided that a span-roofed house is preferable, the eaves should be from 5 ft. to 6 ft. high. The width may vary from 18 ft. to 40 ft. according to the space required. We do not all require large houses, so that the demand and space has to be studied. We may not all be fortunate enough to have span-roofed houses, and other houses have to be called into use; but any house having plenty of light may be utilised for our purpose. It is often remarkable what can be done when the accommodation is not all that could be desired. Whatever form of house we have in use, the ventilation should be ample, as it is most essential we should have a free circulation of fresh air if we are to have a good set and well-flavoured fruits. There is one more subject which crops up in connection with our house, and it is a most important one in some respects, viz., the heating. Should the house be heated or not? For preference, I think, most of us would prefer to have the means of excluding frost when the plants were in flower, or it may be to hurry the plants into earlier activity to produce earlier crops. The heating, however, can be dispensed with for the purpose of this paper. I have found that much can be done to husband the heat, by closing the house early when there is any appearance of frost when the plants are in flower.

During the late frosts last spring when we registered 16° of frost outside, with the thermometer 3 ft. above the ground; in a cool orchard house which was shut up early in the preceding afternoon, the thermometer stood at 32°. This I mention to show what may be done without the aid of fire heat, and I do not think it will be often we shall have so severe frost so late in the season to contend with as the one we had last spring. There is, however, a great advantage in having a heated house whose early fruit is required, and where two or more houses are in use and one of them slightly forced, we get a much longer supply of fruit. The sorts of fruit we are to grow now demands attention, and the system we are to adopt in their culture. The sorts of fruit would include Pears, Apples, Cherries, Plums, Peaches, Nectarines, Figs, and sometimes Gooseberries and Grapes are included, as well as a few more which are not generally cultivated. The system of growing fruit trees in the orchard house is so closely allied to fruit trees in pots, that we pause and draw attention to the system where half the trees may be planted out in a prepared border and the remaining space used for trees in pots.

The sorts of trees that may be used for planting out are the Peach, Nectarine, Plums, and Figs, with Vines run up the rafters 6 ft. or 8 ft. apart, the Pears, Apples, Cherries, and Plums, being grown in pots. At the same time, it would be advisable to grow some Peaches, Nectarines, Plums, and Figs, in pots, so that they could be removed to the open air, and so prolong their season. Having thus briefly drawn attention to this mode of growing, let us now turn our attention to the trees we are to select, and if we have time to prepare our own plants, which will be the more satisfactory in the end. The Pears should be on the Quince stock, and two or three-year old trees selected. Apples should be on the Paradise stock, and two or three-year old trees chosen. Cherries should be on the Mahaleb stock, and one or two-year old trees picked out. Peaches and Nectarines should be good selected maidens. Plums may be two, or three, or four-year old trees. The best form to follow in training is that known as the pyramid. This form of training is so well known that it is unnecessary for me to dwell on details. Should we desire to have fruiting trees at once—so much is the demand for this class of trees that several of our large nurserymen make a speciality of fruit trees in pots, and good plants can readily be secured, so as to produce a crop of fruit the following season. But should one be able to make the selection of his own trees for potting up, a fairly good crop of fruit may be expected from them the following season, but it would be unwise to over-crop the trees the first year after potting up.

Soil.—The soil we are to use for potting purposes should consist of the best loam to be had, in the proportion of three or four barrow-leads of loam, one of old mortar rubbish, broken up and passed through an inch sieve, one barrow load of wood ashes, and a bushel of bone meal or horn-shavings. The whole should be thoroughly mixed together, and should not be too wet or too dry. Experience alone can teach us the condition soil should be in for potting. If the loam has been dug six months previously and laid up in a heap it will be all the better, as the grass and green material will by this time be decayed, and the whole become mellow. The old mortar may be substituted by pulverised chalk, but it is necessary we should have plenty of lime in the soil where stone fruits are to be grown. Other stimulants can be added to the plants in the shape of chemical manures, or in the form of manure water. The main ingredients we should be most particular in securing at starting is good loam, and enough lime mixed with it. With such a mixture as I have described all the fruit I have mentioned as suitable for the orchard house can be potted.

In potting it is necessary the pots should be clean, as well as the crocks to be used for drainage. In draining a pot it is not necessary to use a large quantity of potsherds, but see the crocks are laid, the first one over the hole in the pot, and the others on top and

* A Paper read at the Ealing Gardeners' Improvement Association on December 4th, by Mr. A. Wright, Falkland Park Gardens, South Norwood Hill.

over-lapping; in this way we get better drainage with a few pieces than when a few handfuls are thrown in indiscriminately. Cover the drainage with some rough pieces from the potting material, and we are ready for the tree. See that the roots are evenly spread out, and not covered with soil until they can be laid straight-out in the soil, and not crowded into the bottom of the pot. Use a stick in potting, and ram the soil firm, but leave room on the top for top dressing. The size of pots for the trees I have mentioned would consist of 10 in. and 12 in. pots, and if the work is carefully done should with top-dressing last four or five years.

As the trees are potted they can be stood close together outside, and be covered over with bracken or leaves to protect them from frost and wet. In this position they can remain until March, when they will require to be taken into the house. The trees can be stood almost close together until their fruit is set, and by the end of May or beginning of June, both Apples and Pears can be removed outside to a south border or a sheltered position and be plunged within 2 in. of the rim, if the soil should be light and where the water can pass freely away, but should the soil be heavy and retentive, two bricks should be placed on edge in the bottom of the hole made for plunging, and the pots stood on them, and only be plunged three-parts of their depth. With the removal of the Apples and Pears, we have now plenty of room to spread out the remaining plants left in the orchard house, and it is necessary as growth now becomes rapid that close attention should be paid to pinching.

Although I have mentioned here that Apples and Pears can be removed as soon as all danger from frost is past, it may be desirable to keep the plants longer inside so as to produce larger fruit. This may be done, but the fruit will be much improved in flavour in both instances if the plants are removed to the open for at least six weeks or two months before the fruit ripens. We have all admired the fine examples of Pears often seen exhibited at some of our leading exhibitions, and the thought of the flavour has not troubled us, but in many cases could they have been judged by their flavour, smaller examples would have taken their place. This I put down to ripening the fruit under the glass instead of removing it to the open air.

Having thus far secured our trees, and having them potted up ready for starting, we move them into the house about the middle or end of March. If the soil in the pots is at all dry, give the plant a thorough watering, taking care from this on that they do not become dry. Keep plenty of air in the house, both day and night, except in frosty weather. In fine weather the trees should be syringed early in the afternoon, until they come into flower, and even then the plants are all the better for being slightly syringed when in flower. My experience teaches me that fruit trees always set best outside in wet weather so long as the frost keeps off, and I consider it a mistake to keep fruit trees dry overhead when in flower. We must not forget that pollen is equally as effective when transmitted to the pistol of the flower in a wet state as it is in a dry, and we thus obtain an easy means of distributing it.

As soon as the fruit sets a sharp look-out must be kept for green and black fly, two of the greatest pests we have to contend against in the orchard house. We must also see that our trees do not become overcrowded, and should this be the case let us pick out all our worst set trees, and those of least value and remove them to their outside quarters as soon as ever danger from frost is over and plunge them in their summer quarters.

As soon as ever the fruit are set, and we can see the most promising fruit thinning out should take place, and do not let us forget that it is quality we want, not quantity. If our trees are such as I have described and potted into 10 in. or 12 in. pots, from one dozen to two dozen fruits according to the size of the varieties will be sufficient. That would apply to Pears, Apples, Peaches, and Nectarines; Plums may bear double the number. As soon as the fruits are set we can now use the syringe more freely, and the house in bright weather may be syringed morning and afternoon, closing the house for a few hours after syringing, but opening it again before night. Allow a free circulation of air at all times, and at no time is this of more importance than when the trees are in flower. Manure water in a weak condition may also be applied as soon as the fruits are set, and continue its use in a weak state, but change its composition occasionally. As the growths get to 6 or 8 leaves, they can be pinched to the fourth leaf, the leading shoots can be left longer if they are required to increase the size of the tree; continue this pinching throughout the summer, and if not neglected, little or no winter pruning will be necessary.

Should green or black fly make their appearance means should be taken at once to get rid of them. For this purpose, where a few appears on a tree, I have found tobacco paper used with a pair of bellows a capital plan, and a most economical one for getting rid of them. Where Cherries are grown, we are almost sure to be troubled with fly, and should the atmosphere be kept too dry, red spider is sure to make its appearance, but with a free use of the syringe and the bellows with tobacco paper we have a good remedy, but there are the usual means and divers other methods well-known to get rid of them. As the season advances, so the interest in the orchard house increases. The sight in the orchard house when the trees are in flower may compare favourably with the Orchid house at this time of the year, but when we see the fruits swelling, and getting on their matured colour, and we find that the good samples of the different kinds of fruit is so superior to the fruit grown outside (what there is left by the uncertainty of our climate) that we wonder that more has not been done in this age of cheap glass to produce a more plentiful supply of better fruit than has been done, and so help to keep the foreign supply from our markets.

I was much struck in reading "The Orchard House," by T. Francis Rivers, where he says:—"Fine and well-grown large Pears during the winter months, at a low average, are worth 3s. per dozen. So that from 2,000 trees, always safe from storms and frosts when in bloom, we may estimate an annual crop of 25,000 dozens of Pears. This may when the trees attain the age of seven or ten years be put down at 3,500 dozen. When it is considered that 1,000 dozens of Pears are worth £150, it will be seen that a house of Pears may be made a source of profit." He estimates that a house 100 ft. long by 24 ft. wide will accommodate the 2,000 trees, and if we add the Grapes that would be cut from the rafters, if planted 6 or 8 ft. apart, we have no hesitation in agreeing with him when he says, "An industrious man may make a sure and handsome profit from a house 100 ft. by 24 ft."

As the fruit are gathered from the trees, the trees should be removed to the open, so as to get the wood thoroughly well ripened for another year. Towards the end of October the surface soil should be removed from the pots until the roots are well exposed, and top dressed with fresh material, such as I have described for potting. As they are finished they should be stood close together in a sheltered position, and the pots covered over with bracken and leaves, as before the winter pruning can be done at any convenient time before the trees are taken inside for another year. Those that would require larger pots would be repotted instead of top dressing. It is also advisable to turn out the plants to see the drainage is perfect. This is easily done at the time of top dressing, and prevents after loss and annoyance.

Before closing this paper and submitting a list of best varieties for orchard house culture I should like to draw your attention to the list, as there are many good varieties I have left out, but for our purpose we must have large fruit if we are to get a large price for it. As with Grapes, so with orchard house fruit, we must have something to catch the eye and make a show on the table. It is left to those who grow fruit for their own consuming to grow the good flavoured and best varieties. This is not as it should be, but we have to thank to a great extent for this the bad rules, or rather the want of rules, in judging fruit at our exhibitions. Let us hope that the committee to be appointed by the R.H.S. to enquire into the subject of judging may do something, so that the best quality fruit will be brought to the front, and not the largest examples as at present.

List of twenty-five Apples.—Emperor Alexander, Beauty of Bath, Bismarck, Cox's Orange Pippin, Cox's Pomona, Duchess of Gloucester, Lady Sudeley, Lord Derby, Lord Grosvenor, Peasgood's Nonsuch, Prince Albert, Stirling Castle, Warner's King, Worcester Pearmain, Washington, Mère de Ménage, Beilingheimer, Beauty of Kent, The Queen, King of Pippins, Hormead Pearmain, Baumann's Red Winter Reinette, Blenheim Orange, Benoni, Bramley's Seedling,

Pears (twenty-five).—Beurré Gifford, Clapp's Favourite, Williams' Bon Chrétien, Souvenir du Congrés, Beurré d'Amalis, Fondante d'Automne, Marie Louise, Conseiler de la Cœur, Durondeau, Beurré Bosc, Glou Morceau, Doyenné du Comice, Duchess d'Angouleme, Marie Louise d'Uccle, Beurré Diel, Beurré Bachelier, Beurré d'Anjou, Pitmaston Duchess, General Todleben, Beurré Superfin, Louise Bonne de Jersey, Beurré Rance, Beurré Clairgeau, Magnate, Doyenné Boussock.

Plums (Fifteen).—July Green Gage, Old Green Gage, Jefferson, Kirke's Transparent Gage, Reine Claude de Bavay, Guthrie's Late Green Gage, Reine Claude Violette, Webster's Gage, Bryanston Gage, Coe's Golden Drop, Prince of Wales, Victoria, Pond's Seedling, Autumn Compôte, White Magnum Bonum.

Cherries.—Early Lyons, Early Rivers, Frogmore, Bigarreau, Knight, Early Black, Early Black Bigarreau, May Duke, Governor Wood, Black Eagle, Elton, Old Bigarreau and Black Tartarian. Note.—All the Bigarreau Cherries are better to be worked twice. First the May Duke on the Maheleb stock, then re-worked on the May Duke.

Peaches.—Alexander, Alexander Noblesse, Hale's Early, Goshawk, Grosse Mignonne, Lady Palmerston, Mr. Gladstone, Noblesse, Princess of Wales, Stirling Castle, Violette Hative and Waterloo.

Nectarines.—Albert Victor, Balgowao, Elruge, Hardwick Seedling, Humboldt, Lord Napier, Pine Apple, Pitmaston Orange, Victoria and Violette Hative.

Apricots.—Early Moorpark, Moorpark and Gros Peche.

Figs.—Brown Turkey, Brunswick, White Brunswick and Black Ischia.

Grapes.—Black Hamburgh.—*Alex. Wright.*

MANURES FOR ROSES.

Before recommending any special fertilizer for Roses, let me point out that they are not such gross feeders as many might infer from some catalogue instructions. To get them at their highest exhibition form, and to have a pleasurable Rose garden full of beautiful, if not ideal blooms, are two totally different things. We need first of all cast our thoughts around to see what class of manure is most readily available, and truth to say it does not matter much what manure we use, so long as we keep one point in mind, viz., not to use stiff, close manures upon soil of a similar character and vice versa. At any rate we should not use them to excess. A stiff manure soon sours and stagnates aheavy soil, whereas one of a lighter character brings it into better heart, and at the same time affords the properties most needed.

Soot, guano, and fresh stable manure should be avoided upon sandy soil, they tend to dry it up still more. But a stiff, clayey or wet soil is greatly benefited by these ingredients. We see therefore that it is a question of soil and manure rather than the latter alone. If we are dealing with light land, a little agricultural salt is by no means to be depised. I use it in a mixture of cow manure and weeds all decayed together. It does not matter what soil we are working upon, pig manure with weeds, &c., that the animals have grubbed among, and thoroughly killed is excellent. If confined to one, this would be my choice. It is not pleasant; but no good manures are, and we can deodorise it by mixing with soil or slightly covering it over when mulching. Some apply a little lime to this and night soil, but the effect is so very wasteful that I prefer a little more trouble in using it by covering with soil. Night soil, by the way, is ao excellent fertilizer for Roses. Use it when forming a Rosery, incorporating it in the bottom trench. We thus avoid unpleasant odour, get rid of what is often more or less of an encumbrance in the country, and get a most valuable Rose manure at the same time.

I said Roses were not gross feeders, neither are they, but they are hungry plants and amply repay for a little extra attention. We find our native Roses more frequently upon stiff and somewhat poor soil, but our garden hybrids will not do themselves justice unless better fed than this. At the same time we secure good results by giving a little steady

and constant feeding, and avoiding undue excitement with its consequent sappy growth, so frequently followed by a relapse through the soil becoming more or less impoverished by the use of artificial stimulants. Use natural manures as much as possible.—*Rosa.*

THE BALMORAL WOODS.

In a lecture on Forestry delivered at the Society of Arts on the 19th inst. General J. Michael, C.S.I, said with reference to the Balmoral Woods and plantations which he had lately visited:—From the grand old forest of Ballochbuie, where the Scots Firs now standing are known to be from 200 to 250 years old, down to the very youngest plantations, and even to the nurseries and seed beds, the effects of thoroughly good management and true forest conservancy are everywhere apparent. In a property like Balmoral, as well as in most large properties in Great Britain, the preservation of game is an important factor when dealing with forestry, and handicaps the forester to some extent, but it has been found here that good woods are quite compatible with a good head of game. Of course, an area which requires re-afforestation or planting, must be fenced in from deer and ground game for twenty or twenty-five years, but with systematic management, a compensating area on which the trees have grown sufficiently becomes available to be thrown open.

So long as the love of sport, open-air exercise, and adventure, remain inherent in the Briton—and it is devoutly to be hoped that it will never vanish, for that love has aided largely in making the Briton what he is—it cannot be expected that landed proprietors who own moors and deer forests will sacrifice the shooting ground they prize, or for which they enjoy a high rent, for the sake of a long-deferred prospect of profit from timber; but still there are many thousands of acres of unprofitable land in the British Isles available for wood culture without sensibly trenching on shooting ground.

A very interesting and important feature of the Balmoral forestry operations is a plantation formed by Mr. Michie in 1885 of Douglas Fir. It is about twenty acres in extent and, being situated on the slope of Craig-gowan hill, facing the castle and in the midst of other woods of Scots Fir, Spruce, Larch, &c., the additional variety of rich colour given by the Douglas Fir—with some old Birches interspersed—is very picturesque. The health and growth of the young trees have been most satisfactory. I learnt that the seed was obtained from trees growing at Murthly Castle, in Perthshire, which were brought from America by the late Sir William Drummond Stewart. The seedlings were sown and treated after the usual methods as for Scots Fir, Larch, &c., and then planted into nursery lines at two years old, then again at four years, and were planted out permanently at five or six years of age, by pitting, about ten feet apart in ground where a good many old birch trees were standing. There were very few failures—not more than three or four per cent.

At present, after nine years' growth, the trees average 13 ft. in height, and have a stem girth immediately above the spread of roots of about 1 ft. Some Larches were planted through the Douglas Firs, but they have been outgrown by the Firs. The aspect of the plantation is north and east, the ground slopes rather steeply in these directions, but it is sheltered somewhat by old trees sparsely scattered. No thinning has yet been done, as the trees having been planted pretty far apart it has not been necessary, nor will it be advisable for some years to come. Squirrels do not appear to attack the Douglas Fir as they do Scots, Larch, Spruce, &c., and it is believed to be less susceptible to damage from birds and insects than most others; even rabbits and hares are not fond of it, and only nibble the bark when hard pressed in winter. It grows very fast, and soon makes a good appearance; in unseasonable frosts or high winds, at the time when the growth is soft, the leader is apt to suffer, but on the whole it compares favourably with the Larch, and beats the Scots and Spruce in rapidity of growth. The altitude of the plantation is 1,000 to 1,100 ft. above the sea. The soil is a rough gravelly loam, with boulders, while the general rock formation is granite. The wood of the mature Douglas Fir—the Oregon pine of commerce—is too well known to need comment, but as the tree was only introduced into Great Britain in 1826, it is early to talk of its timber; while still young, however, it takes a place for durability intermediate between Norway Spruce and Larch. It bids fair to be the coming tree for planting in the British Isles.

Altogether, about 5,700 acres of the Balmoral and Birkhall property is under wood—3,500 acres being old forest, and 2,200 acres plantation of various ages, chiefly Scots Pine, but a good deal of Larch and Spruce.

There are three saw-mills at work, cutting up the timber for the market, one, near Danzig Shiel, is driven by a steam-engine which burns sawdust as fuel, another at Invergelder, near the castle, is driven by water, and the third is at Birkhall.

Although I did not presume to ask the question, the whole state of the Balmoral woods, and the efficient method of caring for them and working them, gave me the impression that they could not fail to produce a fairly remunerative return, notwithstanding a more liberal outlay on roads, drives, bridges, fencing, etc., than would be considered necessary under other circumstances and on other properties.

GARDENING MISCELLANY.

CHRYSANTHEMUM MRS. R. C. KINGSTON.

In your issue of December 15th you state that at the meeting of the Floral Committee of the National Chrysanthemum Society my blooms of "Mrs. R. C. Kingston" were described on the show card as "Japanese incurved," but how that occurred I cannot say, as when sending the blooms I distinctly described the variety as being a true incurved, one in fact of the real old show type. This variety was raised by that well-known and very successful raiser of new "Mums.," my old friend, Mr. Henry B. Surman, gardener to C. W. Clarke, Esq., Germantown, Philadelphia, U.S.A. He exhibited it at Philadelphia in November, 1892, and was awarded a "Certificate of Special Mention" for it; and thinking it might improve in the English climate and under our system of cultivation, he at once forwarded the original plant to me. This year it has done splendidly, for it is an excellent grower, about 5 ft. high, with bold foliage, large and clean. It comes well on both crown and terminal buds, and opens freely and kindly, while the blooms are very lasting. In its earlier stages the colour is a beautiful tint of pink, and I think it will prove an excellent addition to our "back row" blooms, being large, and of good form. This year it has gained a F.C.C. from the National Chrysanthemum Society and Certificates of Merit at York and Beverley, the only places at which it has been exhibited in this country. —*Chas. Lawton, The Gardens, Welton House, East Yorkshire.*

AID TO THE BENEVOLENT INSTITUTIONS.

Well done Altrincham! £105 10s. in three years, just, to the Royal Gardeners' Orphan Fund, and raised by a few earnest workers connected with the Altrincham Gardeners' Association, is indeed something to be proud of. What a glorious example to all other kindred societies throughout the kingdom, every-one of which could do something if they would only set about it, either by grants from their funds, by obtaining local subscriptions, or raising money in a way similar to that adopted by Mr. Charles Hewitt and his friends at Altrincham. The Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund both greatly need every particle of help that can be given, for the claims on both funds increase, and will do so still more in the face of the depression in the horticultural trade and the reduction of staff and expenditure in so many of our leading gardens. In the case of the Benevolent Fund, young gardeners, by subscribing a guinea a year for fifteen years, are eligible to receive a pension of £20 a year should they in old age be in want of pecuniary help, and their claims be examined and admitted, and this without the cost and trouble of an election. Many urge as an excuse that they may never want it, but they never know what misfortune may bring to them in old age, and thus should not forget that a very large number of their gardening brethren require such help. Both institutions are great blessings, and let me urge all to try and benefit both in some way. A large number of Chrysanthemum Societies are now making up their balance sheets and having meetings, and what seasonable help they could give. The Horticultural Societies of the kingdom, who hold one or more annual flower shows, could in many cases make a grant, if only of a guinea, and so give material help. We unfortunately very rarely hear of any legacy being left to either, and yet how many thousands of well-to-do people who have loved their gardens pass away and leave no legacy for our Benevolent Institutions behind. It would be well if gardeners generally would bring the claims of these institutions under the notice of their employers, for I am sure much good would come out of it.—*An Old Crock.*

BARLERIA FLAVA.

Among the fine decorative subjects of which the the natural order Acanthacea boasts, the above pretty little plant is certainly not the least worthy of mention. The flowers as the name signifies are yellow in colour and the inflorescence spicate. A batch of small plants not a foot in height are at present flowering away very freely in an intermediate stove at Kew. Cuttings composed of the young wood will strike very readily in a warm progagating frame that has a brisk bottom heat. Light sandy soil should be used for the cuttings, but once they are rooted they should be potted off into a rich compost, composed of good turfy loam, some well decomposed manure, a little peat or leaf-soil and some sharp sand.

ROUGH DIGGING.

The importance of this very simple and easily performed operation cannot be overrated, especially where the soil is of a heavy and retentive character. By loosening it to a good depth and throwing the spits up as roughly as possible, the frosts of winter are enabled to penetrate the soil to a much greater depth than they would otherwise be able to do. The immense amount of good thus done in the destroying of many of the insect pests that attack our vegetables during the growing season, can readily be understood by all. Apart from this, the soil derives considerable benefit from the greater freedom with which the air penetrates such roughly dug plots of ground.

MUSHROOM BEDS.

In the making up of these during the winter months it is advisable to see that they are made rather deeper than they are during the summer. This, of course, necessitates the use of a greater quantity of fermenting materials, but it stands to reason that a larger body of such matter will, in the usual course of things, keep up the required heat for a longer period than will a smaller one. All cultivators of Mushrooms know that it is hopeless to expect successful results if the temperature of the beds is suffered to decline too low, and this is naturally a more difficult matter to accomplish at this time of year than it is when warmer weather prevails. Making the beds deeper as suggested is, however, an excellent method of attaining this desirable end.

QUESTIONS AND ANSWERS.

Peat Moss and Mushrooms.—*Peat Moss*: We doubt whether peat moss and horse droppings would have the same durability as the latter would when mixed with straw litter. Otherwise we do not see that it would be harmful in any way. It might be advantageous to shake out some of the peat moss litter and add some from the cow stable to give more lasting properties to the Mushroom bed.

Price of Book.—*J. W.*: The price of the book, "Fertilisers and Feeding Stuffs," which we reviewed some time ago, is 1s.

When to Propagate Phyllocactus.—*J. Long*: This may be done at various times, but the most suitable is in spring, just before the young growth commences to push. About that time the young side shoots will be sufficiently firm to render damping less liable. Take them off about 6 in. long, and allow the cut ends to dry somewhat before using, or rub the same with some powdered charcoal previous to insertion. Fill some 3-in. or 4-in. pots of light sandy soil, covered with sand, and insert the cuttings round the sides of the pots chiefly. Then stand them in a stove or intermediate house where the temperature is kept about 60°. They will root in comparatively a short time, when they may be potted off singly; but until roots are produced you must be very sparing with water.

WATER LILIES.—*W. A. Adams*: You speak of White Water Lilies, and as such the best for open air culture would be Nymphaea alba, N. a. rosea, N. odorata, and N. tuberosa, the latter being North American, while the two former are European. N. alba is of course native to Britain. Marliac's new Water Lilies are said to be hybrids, and are certainly fine things, but they are generally of other colours than white. Some of the most beautiful and popular of them are white, pink, rose, and red. For instance, N. Laydekeri rosea, has rosy-carmine flowers; M. Marliacea rosea is rose; N. M. chromatella, canary-yellow; N. M. carnea, flesh; N. odorata exquisita, dark red; N. o. rosea, delicate rose; N. o. rubra, lively rose; and N. pygmaea Helvola, small, pretty, and yellow. All of the varieties of N. odorata are deliciously scented. They may be obtained from M. Latour-Marlia, Temple-sur-Lot, France. We do not know that any nurserymen has yet got them in this country, although several cultivators have got some or other of them.

TALL, HARDY BAMBOOS.—*W. A. Adams*: The following are grown in this country, namely, Bambusa aurea, B. Ragamowski, B. violescens, B. Simonii, Phyllostachys nigra, P. viridiglaucescens, Arundinaria Metake, A. Khasiana, and others. They should be sheltered by surrounding trees from the action of the wind. You would be able to obtain the above from Messrs. J. Veitch & Sons, Chelsea.

TEXT BOOKS ON HORTICULTURE.—*W. V. C.*: You do not state who is the author of the "Primer on Horticulture," there are probably many of them, but we do not think that any mere primer on horticulture or any other subject would fit a pupil for examination. There are many books from which the necessary information will have to be gleaned and gathered together, but no one book that gives the whole. Presuming that you know the practice of horticulture thoroughly, then get "Warington's Chemistry of the Farm" to get a knowledge of the chemistry of the subject. "Plant Life on the Farm," by Dr. Masters, will give you an insight into the physiology of plants. Both books are published by Bradbury, Agnew & Co., London. "How Plants Grow," by Johnson, published by Macmillan, is another useful book for your purpose.

REMUNERATION FOR TEACHING.—*W. V. C.*: No precise rules can be laid down as to the proper remuneration for class teaching. It depends upon your skill and reputation, upon the number in the class, and upon the number of lectures you are to deliver. Supposing you carry on the class from now till May, and give one lecture or demonstration of an hour's duration, you should require 15/- to 20/- from each pupil if there are only two or three, but you can lower the price as the number of pupils increase, to 10/-, or even lower if you consider it worth your time and trouble to do so. These are only hints rather than a guide for you.

COMMUNICATIONS RECEIVED.—E. H.—W. G. B.—C. E. O.—G. W.—W. B. G.—S.—J. D.—H. C. P.—R. G. & S.—E. W.—C. B. G.—W. Wardill.—X.—C. H. P.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, Kings Road, Chelsea, S.W.—Catalogues of Seeds for 1895, and Hardy Trees, Shrubs, etc.

JOHN LAING & SONS, Forest Hill, London, S.E.—vegetable and Flower Seeds, Begonias, &c.

H. CANNELL & SONS, Swanley, Kent.—Seed Catalogue for 1895.

COVENT GARDEN MARKET.

December 24th, 1894.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples.....per bushel	3 0	9 0
Nova Scotia Apples per barrel	12 0	15 0
Cherries, per half sieve	0 0	0 0
Cob Nuts and Filberts, per 100 lbs.	21 0	23 0
Grapes, per lb.	0 6	1 6
Melons .....each	0 0	0 0
Peaches & Nectarines, per doz.	0 0	0 0
Pine apples.—St. Michael's, each	2 6	6 0
Plums .....half Sieve	0 0	0 0
Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	1 0	1 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	5 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 6	1 0
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	0 0
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket	2 0	2 6
Small salading, punnet	0 4	
Spinach per bushel	3 0	
Tomatos..... per lb.	0 6	1 0
Turnips ..... per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Aspidistra, per doz	18 0	42 0
—specimen plants, each	5 0	15 0
Cyperus .....per doz.	4 0	12 0
Chrysanthemums, per doz.	6 0	8 0
Cyclamen, per doz....	9 0	18 0
Dracaena term., doz.	18 0	36 0
Dracaena viridis, doz.	9 0	18 0
Erica hyemalis, per doz.....	12 0	18 0
" gracilis per doz.	10 0	12 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	3 0	8 0
Ferns, small, per 100	3 0	6 0
Foliage Plants, doz.	12 0	60 0
Marguerites, per doz.	8 0	12 0
Mignonette, per doz	6 0	0 0
Palms in variety, each	2 6	10 0
Palms, Specimen ...	15 0	63 0
Primulas, per doz. ...	4 0	6 0
Solanums, per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0
Azalea.....doz. bchs.	6 0	12 0
Bouvardias, per bun.	0 6	1 0
Carnations...per doz.	1 0	2 0
Chrysanthemums, doz. blooms	2 0	6 0
" doz. bunches	4 0	12 0
Eucharis ...per doz.	3 0	4 0
Gardenias 12 blooms	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9
Hyacinth (Roman) doz. bch.	9 0	12 0
Lilac (French) per bch.	5 0	6 0
Lilium Harrisii, doz. blooms	6 0	8 0
Maidenhair Fern, 12 bs.	4 0	6 0
Marguerites, 12 bun.	1 6	3 0
Mignonette... 12 bun.	3 0	4 0
Narciss (French) doz. bch.	4 0	5 0
Orchid Bloom in var. per bloom, from	0 3	1 0
Pelargoniums 12 sps.	0 6	0 9
Pink Roses...per doz.	3 0	6 0
Pyrethrum doz. bun.	2 0	4 0
Primula, double, bun.	0 6	0 9
Roses, yellow, dozen	2 0	4 0
— Red..... doz. blms.	3 0	6 0
— Tea ..... per dozen	0 6	2 0
Scarlet Geraniums, doz. bchs.	5 0	6 0
Tuberoses, per doz	0 4	0 6
Violets (French) Parme, per bch.	2 0	3 6
Violets (French) Czar, per bch.	1 9	2 0
Violets (French) doz. bch.	2 0	2 6
Violets (English) doz. bch.	1 6	2 6

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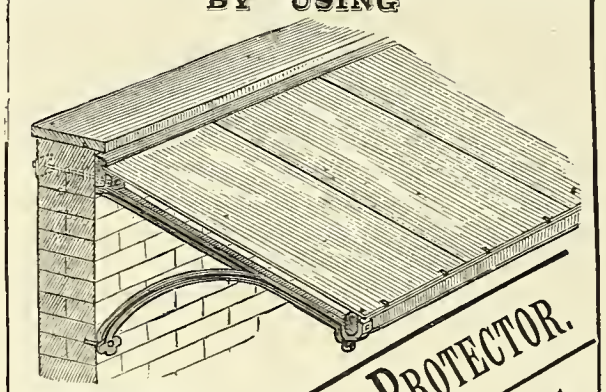

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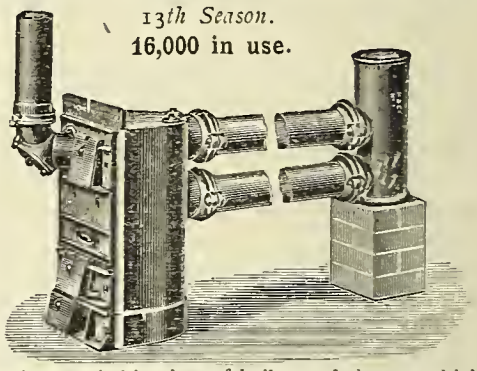

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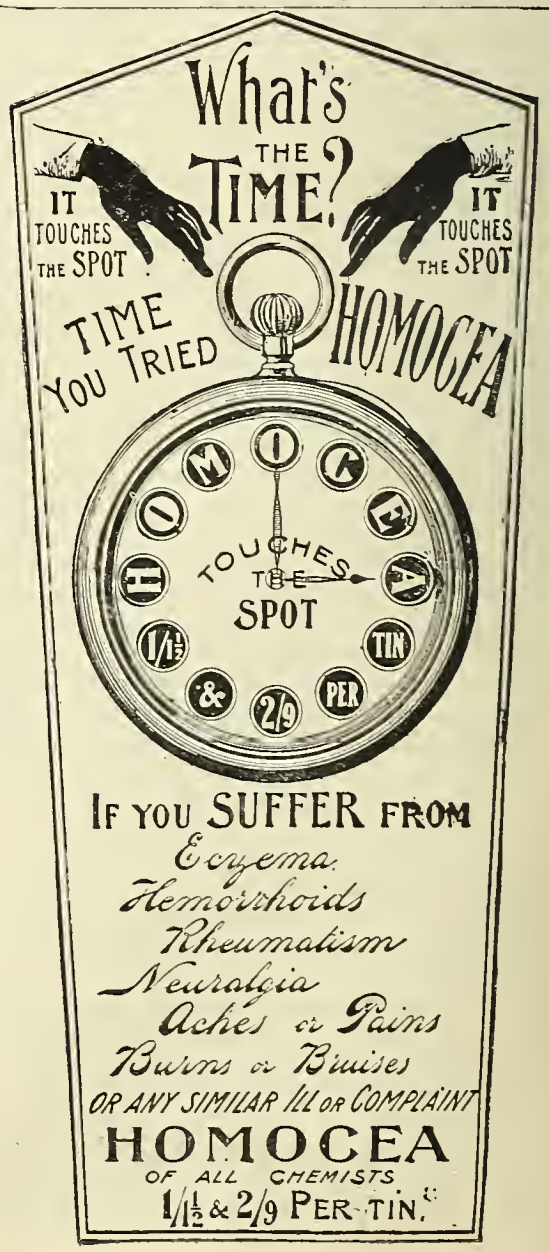

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For Index to Contents see page 301.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 7th.—Sale of Hardy Plants and Bulbs at Protheroe & Morris' Rooms.

TUESDAY, Jan. 8th.—National Amateur Gardeners' Association, at 7 p.m.

Special Sale of Plants, Bulbs, Roots, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, Jan. 9th.—Sale of Lily Bulbs, Plants, &c., at Protheroe & Morris' Rooms.

FRIDAY, Jan. 11th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, JANUARY 5th, 1895.

To our numerous readers and supporters in all parts of the world, we tender a most cordial New Year's Greeting. We thank them most heartily for their generous appreciation of our efforts to be useful to them during the past twelve months, and most sincerely wish them all a very Happy and Prosperous New Year.

PHOTOGRAPHY AND HORTICULTURE.—It is but reasonable to suppose that horticulture will profit like all other professions or trades by the improvements that are constantly being effected in the arts, including that of photography. We are all familiar with the statement that gardening

SUPERIOR GARDEN SEEDS.

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"is an art which does mend nature;" but we also know that artists have often made strange attempts to illustrate the productions of the garden in a way that was anything but convincing to the eyes of lovers of nature. This was more particularly the case when ideal rather than real productions seemed to be the aim of artists' creative imagination. Illustrations prepared from photographs marked an advancement in accuracy of representation, reproductions of a photograph being necessarily more true to nature. Many garden productions are difficult to faithfully represent on paper, when at all complicated in structure, or in fineness of the divisions of foliage; but photography is equal to the task, and year by year is tending to greater perfection as instruments and means to an end are improved, As a rule, improvements are gradually effected; but it sometimes really happens as the result, so to speak, of an accident when it is claimed as a discovery.

Accidents are not all mischievous and destructive, but are sometimes fraught with useful lessons. We have an instance of this in the photographic substitutes for the usual coloured illustrations in Messrs. Sutton and Sons' Seed Catalogue for the present year. It was their misfortune to have the specially designed cover, together with the coloured plates, representing flowers and vegetables, destroyed by a fire at Crown Point, Leeds, whereby the work of months was destroyed, and no time was left to replace them. The only alternative to going to press without them, was to give a series of photographs of the subjects delineated in the destroyed plates. Photographs of vegetables are the most numerous; and we may say that those subjects have never been more faithfully represented, nor illustrations of their kind better executed. We unhesitatingly say this much of the illustrations of some new varieties of Potatos and several older favourites that are now making headway in gardens, over the length and breadth of the country. The smoothness or roughness of the skin as the case may be, as well as the relative depth of the eyes are presented at a glance with such vividness as to remind us of the old proverb "dummy winna lee," so well known to many besides those who live north of the Cheviots. Sutton's A 1 is a new, round, variety with a light golden, slightly russeted skin, that is said to be earlier than the old Ash Leaf, and is highly praised by all who have grown it. The skin is finely wrinkled, but that character is a much more prominent feature of Harbinger and Triumph, particularly the latter. Other varieties could be named whose peculiarities are brought out in a marked manner by the photographer's art. Wherever a speck, spot or scab exists, here it is brought out as a faithful response to the light of the sun.

What we have said about Potatos applies even more forcibly to the illustrations of several varieties of Borecole or Kale, the labyrinthic folding and curling of whose leaves, alike defy the pen, pencil, or brush to represent them. The different degrees of light and shade is something marvellous, and incapable of imitation by any other method. Each plant constitutes in itself an elaborately wrought picture. The various kinds of Broccoli are also shown to great advantage, and the Cabbages, Savoys, Cauliflowers, Lettuces, and other vegetables are also clearly defined by the same process. Attention will also be directed to the numerous fine varieties of Peas. which have been raised and put into commerce during the last few years by the Reading firm. There are exceptions, or, strictly speaking, one exception to the clearness with which the illustrative figures are brought out, but that instance is evidently due to the dense mass of foliage forming the back ground, than to the skill of the artist. A bunch of thirty-five fruits, two-thirds of their natural size, of Tomato Sutton's Golden Nugget, reminds us of a bunch of the Duke of Buccleuch Grape, owing to the contrast of light and shade which is so characteristic of photographic art. The least satisfactory perhaps of the illustrations are those of the Onions; though there may be some of a different opinion. The shading is too dark, and the lines so characteristic of Onions very obscure; but doubtless this is capable of being remedied, notwithstanding the shape and solidity of the objects represented.

Flowers also come in for a due share of attention, and should the art ever attain that stage of perfection as to represent the natural colours as faithfully as form, then it may be possible for all to possess pictures painted to nature. The illustration of the field of China Asters shows the method of testing and comparing the numerous varieties of this complicated class of garden plants. The natural colours imparted to this would vivify the picture immensely. The Annual Chrysanthemums of the C. carinatum type are brought out with wonderful effect, as are the zones of colour characteristic of Gaillardias. The nearly full-page plate of Cyclamen represents a well grown plant admirably, and shows the cultivator an example well worthy of imitation. One figure shows the true aspect of a houseful of Chinese Primulas as seen (so to speak) by the camera, while another goes more into the details of the individual flowers. A single plant of Streptocarpus Wendlandi is a picture in itself, as the peculiar netting and wrinkles of the solitary leaf as well as the flowers in their natural positions are all brought out with admirable perspicuity. Taking the illustrations all round, we are inclined to think that the destruction of the Messrs. Sutton's plates was no great loss to Horticulture, and that the photographer rather than the lithographer will be the catalogue illustrator of the future.

Messrs. James Veitch & Sons, of the Royal Exotic Nursery, Chelsea, have given their procuration to James Herbert Veitch (who has been with them several years) and to John Gould Veitch, sons of their late partner John Gould Veitch.

Death of Mr. William Barron.—We regret to learn of the death on the 27th ult. of Mr. William Barron, for many years in business as a nurseryman and landscape gardener at Sketty, Swansea, an elder brother of Mr. A. F. Barron, of Chiswick.

Death of Mr. John Carter, of Keighley.—We regret to record the death on Monday, the 24th ult., in his seventy-ninth year, of Mr. John Ireland Carter, nurseryman, of Willow Bank, near Keighley. In spite of ill-health Mr. Carter followed his business up to the last. Born near Bingley, Mr. Carter went at the age of three with his parents to live at Keighley. His first employment was as clerk with a solicitor formerly practising at Keighley. In his twenty-ninth year Mr. Carter took over the nurseries of his father, and under his care the concern has expanded fourfold. The area of land at present under cultivation is about forty acres, the nurseries being situated at Willow Bank and Holycroft.

A Giant Oak.—The *Gartenflora* has notified the existence of an Oak at Pilkallen, whose dimensions ought to be recorded. At the base it measures 7½ yards in circumference, while it is between 90 ft. and 100 ft. in height. The age of this huge giant has been estimated at 1,000 years, and every spring it is covered with a beautiful crown of leaves, so dense that neither rain nor snow can find their way through it. Last year, two limbs removed from it, furnished sufficient wood to construct a mill. For a century past this giant has been close upon its present dimensions. From time immemorial the inhabitants of the district have always seen a stork's nest constructed in the thick branches.

Veitch Memorial Fund.—At a meeting of the trustees held on the 19th ult., it was resolved: That £10 be granted to the Lindley Library Fund; That silver medals be presented to James Bateman, Esq., F.R.S., the father of amateur Orchid culture; to Mr. F. W. Moore, curator of the Royal Botanic Gardens, Glasnevin, in recognition of his valuable services to botany and horticulture; and to M. Victor Lemoine, of Nancy, for his services as a hybridist; and that a Veitch medal and prize of £5 be placed at the disposal of each of the following horticultural societies, viz., the Royal Caledonian, the West of Scotland, York Gala, and Worksop, for products to be competed for at their respective shows subject to the approval of the trustees. It is particularly requested that all communications respecting the Veitch medals and prizes should be addressed to the Secretary, Mr. A. H. Kent, 44, Doria Road, Fulham, S.W.

Royal Gardeners' Orphan Fund.—At the meeting of the Committee on the 28th ult., the following special receipts during the month were announced by the honorary Secretary: Altrincham Gardeners' Mutual Improvement Society, £50 10s.; Scottish Horticultural Association, £5; Mr. J. H. Vallance, sale of flowers, etc. £5 5s.; Stockport Chrysanthemum Society, £2 2s.; Ware and District Gardeners' Mutual Improvement Society, £1 2s.; Mr. J. Rogers, 2s.; Mr. G. R. Allis, Old Warden Park, Biggleswade, 5s.; Mrs. Bowerman, Hackwood Park, Basingstoke, 5s.; Collecting Boxes: Mr. J. Burn, Abbey Park, Leicester, £7 5s.; Mr. J. B. Stevenson, Bournemouth, £1 7s, 3d.; Mr. H. A. Burberry, Highbury, Birmingham, £1 10s.; Mr. J. Witty, Nunhead Cemetery, £1 3s.; Mr. H. Herbert, Kew Road, Richmond, £5 5s.; Messrs. W. Thomson & Sons, Clovenfords, £3 13s.; and Mr. A. J. Brown, Chertsey, 13s, 6d.

Group of Huge Chestnuts.—A group of giant Chestnut trees of more than venerable age, occurs in the village of Blaesvald under Willebroeck, in the property of Madame Ve Mooyerson, as related by a writer in the *Bulletin d'Arboriculture*. One of them standing over the rest principally draws the attention. The trunk measures 18 ft. 9 in. in circumference, at a yard from the soil. This respectable mastodon of the Vegetable kingdom is vigorous, and still intact in all its parts. If the hurricanes spare it, which is probable, thanks to the weaker companions which surround it, and keep good guard, this remarkable tree will attain phenomenal proportions.

Torquay District Gardeners' Association.—Over fifty members attended the meeting of this Association on the 21st ult., when Mr. J. Wilson, of Belton Lodge, read a paper on "House and Table Decoration." Dr. R. Hamilton Ramsay, President, occupied the chair. Mr. Wilson enumerated a number of plants suitable for different positions in the house, both foliage and flowering kinds. Bulbs were a very useful family, the Narcissi especially being very valuable in house decoration. Bulbs in bloom could be taken out of the pots and used conveniently wherever required. Mr. Wilson then proceded to describe a table to seat eighteen persons furnished with plants and flowers, and a drawing-room similarly adorned. A round table decorated for the Christmas season was also minutely described. All the effects indicated were of a most artistic character. In inviting discussion, the President remarked that gardeners should be very careful in their use of scented flowers, inasmuch as in a hot room their effect was often unpleasant. Spirea japonica, lilies of the valley, and sweet peas were notable examples. Mr. Jones described some pretty effects which he had seen obtained by means of artificial frosting of small branches or twigs, and the use of different coloured plushes—good ideas when flowers were scarce.

Christmas Flowers at Belvoir Castle.—Writing to *The Times* on the 29th ult., Mr. W. H. Divers, gives a remarkable list of things in bloom there on Christmas Day. Mr. Divers writes: As a remarkable instance of the mildness of the season, I send you the following list of flowers in bloom at Belvoir Castle this year on Christmas Day. It is not un-

common to find many of them south of London at this time during mild seasons, but I do not remember any Christmas in the Midlands when they have been so plentiful as they are at present. I notice also that the tree Paeony has made young shoots upwards of 3 in. in length during the last few days, and the sap is active in many plants that come from warmer climes: Aconite, yellow (Eranthis hyemalis), Anemone blanda, Anemone hortensis, Aubrietia graeca, Andromeda floribunda, Antirrhinum majus, Arabis albida, Borago officinalis, Berberis Bealii, Carnation (white seedling), Chimonanthus fragrans, Chrysanthemum (nine varieties), Daisy (single and double), Eccremocarpus scaber, Escallonia punctata, Furze (common single), Geranium Robertianum, Garrya eliptica, Helleborus niger, Helleborus hybrids, Honesty, Iberis gibraltarica hybrida, Jasminum nudiflorum, Laurustinus, Lamium maculatum, Morina longifolia, Meconopsis cambrica, Magnolia grandiflora (not expanded), Marigold (common), Myosotis dissitiflora, Othonna cheirifolia, Polygala chamaebuxus, Polyanthus (in variety), Primrose (common yellow), Primrose (double lilac), Rhododendron (in variety), Roses, China, in quantity, tea, and h.p., Scabious, Saxifragra ligulata, Snowdrop (common), Stock, Tussilago fragrans, Vinca minor, Violet (common Russian), Violet (double Lady Hume Campbell), Wallflower (Belvoir Castle yellow), Wallflower, (Miss Hope, double yellow).

Death of Mr. Charles Collins.—With very sincere regret we have to record the death of a most estimable brother journalist in the person of Mr. Charles Collins, of the staff of the *Journal of Horticulture*, which sad event took place suddenly on entering a train at Forest Gate Station on the evening of the 26th ult. Mr. Collins, though only about 30 years of age, had been engaged on the London horticultural Press for several years, and by his ability, studious habits, and amiability of disposition, and the quiet courage with which he was known to be fighting the battle of life against misfortunes, both personal and domestic, that would have broken the heart of many a physically stronger man, had won for himself the warm esteem and respect of his fellow-workers and all who knew his sterling worth. Born in Hampshire, and left fatherless early in life, with an impediment in his speech that he never overcame, his struggles for existence commenced at an early age, and may truthfully be said to have only ended with his lamentable death under such tragic circumstances. He commenced his gardening career under Mr. Summers at Sandbeck Park, Rotherham, in 1880, and subsequently served under Mr. Sampson at Wortley, and Mr. Inglis at Howick Castle, Northumberland. The impediment in his speech was a great obstacle to progress in his professional career, and on the advice of Mr. Simpson he did his best to qualify himself as a writer for the Press, and after some rough experience on a paper long since defunct, he became associated with Mr. T. W. Sanders on the staff of *Amateur Gardening*, subsequently serving for a few months under Dr. Masters, F.R.S., on the *Gardeners' Chronicle*, and then joined the staff of the *Journal of Horticulture*, where for nearly three years he gave the greatest satisfaction to his employer, Dr. Hogg. He was at work, cheerful and hopeful, until Christmas Eve, but fate decided that he was not to see the number he had helped to send to press. Poor fellow! In life he did all that man could, struggling against great difficulties, to provide for the proverbial rainy day, but fate was against him, and we grieve to say that he has left a delicate wife and two young children wholly unprovided for beyond the immediate present, and whose sad case has enlisted the warm sympathy of all who knew the kindly-natured husband and father, the persevering, silently courageous man who ever hoped for the best, and who often carried a cheerful presence in company with an aching heart, but quite unknown to any but his more immediate friends.

Tecoma stans is a very decorative lawn plant, stately in appearance and with vivid green foliage and golden-yellow and trumpet-shaped blossoms. It blooms continuously and profusely, and its branches are often weighted down with its wealth of flowers. If cut down by frost it soon grows up again. Its blossoms are followed by peculiarly shaped fruit, each of which contains a hard-shelled seed, which, when planted, germinates very readily. When in the prime of its beauty, that is when covered with blossom and fruit, it calls forth exclamations of praise from all who behold it.

SATURDAY HALF-HOLIDAY FOR GARDENERS.

This is confessedly an age of social improvement. Liberality, generosity, and philanthropy stamp their impress on every side we choose to turn our eyes. The apothegm "man's inhumanity to man" is fast crumbling before the detergent and nobler one "Peace, goodwill towards man." The poor are no longer indigently poor. On every hand arise some humane institution or large-souled individual which befriends the needy. The interests of the British workman have not escaped the sympathetic ear of the public. His wants have commanded equal attention with his humbler brother, and have as speedily received righteous adjustment. He owes unbounded gratitude to the immediate era of the past, and there is every reason that he should be gratefully anticipating the benefits of the future.

The labour of his hands, mingled profusely with the sweat of his brow, are infinitively better remunerated than in any preceding time. As a specimen of one of the noblest creatures of God, he is recognised with a magnanimity known only as a British product, to be a force in the propulsion of civilization that is not superseded by any. In consequence many liberal concessions have been made to him, with the view to increase his manhood to a conformity with the original design and intention of his Maker. The severity of his manacles were mightily softened, and his labours are no longer the essence of servitude. This also is redolent of the fragrance of peace and goodwill. His hours of labour are greatly lessened from what they were, and prospectively it seems as if they will be still further reduced.

Our national harbingers of justice, benevolence, and goodwill have recognised the patent fact that efficiency and skill very much depend on the mental development, and not wholly on that of the limb, as formerly supposed. To attain to the acquisition of this desirable and worthy view of the matter, the same breath emits the philanthrophic declaration that it is necessary that the toiler should have more leisure time to produce the required results—this is so. The British workman hence is no longer the slave and drudge which his father has been, with his nose on the grindstone from break of dawn to dusk of night.

Steadily and forcibly moved this avalanche in its advancing terror and power. The origin and promotion is altogether due to the good and peaceful Victorian reign which stands out unique for its marvellous strides of progression in all the history of the world. But, notwithstanding this eminently satisfactory progress of the general betterment of the Britisih workman, in no department has its effect been less influential and observable than in that of gardening. The marked generosity so prevalently forcible, and lavished with such profusion on other trades and crafts is, in the region of gardening, altogether unknown. Why this should be so is as inexplicable as it is real. It certainly is not due to gardeners themselves, for a more industrious, deserving, and intelligent class of artizans could not well be found among the ranks of British Workmen.

And yet during the great industrial evolution of the last twenty or thirty years it cannot be said that gardeners have reaped any benefit whatever. Trade Unionism in the gardeners' case, I am convinced, is as unworthy of their intellectual abilities as it is fruitless to achieve an amiable settlement, and, at best, it is a very questionable weapon for redressing grievances in any civilized nation.

The hours of labour of the gardener are, in general too long. They average, all over the kingdom, sixty hours a week, and the young man who is on duty puts in a week of ninety-eight hours. True it may not be at all times severely laborious, but, nevertheless, he is "confined to barracks." In the winter time his duties are sometimes very laborious, in his attention to the firing, and in the summer, though firing is by no means an arduous duty, the Sunday watering, &c., makes up any difference.

Now seeing that almost all British Workmen have a Saturday half-holiday (even our Edinburgh Nurserymen give their employés this privilege,) I think a general move ought to be made by gardeners to get the benefit of this, too. I am certain that few gentlemen would deny their gardeners this request if the matter were laid before them.—*Gamma, Edinburgh.*

NOTICES OF BOOKS.

"The Landscape Architect, devoted to Constructive Building and Kindred Trades, Landscape Gardening, Horticulture, Science and Art. Vista Publishing Co., Rochester, N.Y."

This is a monthly periodical published at Rochester, New York, and the September number, which was the first, is now before us. The text runs to twenty-four pages independently of advertisements, and we are pleased to see that the latter are confined to the pages entirely outside the text, contrary to the usual custom of most American journals. The scope of the *Landscape Architect* is rather an ambitious one considering the wide field which it covers. Should other numbers maintain the status of the first, the practical side of horticulture will receive but scanty attention, and gardeners—but particularly young ones—will derive but little advantage from the paper. Landscape, building construction, science, and art receive ample consideration, so that the journal aims at supplying the wants of the more educated in the occupations to which it refers.

A number of books new and old on different phases of gardening and other subjects, are reviewed by a writer in the September number; but the method of doing this is somewhat different to that pursued in this country. Some of the books reviewed are literature pure and simple, such as that which treats of *Shakespeare's genius*. All this tends to show that the journal under notice, aims at the higher phases of the various subjects with which it deals; in other words, that its pages are addressed to those who possess the advantages of the higher education. In an article on "Tall Office Building, Past and Future," a writer dilates upon the modern aspects of city life, where people are crowded together for commercial purposes. In the case of tall buildings, he shows the advantages that persons of correlative business and pursuits derive by occupying different parts of one vast building—vast not merely in superficial area which it covers, but in its "sky-scraping" height; but on the other hand he regrets that it should be so, because he fears that it will be well nigh impossible to reach those great centres of industry owing to the congested state of the traffic, and fears that the towns built of such high buildings, will tend to shut out the light of day and become as unhealthy as the walled towns of the Middle Ages.

The paper and letterpress are of a high order of merit, and the illustrations are neatly and artistically reproduced. A number of the latter consist of photographs, but others are drawings, and the park bridge in the pleasure grounds of Seth Cook, Esq., San Rafael, California, is beautifully executed. The bridge was originally constructed to hide an unsightly quarry in the hillside; and the quarry itself was filled with water and planted round with Magnolias and other subjects.

JAPANESE FLOWERS AND GARDENS.

Lecturing recently at the Midland Institute, Birmingham, on "Japanese Flowers and Gardens" Mr. Montague Fordham said that Japan was, above all things, famous for its flowers and its gardens. Landscape gardening there was a marvel of elaboration, the result of many centuries of study and handed-down tradition. So great was the love of flowers that from February to November was one long round of festivals, in many of which the whole nation took part. Floral arrangement, too, has been carried to the perfection of a fine art. It was in the sixth century, Mr. Fordham explained, that the Japanese left off arranging flowers in the Western style of casual groups and masses, and began to develop the beautiful art that had ever since been deemed a study worthy of the greatest philosophers, priests, and courtiers. By the sixteenth century the art had attained a high state of perfection, and three centuries of most minute study of the habits and growth of plants and their proper arrangement had resulted in the formulation of rules of a degree of complexity that at once mystify and astound the European scholar. Contrast the attitude of a Jap. towards flowers with that of an Englishman. The latter knows what he likes, but does not know the reason why; while the former combines unbounded admiration of nature with an intense appreciation of art. If a Jap sees a hillside white with cherry blossom he is enthusiastic, and, looking at a work of art, he does not content himself with a passing glance, but sets to work in his capacity of art critic carefully to study both general effect and detai-

And among works of art the Japanese garden is fully entitled to a place. Here is a picture thrown upon the screen of a Japanese lady surveying a garden. Slowly and daintily she takes her way along, stopping every other step to notice the arrangements, the course of the paths, the forms of the trees, the position of the little stream and lake, the size and shape of the little hills, even the form of the stones.

The idea which guides the Jap in planning out a garden is not, Mr. Fordham said, the mere copying of Nature, but the reproduction of her fancies in a conventional form. Coolness being the great *desideratum* in gardens, lakes, and little streamlets are introduced, and, where water is not to be had, the Japs go the length of getting stones from the rivers and making artificial watercourses to suggest the absent stream. Quaint and, if possible, ancient stones are more essential to a Japanese garden than even flowers themselves. First is the "guardian" stone, which is a sort of tutelary saint of the garden; there are also water and stepping stones and pebbles and boulders of as many as 138 orders. Some simple gardens indeed contain stones and nothing else. Stepping stones, Mr. Fordham mentioned, are used away from water, so that the smooth gravel pathways may not be disturbed. This device makes the visitor walk slowly and prompts him to survey the scene at each step, so that every change of aspect is forced upon him. One of the most conspicuous beauties of Japanese gardens is, however, the bridges. Their prime object is rather to reveal the scene in its greatest loveliness than to afford means of crossing the stream or lake they may be built over. Consequently, they are built in the most fantastic shapes, the aim of the builder being evidently to make the wayfarer pause as frequently as possible. One zigzag bridge, of which a view was shown, would serve this purpose admirably, for it involved a stoppage at every angle. Pictures were also shown of the little arbours, sacred to flirtation, which the Japanese—who are nothing if not a social people—put up in their gardens. A photo of the Mikado's garden at Tokio likewise aroused great admiration.

Describing the Japanese flower festivals, and the flora of the country, Mr. Fordham acknowledged his indebtedness to Mr. Conder, the eminent British specialist on the subject. The first flower festival of the Japanese year, he said, is the festival of the Plum tree, which, with the Pine and the Bamboo, is one of the three "friends of winter." In the midst of frost and snow the Plum tree blossoms, and the Japs go out in parties to admire it. Up to a thousand years ago the blossom of the Plum tree was the Japanese national flower, but royal caprice substituted the Cherry blossom. So, indeed, Sir Edwin Arnold has sung. The cultus of the Cherry blossom commences in April, and people take tea under the laden boughs. For a week or so all Japan goes mad with enthusiasm, for they say the Cherry is the first among flowers, as the warrior is the first amongst men. And in some sense the flower is like the people, for, though charming in the extreme, it quickly changes. Next come rejoicings in honour of the Wistaria and Iris, which attains to wonderful beauty in Japan. To the Iris are attributed wonderful powers, for it is supposed to dispel evil spirits; consequently, the cottage roofs are all aglow with it. A curious point in Japanese gardening is that they consider flowers of an unusual colour as abnormal and to be avoided. The symbolism of flowers the Japs have carried to great refinement. The Lotus which is a pink flower growing in the mud, has given rise to a whole philosophy. It is compared to a woman living pure and holy in a hotbed of vice. The Lily grows in great profusion in Japan, as does also the Chrysanthemum, which is known as the "Imperial" flower. The aims of Japanese florists are, Mr. Fordham stated, to produce many blossoms, or to graft flowers of various colours on one stem.

Flower arrangement was the last point to which the lecturer drew attention, and he outlined the complex system which the Japanese follow in this matter. The Japs do not content themselves, he said, as we do in England with allowing the plants to assume their native wild grace, but force them to follow certain well-defined curves. Any intersection of the stems they regard as a blot on the general effect and scrupulously avoid. A few words on the social usages served by flowers concluded the lecture.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Laelia Arnoldiana delicata, *Nov. var.*—The dominating feature of this beautiful variety is its delicacy of colour, which is almost uniformly of a pale or soft pink. The sepals, petals, and terminal lobe of the lip are of this hue, but the side lobes of the latter are several shades paler, in fact, almost white. The stripes and markings, so conspicuous a feature of the side lobes of the variety I described on p. 246, are here reduced to the smallest dimensions, in fact, they are almost obliterated. The two ridges of the lip with the smaller one between are yellow and well developed. The column is nearly white, with a purple apex, and some purple spots at the base of the face. The flower then may be described as pale pink with a paler centre, it is also strongly scented at certain stages of its development. It has just flowered for the first time amongst a batch of plants in the collection of J. McMeekin, Esq., Falkland Park, South Norwood Hill. The sepals, petals, and lip are all revolute at the tips, precisely as in the case of L. autumnalis, from which it seems to differ chiefly in the smaller size of the flowers. In taking a broad view of L. autumnalis, L. furfuracea, L. Arnoldiana and their various forms and varieties, it is very difficult to conceive that they are anything but forms of one and the same species, although for garden purposes they may be regarded as distinct.

Cypripedium insigne Lady Clementine Welsh, *Nov. var.*—Over forty varieties of C. insigne have already been named, so that there is difficulty in finding anything markedly distinct on which to bestow a new varietal name. That under notice is a beautiful variety characterised by the darkness of its hues and the apricot-yellow ground colour of the different segments. The upper sepal is of a rich apricot studded with brown spots, and the margin all round to the base is pure white. The petals are brown with an apricot margin, and the apricot lip is heavily shaded with chocolate-brown. It is appropriately dedicated to the lady whose name it bears. The plant here described flowered recently in the nursery of Mr. P. McArthur, 4, Maida Vale, W. Like most varieties of this species it is easily cultivated, and with appropriate attention will doubtless flower very freely.

THE PLANT HOUSES.

The Stove.

In order that the plants in this department may pass through the winter with the minimum amount of injury, due care must be exercised that they receive all the light that it is possible to give them, or the leaves will lose their colour, and the plants will sustain proportionate harm. The glass should therefore be frequently cleansed from the filth that becomes deposited on it, more especially in the immediate vicinity of large towns during foggy periods. Any coverings that are placed over the house at night with the idea of obviating the necessity for too vigorous firing during frosty weather, should be removed as soon as possible in the morning and not put on again at night until absolutely required.

Although it will not be possible to use the syringe regularly upon the plants as yet, an occasional sponging of the leaves will be greatly conducive to their cleanliness, and consequently their health. Nothing, however, should be done to unduly excite them, for a little rest or partial rest now will be of the greatest service, giving the plants time as it were to collect their energies in readiness for the coming season. A sharp eye must be kept upon the heating apparatus. It often happens when a sharp frost is experienced at night, and a bright day follows, that the temperature of the house runs up considerably higher than is advisable, The fires should, therefore, be checked soon enough in the morning in bright weather so as to allow the fiery heat of the pipes to abate somewhat. It will be readily understood that with so many drying influences at work, a considerable amount of caution must be exercised to prevent the atmosphere getting too dry. On the other hand, it should by no means be charged too heavily with moisture, or in the event of a fall in temperature this will be deposited upon the plants to their no small detriment. A minimum night temperature of 60° Fah. in the warm, and 57° in the intermediate stove will be sufficiently high for the present.

Greenhouse and Cool Conservatory.

At this period of the year this department is usually by far the most attractive of any, always supposing that pits and frames have been used to full advantage, and that a fair proportion of success has attended the forcing of suitable subjects. A considerable amount of work is always necessary to keep up a tidy appearance in houses of this character. All old blooms ought, therefore, to be cut off the plants, and the petals of those that have fallen must also be removed, together with all yellow and dirty leaves.

Arrangement.—This is an operation that is in far too many instances only accorded scant attention, or else it is carried out in a stiff and formal manner that detracts considerably from the natural beauty of the plants, whereas if a little taste and skill were devoted to the grouping of the plants in a pretty and effective manner, their beauty would be enhanced to a very large extent. Each plant should be allowed space to display itself to the full, but must not be suffered to partially eclipse or crowd upon its neighbour.

Staking.—This again ought on no account to be neglected, for it must be borne in mind that plants which have been forced into bloom are always weaker in habit than those which are developed naturally. Support of some kind is therefore an absolute necessity, but it should not be given in such a way that the stake forms a more conspicuous object than the flower itself. Neat wooden stakes painted green are the most suitable for the purpose, and these may easily be made during wet or snowy weather by an ordinary garden labourer.

Anything like a stuffy atmosphere should be studiously avoided, and air must therefore be given whenever it is possible to do so. In doing this, however, only the ventilators upon the sunny side of the house must be opened, or many of the tenderer subjects will suffer from contact with the rush of cold air that is sure to result in a greater or less degree.

Lachenalias.—These should by this time be growing away freely. Place the pots upon a shelf as near the glass as possible to assist in the production of sturdy growth. The application of fire heat is not to be recommended, and draughts should, as far as possible, be avoided, although an ordinary greenhouse temperature is sufficient for all purposes. Stimulants ought not to be given until the flower spikes begin to make their appearance, when occasional applications of Clay's Fertilizer will give most satisfactory results.

Chrysanthemums.—A sharp eye must be kept upon cuttings of these, for they often evince a decided tendency to damp off unless attention is paid to ventilation. More cuttings than are needed should always be put in so as to allow of a selection of the sturdiest and strongest plants for growing on, weaklings being ruthlessly consigned to the rubbish heap.

Pits and Frames.

In the forcing pits the syringe may be kept pretty well at work upon hard wooded plants which are being brought on for the furnishing of the greenhouse and conservatory. Azaleas particularly profit to a very large extent by frequent and liberal syringings. As soon as the flower buds commence to show colour this treatment must be discontinued, or injury to the flowers will result. The same remark will apply to Roses which were started fairly early. These latter should now receive a minimum night temperature of from 50° to 52° Fahr., rising to 65° by day with sun heat, to assist in the expansion of the flower buds as soon as these have attained to a pretty forward condition, a good test being the showing colour of the bud.

Herbaceous Calceolarias.—These must be kept close to the glass to encourage a dwarf and sturdy growth, and attention should be paid to the thinning out of the plants as growth proceeds, for overcrowding is a fruitful cause of the drawn and sickly appearance so often seen in many plants. The giving of sufficient air is also a point to which too much importance can scarcely be attached, nothing

like coddling should be tolerated if sturdy, well-grown specimens are required. Occasional doses of weak liquid manure will be of great service as the pots become filled with roots, and in the event of green fly putting in an appearance, two or three light fumigations may be administered.

Bedding Stuff.—A word of caution with regard to the use of the watering-can among plants of this description may be necessary. Keep all well upon the dry side or damp will soon play havoc with a large part of the stock. Air must be given liberally whenever the weather is mild enough, and always as early in the morning as practicable.

Cold frames which contain Violets, border Carnations, etc., may have the lights pulled off them during mild and dry days; in wet weather, however, the lights should be tilted up from behind to admit the requisite fresh air.—*A. S. G.*

THE VEGETABLE GARDEN.

Cropping.

With the advent of the New Year there is always many things that require attention, and not the least amongst them is the arrangement of the kitchen garden crops for the ensuing season. This, in itself, is no light task where the requirements are heavy, and the space limited, for where such is the case, special attention must be paid to each and every crop in order that the ground may at no time be unoccupied. This, in my opinion, is one of the most important branches of kitchen gardening. It is easy enough to plant a piece of ground eight or ten acres where only one crop has to be taken from it, but if a kitchen garden is only half that size and is made to produce more than the greater acreage, this shows that a large amount of skill and forethought must have been brought to bear on the subject.

We will, as an instance, take a catch crop, say early Cauliflower. Most gardeners know what an important vegetable this is, particularly after a hard winter, when most of the Broccoli have been killed. There are, however, but few who study it in its true worth. It should not be one to occupy the ground for any length of time, but what can follow it may be asked, as the season will be far advanced for many crops before this would be cleared away. Let us for a moment see. The plants that were protected in cold frames during the winter will be ready to plant out the first week in April, likewise those raised from seed sown on a hot bed or in pans early in January. Now as these in all ordinary seasons will turn in from the end of May till the first week in July, the crop that is to succeed them should be arranged for. Suppose it is Peas. Then every second row should be planted 4 ft. apart; this would leave a space between so that the seed could be sown ten days or a fortnight before the Cauliflowers were ready to cut, as by so doing the seed crop would be advanced by that length of time. The ground would also be settled down so that the dry weather in summer would not take such effect of it.

The same would be the case if Runner Beans were sown. With early Peas it is usual to have some crops between them that can be cleared off at the same time, and, if a little more space be allowed between the rows, there would be but little difficulty in securing some dwarf crops such as Lettuce, early Spinach, Radishes, or Turnips. These early crops in themselves are very important, inasmuch as they could be arranged so as to make room for successional ones, warm borders in most places being sadly needed in winter for such crops as Lettuce, Endive, Early Broccoli, and late Cauliflower, as well as Parsley, Carrots, and many others that require a little protection. Let us also see how such as Celery can be planted with advantage.

In some gardens space can be found for such crops as Brussels Sprouts and Broccoli without them having to succeed others, or be planted amongst them; this is not so in all gardens, for they have to be planted between the rows of Potatos or follow crops that have been early lifted, therefore, such ground is not available for Celery. Where Broccoli, however, is cleared off such ground would be available for taking out the trenches, and, if sufficient space be allowed between them, late Peas might be sown on the ridges. Dwarf Beans are a crop that do not occupy the ground for any length of time, therefore, these might also be sown with advantage in such positions. The difficulty in most places is to find room for the summer crops, such as Turnips, Spinach, and summer Cauliflowers, therefore it would be well if every gardener would arrange his cropping early in the season.—*Kitchen Gardener.*

THE ORCHID HOUSES.

Stoking.—After an exceptionally mild Christmas we are at last face to face with "Jack Frost," and as success in the culture of Orchids depends in a great measure on the judicious use of fire heat during the winter months, a few hints on stoking may be of service. I always maintain that the fires should be well in hand in the afternoon, the bars clean, the ash-pit empty, and the fire bright, so that the man on night duty will find it all plain sailing, for nothing tries a man's temper more on taking over the fires than to find them dead and the temperature low, and requiring constant attention up to a late hour perhaps before the banking up for the night can be done with safety. I am not an advocate for keeping the thermometer at one fixed point in all weathers. A range of 5° either way, if in harmony with the outside temperature, is, I think, much better for the plants. An objectionable arid atmosphere, caused by the over-heating of the pipes, takes a lot of vitality out of the plants, and Laelia anceps blooms will curl up as if fertilised through the dry harsh heat. I grant that the flowers are delicate, but if it injures them so it does the plants, but in a lesser degree perhaps. Damping the walls and paths the last thing at night will do much to counteract the injurious influences of hard firing. It is also a good plan to have some dry logs at hand, so as to get up a quick fire in the morning, should the temperatures be lower than usual.

The Fuel Bill might be kept down by covering the houses where possible with mats. Some use the blinds, but there is some difficulty in rolling them up at day-break on account of their having become frozen.

Coelogyne cristata.—Next to Dendrobium nobile there is no more useful Orchid than this. No matter what garden one visits there are sure to be a few plants of this beautiful winter flowering plant, which proves its popularity amongst amateurs. It is now pushing up its spikes, and should, where possible, be afforded a position near the glass, where it can get plenty of light. Small plants may be suspended with advantage; this will prevent the spikes from going off as they sometimes do under less favourable conditions.

Phajus grandifolius is another favourite amongst amateurs, and to their credit be it said that it is generally found in much better condition with them than in establishments that boast of a large collection. The reason is perhaps that they are given a more general compost to grow in, and are not coddled, but grown as they are most times with a mixed collection of stove plants, they get more nourishment in the way of liquid manure than they otherwise would, and are in no ways treated as an aristocrat.

Temperature.—East India house, 60° at night; Cattleya house, 55° at night; cool house, 48° at night, with a rise by day according to the weather. A few degrees lower on very severe nights than those quoted above will do no harm.—*C.*

Gleanings from the World of Science.

Earwigs and their Habits.—There are two very common species of earwig in this country, but so closely similar are they to one another that to the ordinary observer they are simply earwigs. Of the two there is little doubt that Forficula auricularia is the most common. The other is F. borealis, a name given to it from the fact of its being first detected in the north of England and in Scotland. They come out of their hiding places chiefly at night to feed and also to migrate when that way inclined. Few gardeners have ever seen an earwig upon the wing, but that is easily accounted for, as they do not appear to use their wings very often. The wings are, however, well developed and neatly folded away under the wing cases, just behind the shoulder. The strong forceps or forks at the tail-end are used for folding and unfolding the ample wings, and it is believed they fly by moonlight. This would account for their appearance, sometimes, in vast numbers in gardens where they are usually not very numerous. When the female lays her oval cluster of small, yellow eggs, she broods upon them like a hen, and continues her motherly care even after the young are hatched. The latter resemble the parents except in size and the absence of wings. The pupae develop short wing cases, but are active like the young and the adults. All stages may be found in company during August and September. On the advance of cold weather they retreat under stones, into crevices of walls, and beneath the loose bark of old trees, where they remain in a half dormant condition till the weather again becomes warm. Dry places are at all times more suited to their likings than wet ones, as gardeners well know, but a wet season does not seem to hinder their depredations in any appreciable degree. Gardeners almost universally regard earwigs as unmitigated enemies, but they are carnivorous as well as vegetable feeders.

Beneficial Aspects of Earwigs.—As vegetable feeders, the destructive tendencies of earwigs are well known to gardeners, and herein lies the indictment against them. Some naturalists, however, speak of the indirect services which earwigs render man in destroying other of his enemies, and in this lies the extenuating circumstance, the only plea which can be brought forward on their behalf. To be able to place this in the balance against their depredations the naturalist should also be the owner of a garden, so as to fully comprehend the nature and amount of the injury caused by them. The probabilities are that he would soon get biased against them, whatever the good services they might otherwise render. They feed upon and destroy aphides and thrips, which they find in or about the flowers they frequent. They also attack bees, particularly some of the wild ones, several species of which they almost exterminate, devouring the bees, their young, and also the food of the latter indifferently. This advantage is a doubtful one. Being cannibals, earwigs devour one another when pressed for want of food; with their powerful jaws they clip the body in pieces, rejecting the horny portions of the head and the forks at the tail. Yet when food is plentiful they seem to live peacefully in communities or parties, old and young together.

Earwigs as Vegetable Feeders.—The flowers of Dahlias are special favourites with them, and in dry seasons and dry situations the plants get disfigured by their immense numbers. Chrysanthemums are injured to a smaller extent by them as a rule, but the flowers of Carnations in some seasons get decimated by them. As the buds expand, and the calyx splits, it may be along one side, the depredators gnaw through some of the petals till they get into the centre, where they reside and quickly cut through every petal, which falls out, so that the flowers never fully expand. They also eat the pollen of various flowers and do harm in various ways, but they most frequently come under the notice and ban of the gardener when they exhibit their destructive tendencies amongst his favourite flowers. Considering that aphides and thrips live and multiply even where earwigs are plentiful, the arguments in favour of this pest are comparatively valueless. Soft fruits, such as Apricots and Peaches, often suffer great injury from the same enemy.

Enemies of Earwigs.—The smaller birds and reptiles prey upon earwigs, but the Devil's Coach Horse (Ocypus olens), a black beetle, similar in shape to earwigs, but larger, devours the latter at the rate of four an hour when feeding. This ferocious creature clips up the earwigs with the utmost ease and facility, eating the soft and rejecting the hard portions, precisely as the latter serve one another in times of scarcity. Man must also be reckoned amongst the enemies of this common pest. Insecticides are of no avail in this case, so that the usual methods of trapping have to be depended upon to keep down the numbers of the insects amongst flowers. Hollow stems make useful traps, and so do small inverted pots filled with dry moss and placed on the top of the flower stakes.

FLORICULTURE.

Pinks.

PINK plants are having a roughish time of it this autumn, with so much wet and cold at the roots. I have seen beds of the florists' kinds in the Midland districts planted out in September, then nice young plants from layers, which are smaller plants now, and in some cases the plants have collapsed altogether. It will therefore be best to watch the plants carefully through the winter and give them the shelter of a few Laurel branches or of some other evergreen by sticking firmly short branches into the ground around the beds and amongst the plants, to give them a little shelter. Another precautionary step is, to see that the plants are firmly in the ground and to mulch with good leaf soil or light decayed manure.—*Dianthus.*

BERRIED PLANTS.

IT is customary at some exhibitions of Chrysanthemums to offer prizes for berried plants—plants that produce berries in succession to flowers; and it sometimes happens that plants which produce small and inconspicuous flowers have handsome berries: thus in winter the bright fruits serve the purposes of flowers in supplying tints of colour, while they are of a much more lasting character. What is there, then, the amateur can grow in his greenhouse—if he has a warm one—in the way of berried plants?

BERRIED SOLANUMS.

There are first the berry-bearing Solanums—plants which produce in autumn and winter an abundance of large red berries. The species of the genus Solanum are very numerous, and comprise herbs, shrubs, and small trees. There is, no doubt that, S. pseudo capsicum or the Jerusalem Cherry, in alliance with S. capsicastrum, the star capsicum, gave us the first hybrids, which were improved by Mr. R. Weatherill, of Hornsey, and became known as Weatherill's hybrids. Seeds are now readily obtainable, and it is easy to raise plants from seeds by sowing them in early spring in a temperature of from 60° to 65°, potting them off into small pots as soon as large enough, keeping them in cold pits or frames during the summer, or plunging them up to the rims of the pots in the open during that season, taking them into the greenhouse in September to flower and fruit. In purchasing seed, care should be taken to ask for the finest improved varieties, which display their fruit upon the surface of the foliage, as there is a great difference in strains in this respect.

ARDISIA CRENULATA.

This is a compact growing, warm greenhouse evergreen shrub, from the West Indies or Mexico; the flowers are small and unimportant, but they are succeeded by a crop of brilliant berries of a very showy character, about the size of the haws of the common thorn, bright red in colour, and produced in large bunches for the size of the plants. The Ardisia makes a capital room plant for winter, and will do well with care, and when grown in a cool temperature the plant will retain one crop of berries until another is ripe. The best thing we can advise the amateur to do, is to purchase a plant of a nurseryman, just as it is coming into flower. It is a plant which can be raised from seeds, but seeds are expensive, and the seedlings require nearly two years before they get into blossom and berry, even with good management; and that is why we recommend the purchase of a plant, in preference to the raising of seedlings.

RIVINIA HUMILIS.

This is a stove evergreen, and, therefore, requires a certain amount of heat to do it justice. It is called the blood-berry, or rouge plant, in the West Indies, no doubt from the bright-coloured berries it bears. The flowers are of little beauty, but the racemes of berries are very showy, and plentifully produced; and while before drying up contain a very fine scarlet juice, the colour of which, however, is very evanescent. It is a plant that can be raised from seeds sown in a high temperature, and the young plants grown on in a moist heat, and if when the plants is in berry it be gradually hardened off, it will stand for some time in a warm, sitting-room window.

CALLICARPA PURPUREA.

Here we have another evergreen stove shrub, which is very handsome indeed when laden with its rich purple berries. It is a plant propagated by means of cuttings, and should anyone be desirous of growing it, we strongly recommend them to purchase a plant. It is not difficult to grow when the conditions are favonrable, but when we have seen it at its best it is planted out in a warm conservatory; it then produces long shoots laden with berries for a considerable distance of their length, though it can be cultivated very successfully in pots The following mode of culture is recommended: "After the old plants have been cut back in the spring, and started into growth, the young shoots will strike as readily as those of the Fuchsia, and with exactly the same treatment. In order to make good plants short jointed cuttings should be selected, and as soon as these are struck they should be potted into 2½ in. pots, using a compost of equal parts of loam and peat with a little charcoal and river sand. When they commence to grow after being potted, remove to a pit or house with a temperature ranging from 65° to 75°. Pinch out the tops of the plants as soon as they have three pairs of leaves, and whenever each of the laterals has made two pairs of leaves pinch out their points and continue this operation with all the rest of the shoots till the beginning of August, at the same time keeping off all the flower buds. The next shift will be into 4 in. or 5 in. pots. They should always have plenty of light and air, but more especially after they come into flower."

HARDY BERRIED PLANTS.

While the warm greenhouse, berried plants can be grown only by a few who have suitable houses, the hardy types can be culivated by everyone who has a garden, and will give them the necessary attention.

COTONEASTER.

This represents a group of hardy shrubs from Nepaul, and two of them are particularly well deserving of notice. One is C. microphylla, the flowers of which are white, and the fruit red and abundantly produced. It has a prostrate habit of growth, and in course of time a bush will cover a large space of growth, and it is well adapted for covering rock work. C. Simmondsi has larger and erect foliage, and is well adapted for planting against a wall where its berries in autumn and winter are very effective; the berries are also much larger.

AUCUBA JAPONICA.

This is a well-known hardy Evergreen shrub, and one of the very best for cultivating in cities and towns, doing remarkably well in crowded districts. This came to this country from Japan more than a hundred years ago, and until thirty or so years ago, only the variegated variety was found in our gardens. The Aucuba is a dioecious plant, *i.e.*, having the male and female on separate individuals, but at the period above mentioned, the male plant was introduced from Japan, and the pollen of this applied to the blossoms of the female, caused it to bear berries, and being large and bright coloured, they are very handsome in autumn and winter. If any one has some bushes of the common Aucuba—the variegated Laurel as it is sometimes termed—in their gardens, all that is necessary in order to have berries is to purchase a male plant and put it in the soil among them, and they will find berries on the female plants. It is perfectly hardy, though when first introduced was treated as a greenhouse plant.

PERNETTIA MUCRONATA.

This is a small, neat-growing evergreen shrub, a native of South America, and should be planted in rich peaty soil. The plants bear reddish, purple, or pink berries, but of late years some seedlings have been produced giving berries of various colours, from creamy white to black. The flowers are produced very freely, and are followed by an abundant crop of berries. It is handsome at all seasons, but particularly so in the depth of winter, when the brilliant showy fruit is seen to perfection.

CRATAEGUS PYRACANTHA.

This, the well-known red Pyracantha, the Evergreen Thorn, is an invaluable plant for its bright pale coral coloured berries at this season of the year. It appears to do best on a wall having a south or south-west aspect, the branches trained espalier fashion, and a well established specimen will bloom freely and fruit abundantly. I have seen specimens trained in this way that were allowed to carry breast wood, but they never appeared to me to fruit so freely, or to be as effective as when the branches were trained close to the wall, and in such a position the fruit is seen to the best advantage. The birds, as a rule, do not feed upon the berries, perhaps because they are somewhat astringent, or it may be that the birds hesitate to approach buildings against which the plants are trained.

DOUBLE BEGONIAS FOR BEDDING.

ONE day during the past summer I had the privilege of walking through the Begonia quarters and houses of Messrs. J. Laing & Sons with the senior partner of the firm, to whom belongs the credit of placing the tuberous Begonia before the public as a bedding plant. The immense strides taken in the development of this plant since Mr. Laing first seriously took it in hand in 1875, has, to a large extent, been due to his perseverance and skill. True, previous to that date there were a number of hybrid varieties, both single and double, in cultivation, but they were of a widely different type to the almost universally cultivated varieties of the present day. The first beginning of the present race heralded in a new industry, and made the name of John Laing a household word in all quarters of the world, and in many places where the products of an English nursery would never have otherwise been found. The tuberons Begonias are sent away in enormous quantities, and a very large proportion of the tubers grown at Forest Hill are annually exported.

Being much impressed with the superiority of the double varieties for bedding purposes on account of their greater show of colour, I intended at the time to draw special attention to the subject, feeling convinced that when once a sufficient stock has been obtained and they can be freely used for bedding, that they will eventually to a great extent displace the single ones for this purpose. At present they are more costly, but if those who are thinking of giving them a trial would procure, say six named distinct varieties and grow them well and propagate during the summer, they may raise a sufficient stock to make a beginning the following season. A great great deal may be done towards getting up a stock by saving the seed of the different colours separately, but they must be grown and flowered on a trial ground for one season to mark those of the most suitable shades and habit of growth, so that when a bed is planted with them the flowers shall be of one shade in colour and the plants of one height and habit of growth.

The following will be found a very good selection for beginners:—

HENSHAW RUSSELL, glowing scarlet; flowers large, of fine form and substance, and borne on stiff erect footstalks well above the foliage; habit good.

LAFAYETTE, bright scarlet, very double; a neat growing and profuse blooming variety.

MADAME ERNEST TOURTELL, white, very double, with broad imbricated petals.

MADAME LOUISA ROBERTS, fine rose.

MARQUIS OF STAFFORD, dark crimson; and

MONS. A. SCHOPFER, rosy-salmon.—*W. B. G.*

LILY-WHITE SEAKALE.

AT Stoneleigh Abbey, Lord Leigh's place betwixt Warwick and Kenilworth, Mr. Beddard cultivates this variety extensively for general forcing, propagating it from pieces of root planted early in spring in rows fully two feet apart, and each set several inches asunder, and he always has extra strong crowns for forcing in the mushroom house. A considerable portion of one of the large quarters in the kitchen garden is devoted to the cultivation of Seakale, and a finer lot of strong vigorous plants through the growing season it would be m ost difficult to find. A few plants of the old variety are also cultivated annually, as it can be forced a little earlier than the Lily-White, otherwise it would not be grown, as it is not so compact in its habit of growth as the Lily-White variety.

Seakale is so easily grown from root cuttings or from seed, that it is a matter of surprise that amateurs do not devote more attention to this excellent vegetable, as the plants can be so very easily forced by planting them in a box or in a corner of a cellar, or any unused cupboard, where they can be kept moderately damp, warm, and in the dark, and if the forced parts are cut away close to the surface of the plants, a crop of young side shoots are formed, and, although small, they make a delicious dish,

Seakale, like most other vegetables, should be cooked as soon as possible after it is cut and full of its juices in order to have it in its best condition.—*W. D.*

SHRUBBY SPIRAEAS.

Now that the planting season is in full swing it may not be out of place to give a few words to one of our most valuable and varied flowering shrubs. The Spiraeas are very hardy and long lived, will grow in almost any soil, and invariably give us a quantity of bloom. Moderately tall, of graceful growth, and keeping up a succession of flower from early summer until autumn, we may also add that they are easily increased by layers or division of the clumps.

S. CALLOSA is one of the very best, and varies considerably; some varieties of this are white, others range from pink, rose, red and various shades of crimson. It also varies in height, two and a half to six or seven feet. One of our freest bloomers all through summer and autumn.

S. THUNBERGI is another white flowered species of great beauty. Very early blooming and splendid for steady forcing in the ordinary greenhouse or conservatory. The autumnal tints of its foliage are very rich and pleasing.

S. PRUNIFOLIA ALBA PLENA is very pretty from May until September. Its perfectly formed rosette blooms look well when planted boldly and free from that objectional crowding too prevalent in mixed borders.

S. BUMALDA is a form of S. callosa, very dwarf and bushy, and if well treated is worthy of a place to itself upon any lawn. A variety called Knap Hill Crimson has been exceptionally bright during the past summer.

S. ARIAEFOLIA is tall, reaching as much as ten feet in good soil. Very large trusses of greenish-white flowers with a powerful perfume. Grown on the outskirts of a lawn, and not crowded among other shrubs, or planted on the margins of a pond, we see this elegant shrub to great advantage. The leafage is pretty, and the flowers are immense; plumes so heavy as to bend down in such a manner as to be highly characteristic when planted by water. S. alpina (white), S. Douglasii (rose), S. Pallasii (white), and S. salicifolia (rosy-pink) can all be highly recommended.

These are hardy shrubs, suitable for almost any soil or position. When grown in a crowded condition among other shrubs we do not get their full beauty; they should either stand alone or be planted less thickly than usual. So many of our finest shrubs of this class are spoilt from neglect, and soon degenerate if overcrowded. In the majority of cases a little judicious use of the knife will avoid much of this, and greatly improve the general appearance.—*Experience.*

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

SCIADOPITYS VERTICILLATA.

THE Umbrella Pine of Japan, as this tree is called, is far from being so familiar a feature in gardens as it ought. The leaves are long, leathery, convex above, concave and ribbed beneath, and arranged in drooping tufts at the ends of the short branches; hence the name Umbrella Pine. A young tree reminds us of an Irish Yew or Cephalotaxus pedunculata fastigiata, very much exaggerated owing to the much greater length and size of the leaves. In its native country, it attains a height of 80 ft. to 120 ft., and if it grows as slowly there as in this country, a tree of the latter height must be of enormous age. Soil and climate, however, may have a deal to do with it, and the artificial methods of treatment we give the trees, through mistaken notions of their requirements. The Umbrella Pine will grow where the soil is sufficiently moist in summer to keep Rhododendrons in a healthy state. The soil need not necessarily consist of peat, because if fairly well drained, yet sufficiently retentive to keep up a constant supply of moisture during the drought of summer, the tree will thrive. It may be planted amongst other shrubbery but is so choice, slow of growth, and neat, that it should receive a prominent place on the lawn where trees can be admitted. The habit is pyramidal, and even after the lapse of many years, the tree will occupy no more space than an Irish Yew or Irish Juniper. Specimens ranging from 2 ft. to 15 ft. in height may be seen in the Coombe Wood nursery of Messrs J. Veitch & Sons, Chelsea, to whom we are indebted for the present opportunity of illustrating the subject of this note.

THE UMBRELLA PINE: SCIADOPITYS VERTICILLATA.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. WEBSTER. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

THE JAPANESE CHRYSANTHEMUM AND ITS CULTIVATION FOR SHOW BLOOMS.

By W. RUSHTON.

(*Concluded from p. 280.*)

SYRINGING.—The plants are syringed regularly in bright sunny weather, once daily from the last week in April until the end of July. After this they are never syringed, as I find it keeps the wood too soft. But I am also prejudiced against-over ripe wood, as the blooms borne by it are apt to be small.

FEEDING is done little and often, beginning with the earliest potted plants in the third week in June, and continuing until they are housed, after which, with the exception of plants carrying late-set buds and varieties not subject to damping, they receive no feeding. The manures used are night-soil and soot, three pailfuls of the former to one of the latter being put into a coarse bag, thrown into an old paraffin barrel filled with water, and used at the rate of about one part to forty of clean water; Ichthemic Guano, at the rate of a 3-in. potful to twenty gallons of water, or sprinkled, if the weather is wet, upon the surface of the pot, a teaspoonful being given to a 9-in. pot; and Standen's Manure, used as a powder at the same rate. These are applied in rotation throughout the time specified according to the plants' requirements. Sulphate of ammonia is used for backward buds in proportions of from a quarter to half an ounce to a gallon of tepid water. To give sulphate to many varieties is almost sure to cause damping, therefore I would warn against it being used indiscriminately. The plants also receive two or three waterings with clear lime water early in August, the third week in September, and again after they are housed. This kills the worms, loosens the manures in the soil, and gives solidity to the wood.

TOP DRESSING.—The plants are top dressed twice in the second week in July; and again in August with sifted compost, similar to that used for the final potting, but with more of the burned soil and wood ashes in it. This is placed thinly on and made firm, with an incline to the stem of the plants. I think it is a mistake to give too deep top dressings. The roots do not appear to take to it so readily as when applied thinly.

BUD TAKING.—Taking the buds requires both judgment and care, with a few exceptions, only crown buds should be taken, terminal buds are deficient in size and are often "daisy centred," the only varieties I have so far been successful in flowering from the terminal buds are W. H. Lincoln, Viviand Morel, C. Davis, and Wm. Tricker. Then again I find a few give better results if allowed to form intermediate crowns, such as Etoile de Lyon, Mrs. C. H. Payne, Van duc Heede, Mdlle. Edouard Rey, Miss Dorothy Shea, Viviand Morel, and its sport. I take all buds that appear from July 18th and like to see all buds set by the 24th of August. In taking the earliest set buds, the laterals are removed at intervals for a period of three or four weeks. By doing so the bud is retarded, and reduces almost to nil the chances of monstrous and ill-shaped buds. I find these early set plants take a

much longer time to open their flowers than those taken say, three weeks later, but several kinds will be much too soon for the time specified if allowed to remain exposed to the sun. These I place about three feet from the foot of a north wall, at the end of August, no stimulants being given as feeding only aggravates the evil of softness of wood. They are kept under this wall until the flowers show colour. Plants that set from August 6th are disbudded at one operation, and those that are inclined to be late, are kept on the dry side and placed in the sunniest position. From the time the buds begin to set until they have attained the size of a pea, feeding is resorted to very slightly as a preventive against undue thickening of the stem directly below the buds.

Housing.—I begin to house the plants about the 16th of September, and contrive to have all in by the end of the first week in October. Before the plants are taken in the pots are well washed, and the tips of the plants dusted with tobacco powder. They are also syringed with the solution for mildew, as recommended by Mr. Molyneux in his able book on the Chrysanthemum, the recipe being to boil one pound each of sulphur and unslacked lime in five gallons of water for twenty minutes. Of this I use three wine-glassesful to three gallons of water. One person holds the plant slantingly over and another syringes thoroughly the undersides of the leaves. I find this a positive cure and preventative, and perfectly safe to use.

For the first fortnight after the plants are in, all the air possible should be put on the houses both day and night. Afterwards, as the buds gradually unfold, reduce the quantity, more especially that admitted by the bottom ventilators, and keep a night temperature from 50° to 55°, with a regular circulation of air. Under no consideration should the houses be closed, excepting when it is necessary to fumigate. This should be done only at night, and then the air should not be off for more than two hours. Damping I attribute chiefly to over-feeding, deficiency of air, and a low temperature. Even in foggy weather I keep a good chink of air on the top to carry off inside moisture, and to assist this I also leave a little on the bottom. During the fog I raise the temperature to 58°. If the above instructions are rightly carried out there will be little damage done through fog.

Scalding.—Several sorts are subject to scalding. Nearly all the dark colours, particularly such varieties as G. W. Childs, W. Seward, Alberic Lunden, Gloire du Rocher, Col. W. B. Smith, J. Shrimpton, and Jeanne Delaux. These I shade with brown paper from the time the buds show colour, the buds also being treated in the same manner. The same temperature as advised above is maintained, viz., 50° to 55° Fahr., a low temperature being detrimental to the keeping qualities of the blooms while in the house.

Preserving Blooms.—To preserve the blooms that are too early I place the plant in a loft above the potting shed, which is darkened, also placing a heap of lime-shell in each corner, and a bag of charcoal in the dampest part. In this loft I have often kept blooms fresh for a period of from two to three weeks. The plants receive just enough water to keep them from flagging, and are taken in when to finish the bloom. The chief essentials for their preservation is to keep a steady temperature and a dry atmosphere.

Late Blooms may be assisted with sulphate of ammonia, as advised, and placed in the warmest part of the house, keeping the buds from 12 to 18 in. from the glass. In fact, if all the buds can be kept at this distance the colour will be much improved.

Broken Shoots.—If by any means the tips of the branches be broken off, either in a growing state or after the buds are set, I strongly advise that such should not be cut off at the base at once, but rather that a few inches be cut off every other day until the base is reached. Doing so the plants receive little or no check, and flowers are much better than they would be otherwise.

Insects.—Green fly, puck or spit fly, earwigs, and caterpillars are the greatest pests we have to contend with. Tobacco powder is the best preventive, it is easily applied, killing all green fly, and keeps them from damaging the points better than anything I know. For earwigs and caterpillars it is a good plan to go through the plants at night with a lamp and destroy them.

Staging.—Time prevents me from speaking about staging more than simply saying, try and furnish the boards with even sized, well-finished, and well-coloured blooms, rather than have a few extra large flowers to the detriment of the remainder. Arrange the colours so that each assists in bringing out more fully the qualities of its neighbours to the fullest advantage.

THE STUDY OF BOTANY.

In a recent lecture at Oldham on "Plants and Flowers, and why they are interesting to us all," Archdeacon Wilson, of Rochdale, said:—Everyone knew the fame of the Lancashire botanists. Certainly thirty years ago it was a conspicuous feature in the intellectual interests of that county, and there were still many botanists in Oldham and other Lancashire manufacturing towns. It was, however, the general opinion that the interest in botany among the working class had fallen off of late years, and it was worth considering why it was so. It was in part due, he was sure, to the extreme interest taken in games—in football in the winter and cricket in the summer—which had attracted people who used in former times to take walks and to study. He had been assured by Mr. Bruce Findlay, of the Botanical Gardens, Old Trafford, that now no more than a hundred persons went to visit his gardens on holidays where a thousand used to go a few years ago. That gentleman attributed the falling off to the cause he had stated. There was something also perhaps in the pressure of life, and something perhaps, too, in the difference of the education which was now given. There was besides another reason connected with botany itself, and that was the only reason with which he was concerned now. It was that the objects of botany had to some extent changed during the last thirty years, and he thought there was an impression that it had got past the stage at which amateur work could be of much service. It was to resist that opinion, and to show that amateur work had more to do in botany now than it ever had before, that he was present that night to try if he could do something to revive the study of botany among them, to put before them its charms and its interests, to suggest fields of work for them, to encourage those who were studying the subject, and perhaps to induce new volunteers to take it up. Certainly he was very strongly of impression that there was much of engrossing interest bearing not only upon botanical studies themselves, but upon philosophy generally which might be done by amateurs, even in this unfavourable district, in the heart of a manufacturing town. Thirty years ago he was something of a student and teacher of botany, and though other studies had long ago supplanted botany in his life, he had never lost his intense interest in that study. In passing he might say that there were still discoveries open to them. In this county of Lancaster not long ago a Bacup working man made a most interesting discovery of a plant quite unknown to England, which was now one of the treasured possessions of Kew. Plants and flowers no doubt originally interested people as they interested savages and quite uneducated people at the present time—chiefly from the point of view of their utility. Plants were divided by such people into those which were edible, those which were medicinal, and those which were poisonous. When savages saw a botanist collecting they always thought that it was with a view to finding something good to eat. Their curiosity had not reached beyond that point. The next stage which people reached was the cultivation of flowers for their beauty, and that, as they knew, had long been rooted in England to the very great benefit of England. Nothing was more charming than the cottage gardens spread over the whole land, and the cultivation of beautiful old-fashioned and new-fashioned flowers. Very much gain had accrued to the study of botany from this love of flowers, which seemed in-born in children, and belonged to our whole race. It was one of the characteristics of the English people that they liked to grow flowers in their gardens and windows for the sake of their beauty, and he believed that flowers had had a great and sweet influence on the character of the English people. Then there was another interest in flowers, that was the passion for collecting and classifying them. This began, as did nearly every fertile idea that still existed in the world, with the Greeks. Some three hundred years before Christ there arose naturalists in Greece who studied flowers for their own sake from pure curiosity, and classified. described and arranged all the plants that they knew, Like many other branches of study it died out during the early Christian centuries in all that turbulent time and through the dark ages.

With the Renaissance and the recovery of Greek literature there began in Europe a study of classificatory botany. He could not attempt to describe what progress was made during the 15th, 16th, and 17th centuries. Suffice it to say that through Europe that study had begun to attract great names. In the 18th century there was one name that stood out above all others, that of Linnæus. He acquired with astonishing rapidity all the knowledge of botany that the world possessed up to his time, and advanced it by travelling in every country in Europe. It was to Linnæus they owed the naming of plants—that each plant had a double name of its genus and species. He discovered that in plants so widely diverse as they were, there were certain parts which were repeated in every plant, and therefore parts that deserved special names. Up to his time plants had been elaborately described, but there was no type of a plant to which all plants could be referred. He therefore invented because he discovered the need of technical nomenclature, and he also by making a scheme of orders and genera gave an immense impetus to the study of plants with a view to finding new species. All over Europe people began to study the Linnæan system, and were charmed with the discovery of a plant not known to Linnæus; hence the formation of local floras—that was a list of all the plants that could be found within miles of a certain spot. There arose obviously comparisons between these local floras and others which led to the study of geographical botany, and an examination of the reasons why the flora in one place differed from or resembled that in another. The result of all this was that the number of known plants grew quite enormously.

In the time of the Greeks perhaps 500 plants were known, in the time of the Romans when Pliny wrote perhaps 1,000 plants were known and named, when Linnæus lived 10,000 were known to him; and at the present day, partly owing to the causes he (the lecturer) had described, and the discovery of the microscope, the number had risen to about 200,000, and there was no reason for believing that the limit had been reached yet. A more natural system of classification had followed the Linnæan system, and was now universally adopted. Meantime there was growing up quite a large interest in botany and the study of the morphology of plants. Everyone knew that mammalia were formed upon a certain universal plan. Cats and dogs, horses and cows, whilst they had specific generic differences, were plainly formed on one type, and it was so with plants. There followed a great deal of microscopic study of botany and study of the cell containing its little atom of protoplasm. Modern botany had passed into the stage of morphology, and it was this stage that so attracted botanists and was so open to the work of amateurs. His lecture would give them very little information, but his purpose would be served if they would look into some of the modern books on botany, which were as interesting as romances. As text books Archdeacon Wilson advised his hearers to study the University Extension manual, "Chapters on Modern Botany," by Professor Geddes, and "The Natural History of Plants" (two volumes), by Kerner and Oliver. In his subsequent remarks the lecturer dealt with the study of plants as living growing organisms with marvellous instinct. Enlarged photographs of parasitic and insectivorous plants were exhibited on the screen and described in a lucid manner.

Certificated Chrysanthemums.—The committees appointed by the American Chrysanthemum Society to examine and report on the new seedling Chrysanthemums have recommended the following varieties for the Society's Certificate:—Miss Gladys Spaulding, white, incurved Chinese; Helen Bloodgood, clear pink, incurved Japanese; Jeannie Falconer, yellow, incurved Japanese; Miss Margaret Newbold, pink, incurved Japanese; Oak Shade, purplish-pink; Mrs. Edwin H. Trotter, white, reflexed Japanese; Miss Louise D. Black, bright yellow, incurved Chinese; Mrs. Wm. H. Rand, orange-yellow, reflexed Japanese; Fred Walz, lilac-pink, incurved Japanese; New York, white tinged with lemon, incurved Japanese; Francis B. Hayes, rose-pink, incurved Japanese; Gold Fever, yellow, incurved Chinese; Henry Rieman, deep yellow, Chinese; Elma O. Farrell, rose-pink, reflexed Japanese; and Mrs. Wm. H. Kemble, white, divided petals, Japanese.—*Gardening (American).*

EPPING FOREST IN WINTER.

The advantages of such a recreation ground as Epping Forest to London cannot be over estimated; but seeing that the nearest end of it is ten or eleven miles distant, the poorer classes can seldom avail themselves of it, and least of all in winter when everything is cold, damp and cheerless, except the strong of limb and those who know how to enjoy wild nature at any season. When London comes to Epping all this will be altered, but it will be unfortunate for the forest, for then it will be despoiled of its native simplicity, and have to wear a cultivated appearance. When King James I. came to London nearly 300 years ago and engaged in hunting with his nobles and citizens of the Metropolis, the fauna of the forest must have been very different from what it is now, and the area must have been larger. Happily the encroachments have been stopped, and a playground secured, as far as we can see, for all time coming. The big game is gone, but riders on horseback still range the forest in all directions on certain occasions.

One of the most conspicuous features of many portions of the forest at this season of the year is the Holly, which maintains itself, we may imagine, as it did of old when the surrounding population was more thinly scattered. It exists in the form of low trees and dense bushes frequently well set with its bright red berries. Seedlings are also plentiful in various stages of growth, from those still bearing the seed leaves to those of various ages and size. In 1578 Dodoens spoke of it as Holme, Holly, or Hulver, and said that "Holme groweth much in this country in rough, stony, barraine and untoyled places, alongst the wayes and in woodes." The woods, that is, the native ones, have been almost obliterated, but the ways remain. The same author, in speaking of the uses of Holly, says that "they use the smal branches and leaves of Holme to clense and sweepe chimneys, as they used to do in Burgundie and other places, with Kneeholme or Butcher's Broome. Other than this we dare not affirme of Holme, because it serveth not in physicke." The Butcher's Broom still grows in Epping Forest, though sparingly. The Hornbeam, though leafless, still carries its brown winged fruits; but large bushes of the Dog Rose here and there enliven the open spaces with their scarlet heps. The stony Haw is also conspicuous by the more subdued, crimson-red fruits with which it is covered. The common Furze is already flowering plentifully; in fact it is doubtful when it was fairly out of bloom. The White Birch is really beautiful even in its winter nudity, the white and papery trunks showing well up against the masses of drooping purple spray. When seen at a distance on the sides of some glen or hollow the effect is charming. The trees are only of moderate growth, and seem to have reared their heads and straight stems since the iniquitous laws of pollarding were abolished.

In sheltered places the Beech is still clothed with its rich russet foliage; and the Hornbeam sometimes behaves in the same way, though its colour is paler. A good road, though often rather muddy in winter and dusty in summer, leads through the heart of the forest from end to end, but at either season more than half the enjoyment is lost unless the pedestrian can plunge into the wildest retreats it affords. The heaps of granite macadam by the waysides seem too foreign to the soil to give the visitor the impression of a forest primeval. A feature of the olden times may still be witnessed, occasionally at least, in great flocks of many hundreds of wood-pigeons circling about with a wheeling flight before alighting, while stray individuals will start off alone to a greater or less distance as if sent on some important mission. The rustling of the Beech, Oak, and Hornbeam leaves, and the crackling of the Beech mast beneath the feet lend an additional air of reality to the whole; and the pale red Bracken is equally suggestive of pathless woods.

Frequently it may be observed that the forks and hollow stems of the pollarded Oaks furnish support to other kinds of vegetation than their own. In one case I noticed a Holly of considerable size thriving in the decayed centre of the trunk at a considerable height from the ground; the Woodbine and Brambles were more frequent in similar situations, and their long supple stems hung down, in many cases sweeping the ground. Vines, our American cousins would call them, for every climber or trailer they speak of as Vines. In some instances the foliage of the Brambles is still green. Now and again one comes across a natural growth of a peculiar kind, such as a Witch's Broom, consisting of a dense mass of slender drooping twigs on the Hawthorn, and which had concealed a bird's nest in summer. Ferns are not particularly plentiful, but I noted the Common Polypody and the Broad Buckler Shield Fern upon trees, the latter indeed growing out of a hole at the side of an Oak, similarly to the artificial tree trunks occasionally seen iu ferneries. The Royal Fern is said to grow in the neighbourhood of Chingford and of the ancient village of Woodside on the margin of the forest; but the record is probably antiquated and behind date. A healthy Crab Apple tree turns up now and again rough in its primeval garniture of short, stubby, almost spiny-looking spurs, and striking by contrast with other native trees. The missel and other thrushes may occasionally be seen darting away in a hurried manner from the approach of an intruder; but all are silent save the robin, which has betaken himself to the margins and to the attraction of human habitations. There are several ponds containing small fishes attracting here and there a solitary disciple of old Isaac Walton, and the stickleback or the banstickle of northern boys, the Gasterosteus of the ichthyologist disports itself as lively as at midsummer. The spiny fins are very curious, and all save the pectoral ones and the tail have a lurking and uncanny suspicion about them.

The Ivy climbs to the tops of many trees and then develops its flowering branches, now in fruit. More than 300 years ago Dodoens wrote as follows:—"There be three kinds of Ivye as Dioscorides writeth. The first hath a white fruit and is unknown to us. The second beareth black or yellowish fruite, and of this kind there groweth great plentie in this countrie. The third kinde is small and creepeth along upon the ground, and this kinde bringeth no fruite. The third kinde is not much unlike the Ivye abovesayde, but that his branches are both smaller and tenderer, not lifting or bearing itself upwarde (as the other kinde), but creepeth alongst by the grounde. The leaves are most commonly three-square, of a blackish-green, and at the end of summer, about autumne, they are betwixt browne and red upon one side, this Ivye hath neither flowers nor fruit." The description of the latter is unmistakable, and shows that it is merely the creeping form of the common Ivy that grows in hedges, on banks, and similar places. The second kind is the flowering form of the common Ivy, or might have been intended for the Irish Ivy, with large leaves. Another form known in gardens as Cuspidata major may be found upon trees, fruiting as freely as the ordinary form. The above-mentioned author relates how the Ivy was named *Cissos*, in the ancient Greek tongue, after a maiden at a banquet, who "so daunced before Bacchus, and kissed him often, making such mirth and joy, that being overcome with the same fell to the ground and killed herself." All that we can gather from this story is that the new woman of those ancient times was not strictly temperate.

About a mile or so from the old-fashioned village of Epping is the remains of what would appear to be a Roman encampment with a vallum and fosse; but the circular area inside is overgrown by tall Beech trees. The history of it I have not traced. Here and there are circular areas fenced round with wire to keep out the cows with their tinkling bells at large in the forest. Most of the old trees and other vegetation have been removed with the view (as I suppose) to see what will grow up. It is doubtless a Darwinian idea. Loughton has a more modern look about it than Epping, and is larger. Many of its inhabitants consist of an overflow from London come down to the forest to rear their princely villas and plant more trees round the outskirts of their gardens than there is room for, necessitating that hideous lopping so familiar to us. The nude-flowered yellow Jasmine is, however, beautiful upon the walls.—*Rambler.*

A Generous Gift.—Earl Cowper, chairman of the Hertfordshire County Council, has generously offered to place a farm of nearly 300 acres, with residence and buildings, at the disposal of the Council, rent free, for the purpose of providing practical instruction in agriculture, on condition that the County Council stock the farm and work it. His lordship will also erect a laboratory and the necessary dormitories.

PATHS AND ROADS.

The general appearance and keep of a place, either large or small, is largely governed by the way in which its paths and roads have been designed and laid out in the first instance, and in the second place on the way in which they are afterwards maintained. It was once said by a celebrity that the curve is the true line of beauty, and it would seem that many who claim to be landscape gardeners, acting, it may be, on that idea, produce work which anyone with a true artistic taste must view with utter abhorrence. The paths of many a suburban garden would seem to have been modelled from a corkscrew, and it may often be seen where this atrocity is perpetrated that a slight gentle curve would have produced a really pleasing effect. No abrupt deviation should be permitted in pleasure grounds, without the reason why they are made is very apparent. At all points where the direct line is departed from, a bank of shrubs, clump of trees, or other object should be placed, showing that the detour made is a necessity.

In this as in all questions relating to taste there is room for wide differences of opinion, and in dealing with the formation of pleasure grounds the disposition of the walks should be studied with a view to make them appear as extensive as circumstances will permit of without unduly encroaching upon the space at command by needlessly extending the pathways or roads. At the same time, care should be taken that any object of interest, either within the domain or which can be viewed from it, is brought into sight from some one or more positions on some of the walks or roads meandering through it. The formation of walks and roads will always be governed to some extent by local circumstances, such as the nature of the soil and the material available for their construction.

For the top casing nothing excels good binding yellow gravel, but this differs widely in quality from different pits, some having an excess of clay, rendering the paths made from it very sticky at times, especially when a sudden thaw takes place after a prolonged frost. Others, again, are too shingly and will not bind properly unless mixed with clay, or another gravel of a more binding character. All gravel paths should be well drained by a substratum of rubble to allow the water which soaks through the surface to pass rapidly away. Where chalk is plentiful this is frequently largely used for the purpose, and if we never had severe frosts it is quite possible that no better material could be found; but as this is not the case its use for the purpose is most objectionable, because when a thaw takes place the frost having penetrated the chalk breaks it up into small pieces, many of which come to the surface, and, becoming intermixed with the gravel, spoils its appearance. For this reason any other dry rubble is preferable,

Here again the kind of soil on which the path or road is to be made will largely influence the amount and character of the material required. On firm, sandy and light loamy ground, less drainage will be required than on spongy or wet clay lands. For garden paths on firm, sandy soil through which rain will readily penetrate, a thin coat of fine gravel resting on 2 in. or 3 in. of rubble, broken into pieces not larger than a walnut, will be found much better than one with fine gravel 6 in. in depth. True, it will not admit of being turned, and in these days when weed destroyers can be so cheaply bought, this may well be discarded as an expensive and obsolete procedure, and a walk made in this way will often be in a fit condition for walking upon when those of greater depth are well nigh impassable.

If we were about to form paths or roads on clay lands, we should adopt a plan which possibly has never been put into practice and could only be effectively carried out during dry weather, or rather it should be said that dry weather is a necessity for the proper carrying out of special portions of the work. The method of proceeding is as follows: Excavate the path or road to the required depth, leaving it convex at the bottom, and allow it, after being brought to an even convex surface to become thoroughly hardy and dry. Many clays when in this condition will bear carting on with heavy weights. When this has been accomplished, put 2 in. of tar asphalte over it, and let this remain till quite firm, then proceed to the formation of the walk, as advised, for sandy soils. In this instance, drains to take off the surface water will be a prime necessity, and must be made on each

side of the path. These should always be formed under either the grass or borders, because if at any time they require attention, the labour will be less and the damage done will be sooner put right than if the surface of the pathway is disturbed in order to clear out or repair the drains.

This question of surface water drains is seldom attended to so well as it might be with advantage, the consequence often being that during heavy rains much of the gravel is displaced and the walks disfigured. The drain pipes used ought not to be less than two-inch, and with sockets, these, if laid straight from gully to gully can, if not allowed to get too much choked up before being seen to, may be cleaned out by bamboo rods, this will be but seldom if proper attention is given to clearing out the gullies after heavy rains. On wet spongy soils after excavating them to the depth determined upon, a good layer of ling, furze or busbes of whitethorn should be placed, shavings may possibly answer as well, but we prefer ling. Tread these as level as can be done and place the rubble upon it, finishing off with a layer of fine gravel. On neither sandy, clay, nor spongy soils do we advocate a great thickness of gravel, for paths, but roadways, and carriage drives, which have to bear heavy cartage upon them, must be made of much greater thickness in order to bear the traffic.

Where paths have to be made on a steep decline, and are subject to being disturbed and washed down during heavy storms, it will often be advantageous to construct them of concrete. This we have done by first forming a layer of rubble 4 in. thick with no large pieces among it; on this put in 3 in. of chalk, well watered and rotted till quite firm, and give a little rise in the centre. Then we put a layer of half an inch of fine chalk and gravel well mixed and rolled it till quite hard and cased it over with fine gravel and rolled again till quite hard. We may state in reference to this piece of work that, making inquiries respecting it some twenty years afterwards when it was broken up, that it was a serviceable path till the last, and could be washed and scrubbed down the same as a brick pavement. At the same time we would never introduce a length of it only, where from steepness of an incline any ordinary pathway would be damaged every time during heavy rains. Paths when kept well rolled and free from weeds by the use of weed destroying compounds, the use of which are now pretty widely known, when well made in the first instance will seldom require fresh gravel, and then only a slight coating. The repeated rollings on all suitable occasions, and the application of the weed killer, will preserve a hard, close surface, which, under the old plan of hand-weeding, it was impossible to preserve, owing to the frequent disturbance of the gravel and the gradual loss of much of it in sweeping after the weeding.—*W. B. G.*

BRITISH BOTANY.

The question has often been asked "Of what use is the study of British Botany to the average gardener?" There is a certain class of what we may term the "rule of thumb" section of the horticultural community who are inclined to take exception to tbe idea of young men following up any study if it appears to be on the face of it somewhat outside what they are pleased to consider the legal sphere of a gardener's occupation. Tbey are perhaps inclined to look upon a man who can claim a fair acquaintance with members of the British Flora as a curious sort of personage who has wasted his time to an alarming extent in following up a course of study that can never be of the slightest use to him. Such men will say that no long names that were ever invented could make them think of "Groundsel" as anything else than "Groundsel," or to regard it in any other light than that of a weed, and as for your "Latin," they will tell you they do not care a rush whether it be "dog" or "classical."

Of course the idea that a knowledge of our native plants is an essential for a gardener to possess would be both a foolish statement to make and an untenable position to take up. There are scores of good men in all parts of the country wbo bave proved themselves to be efficient and successful cultivators and managers of gardens, who know nothing at all of botany as a science, or of the names and peculiarities of British plants; to whom the common subjects that are scattered profusely around them by Nature's beneficent hand are unknown quantities. These men look at everything with the eye that appraises the cultural value of the objects that meet their gaze, and treat everythirg from a strictly practical and matter-of-fact standpoint. True! it may be urged that this is an essentially matter-of-fact age, in which only the calculating business man, possessed of neither soul nor sentiment, can hope to excel.

Surely such purely sordid lives are scarcely worth the living. Nature has strewn her children around us in the greatest profusion, she has surrounded us with flowers until, from extreme familiarity with them, we have ceased to take the delight in them that we should, if indeed we have not ceased to notice them altogetber. To the eye of the true gardener all plants are beautiful, although some possess a greater amount of attractiveness than others. But then we must by no means forget that beauty and attractiveness are but comparative terms after all.

We term some plants beautiful because they exhibit a greater amount of floral excellence than do others. They are beautiful in comparison with their humbler sisters because they overshade them with their gorgeous profusion of colours. Perchance in our rambles our feet light upon a bed of soft green moss covering tbe face of the earth as with a carpet, and we say, ah! "this is beautiful." Again, in looking round the domain of some princely establishment, where the gay children of more genial climes are carefully nurtured, we feast our eyes upon the conspicuous brilliancy of these delicate exotics, and once more exclaim, ah! "this is beautiful." But what a difference is there between the tiny fronds of the Cryptogam and the blaze of colour afforded by the children of the sun, and yet both are beautiful, each section in its own particular way.

It must be a manifest advantage to a gardener who has to grow plants to find out all be can about them, their general wants as well as their individual requirements, and the best way to find this out is to study plants and their doings in their native habitats. It is granted to but comparatively few to see tropical plants growing in all their wild luxuriance, and it is very certain that the average gardener is not included among the number. The would-be student of plant life is therefore obliged to turn his attention to those plants which are within his reach, and to cull his specimens from the hedges and ditcbes of his native land.

But this may give rise to the question "of what use is it to attempt to understand the freaks and fancies of tropical plants by studying those of a less genial climate?" To this we would answer, that, as the generality of human beings possess some features in common with each other, although they may be widely different in other ways, so it is with the vegetable kingdom. "Plant life" is plant life all the world over, and the man who studies the behaviour of members of a Temperate Flora under adverse and trying conditions is in a far better way to meet the requirements of any tropical subjects that may be placed under his charge than the man who has never had his mind educated and prepared in the study of wildings and their habits.

But apart from the educational value of this fascinating science, there is the recreative side of the question to be considered. The study of British Plants possesses peculiar attractions of its own, wbich while they are difficult to describe none the less really exist. We have known men who have taken up the idea from various motives—perhaps they have been persuaded by some other zealous disciple, or it may be from sheer feeling of curiosity—in some few instances because it has been well nigh compulsory, as part of tbe curriculum in a Horticultural Training School, and yet whatever motive has been instrumental in causing them to turn their attention to it, they have before long become interested and absorbed in its pursuit for its own sake.

We have known men who have usually been considered as being particularly level-headed individuals to walk miles in search of a rare, or an interesting plant that, when found, would scarcely receive the notice of a gardener, or in fact of anyone but an ardent and zealous plant collector. These tramps and journeyings are not without advantages of their own, for the body is drinklng in health at quite as rapid a rate as the mind is being stored with knowledge. There are very many men to-day, who possess pleasant memories of the time spent by them in searching for wild plants, of hours passed in cultivating an acquaintance with Nature, from which they could scarce fail to reap considerable and lasting benefit.

Altogether the study of British Botany has much to recommend it to the favourable notice of any young gardeners who are looking for a healthful, recreative, and instructive hobby with which to beguile—but certainly not to waste spare time. This is all the more apparent when we take into consideration the comparative ease with which it may be prosecuted. In following up many other sciences, as for instance that of Geology, the student finds very many difficulties in the way, not the least of them being the trouble and expense involved in tbe procuring of suitable material with which to work. Here the would-be "British Botanist" finds it all plain sailing. All the material he requires is present in abundance in every field and hedgerow, only waiting to be gathered and used as required—a most important consideration in the prosecution of any branch of research.—*G.*

A LITTLE-KNOWN HARDY FRUIT.

Recently in the *Gartenflora*, M. Graebener of Carlsruhe speaks of Actinidia Kolomikta in very eulogistic terms. The real name of the plant is A. callosa, under which name it was described by Lindley many years ago. In 1880 a plant was introduced and named A. Kolomikta, but that has since been determined to be identical with A. callosa, or not specifically distinct. It is a native of the Himalayas, China, and Manchuria. M. Graebener relates to the specimens in the orangerie of the new garden at Potsdam, and we cannot understand wby it has not spread more in the gardens of Europe, considering the number of years that have elapsed since it was first introduced, especially when we look at it from an economical point of view.

It is a climber of rapid growth, with beautiful foliage, perfectly hardy on tbe Continent, and belongs to the same order as the Tea-tree family. The panicles of white flowers are not very conspicuous, but the fruits recall those of a spring Gooseberry, in size, colour, and taste. They ripen when they have been touched with frost, and then they possess an extraordinary sweetness, an excellent taste, and an aroma like that of the Pineapple. The writer continues that having wished to preserve the small seeds for propagation, he could not put the flesh to sufficient trial; nevertheless he is thoroughly convinced that the fruits are perfectly suitable for preserving, for ice cream and wine, as well as, if not better than Gooseberries and other analagous fruits. The plant is of extraordinary fertility, and the writer thinks that it will make its way in central and southern Europe in proportion as it gets known. There are about eight species of Actinidia, but few of them are ever seen in cultivation in this country; though if they succeed there is no reason why they should be neglected.

ERANTHEMUM NERVOSUM.

This beautiful plant needs only to be more widely known to be much more extensively cultivated than it is at present. Now and again we may come across stray plants of it in some odd, out-of-tbe-way corner in private establishments, but as a rule they are exceedingly poor specimens of their class and do not give one a fair idea of the true merit the plant possesses. Eranthemum nervosum was at one time known as E. pulchellum, after bearing for a considerable period the name of Daedalacanthus nervosus. The genus comprises some thirty species, but E. nervosum is without doubt tbe most distinguished member of the group. It hails from the East Indies, from whence it was introduced in or about the year 1796.

As a winter-flowering subject it is a great success, and its profusion of bright blue flowers are exceedingly conspicuous at a time when there is an especial scarcity of blue flowers. The leaves are petiolate, broadly ovate in shape, and dark green in colour, the surfaces being prettily wrinkled. Cuttings inserted in late spring or early summer root readily. A peaty compost should be used and the pots plunged in a propagating frame having a temperature of not less than 70° Fahr. As soon as rooted they should be potted off singly into suitably sized

pots, more loam, however, being used in the compost. They must be kept near the glass and supplied with plenty of water. An intermediate stove temperature will be required, and pinching must be judiciously practised to favour a dwarf and bushy habit. After the old plants have finished flowering they should be accorded a partial rest for a short time, water being but very sparingly administered, afterwards being cut back and introduced into a growing atmosphere to induce them to break, potting being conducted as soon as the plants have well started.—*A. G.*

GARDENING MISCELLANY.

DAPHNE INDICA.

This old denizen of our Greenhouses, which is so much admired for its delicious perfume by all who know it, is, as generally met with, of medium growth. When grown in pots the plants should not be placed in the open air, because if allowed to get saturated by frequent rains they suffer in consequence. A closer atmosphere than that of the usual run of Greenhouses suits them better, and where they can be syringed once or twice a day. Under these conditions they will make better progress than in a dryer position. This plant is often spoiled by having too many of the flowering shoots cut. A sparing hand will often save the life of this plant, which a reckless one will destroy. By keeping a portion of the stock of plants warmer than the others through the winter months, a longer succession of flowers will be obtained. Another point in reference to its culture is never to over-pot or over-water. A mixture of loam and peat, made moderately sandy, is a suitable compost, and pot moderately firm, using the material rather coarse.—*W. B. G.*

CHRYSANTHEMUM GOLDEN WEDDING.

In reply to Mr. Beckett's enquiry (p. 252), with reference to our mode of treating the variety Golden Wedding, all I can say is that it had just the same treatment as the rest of our collection until the first week in August, when two plants collapsed as though boiling water had been poured over them. I thought they had perhaps received an overdose of some fertiliser, and from that time they had no further stimulant whatever, with the result that the plants have kept quite healthy and not a spot has been seen on leaf or stem.—*Henry Perkins, Greenlands, Henley-on-Thames.* [We should be obliged if some grower would send us a "collapsed" plant for examination. It should be sent as soon as possible after being attacked by the mysterious ailment.—Ed.]

CRASSULA LACTEA.

In this we have a plant that is no mean addition to the ranks of winter flowering subjects. The inflorescence is cymose and the flowers pure white in colour, while the habit of the plant itself is dwarf, being usually little more than a foot high, although strong plants when staked up will occasionally reach a height of 2 ft. It is very suitable for growing in small pots or fairly shallow pans, and should be accorded a compost of loam, leaf soil and plenty of sand, with a quantity of broken bricks or crocks mixed with the soil. Propagation may easily be effected by cuttings, inserted in light sandy soil, and placed under a bell glass. It is advisable, howeve to allow the cuttings to dry for a while before insertion, their liability to damp off being thus checked considerably.

HAMMAMELIS ARBOREA.

A number of neat little specimens of this beautiful Japanese shrub, which are growing in a round bed nearly opposite to the eastern wing of the "T." range at Kew, are even now commencing to open their rich primrose yellow flowers, occasioned doubtless by the exceptional mildness of the weather we have enjoyed during the latter end of 1894. Still the plant usually flowers, weather, of course, permitting, at an exceedingly early part of the year, a fact that cannot fail to endear it to the hearts of all lovers of hardy deciduous trees and shrubs. In order to obtain the best effect it is advisable to group a number of plants together, for in this way a much better result is obtained than where the planting of isolated specimens is practised.

PEAR PRECOCE DE TREVOUX.

This variety of Pear was obtained about six years ago by M. Treyve, of Trevouse. It ripens early, and, in fact, succeeds Beurré Giffard with which, and André Desportes, it may be classed. The fruit is of good size, with a fine, melting flesh and of excellent flavour for an early fruit; the skin is of a beautiful clear yellow, finely mottled and spotted with russet, and some small green splashes remain even when perfectly mature. About the end of August it is fit for use, though some writers describe it as ripening about the end of July. Probably the difference of the weather in 1893 and 1894 would account for the discrepancy in the recorded periods of ripening. The tree is vigorous and fertile, and the branches are generally covered with twigs and spurs throughout their length without being submitted to any pruning. It can be cultivated under any form, and according to its great fertility it can be placed in situations that are not very sunny. The Pomological Congress of France, which is rather severe in its discriminations, has admitted or adopted the fruit into its list of recommendable varieties. The shape of the fruit is something between pyriform and top-shaped, being of moderate length, rather thick at the apical end with a half open eye in a very shallow cavity, while the short stalk is inserted in a small cavity at the blunt base. There is a good illustration of the variety in the *Bulletin d'Arboriculture* for December last.

QUESTIONS AND ANSWERS.

Incurved Japanese Chrysanthemums.—*Thomas Bone*: There is no one term, perhaps, that would exactly define what you mean, so that the best way would be to state a type, or make a comparison. For instance, in class so and so, you might say six Japanese incurved, all as distinctly incurved as Viscountess Hambleden, Pearl Beauty, Louise, etc.; or six Japanese incurved, semi-incurved varieties not permissible; or six Japanese incurved, half incurved sorts such as Stanstead White, W. H. Lincoln, etc. not permissible; or six Japanese incurved, must be closely infolded.

Yellow Begonias, &c.—*Two questions*: You speak of one or two colours, and we presume that you want them for edgings to the yellow strain of Begonias. In any case we should not advise you to mix the plants with anything, unless it be a groundwork of Herniaria or blue Violas. The inner edging might consist of bronze-flowered Begonias, or a line of small plants of Begonia sempervirens Vernon's var, with bronzy foliage. The outside line might consist of blue Lobelia, or Echeveria secunda glauca. The following are good early flowering Chrysanthemums, namely, Madame Desgrange, white; Mrs. Hawkins, golden yellow; Precocité, golden yellow; Mrs. J. R, Pitcher, white; Lady Fitzwigram, white; Ryecroft Glory, golden yellow; William Westlake, golden yellow, tinted red; M. Gustave Grunerwald, soft pink; Flora, yellow; Golden Shah, yellow; Early Blush, rosy blush; and Roi des Precocés. All of the above are first-class kinds that flower early and have decided colours. Some are large flowering, others are pompons; and though the yellow hues are rather numerous, the flowers vary greatly in size, in shades of colour and other respects. Nearly the half are large-flowering varieties as far as the early blooming race is concerned.

Communications Received.—J. H.—J. G.—W. H.—G. S.—Constant Reader.—H. J. W.—M. & C.—S. C.—W. I.—Experience.—W. O.—J. B. H.

TRADE CATALOGUES RECEIVED.

Charles Sharpe & Co., Sleaford.—Garden and Farm Seeds.

Dicksons, Chester.—Select Vegetable and Flower Seeds.

Dobbie & Co., Rothesay, N.B.—Seed Catalogue and Competitors' Guide.

Dickson, Brown & Tait, 43, 45, Corporation Street, Manchester.—Vegetable and Flower Seeds.

John Downie, 144, Princes Street, Edinburgh.—Seed Catalogue.

Stuart & Mein, Kelso.—Amateurs' Gardening Guide.

Chr. Lorenz, Erfurt.—Flower and Vegetable Seeds.

B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, London.—Flower, Vegetable, and Agricultural Seeds.

LONDON SEED TRADE.

January 1st, 1895.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report that some little business has been done in best grades of yearling English Red Clover at full prices, owing to new crop being likely to prove short and of inferior quality. German White Clover offers on slightly easier terms. No change in values of Trefoil or Alsike. Ryegrasses steady.

COVENT GARDEN MARKET.

January 2nd, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	21 0	23 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	1 0	1 9	Strawberries, per lb.	0 0	0 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettnces ...per dozen	2 0	0 0
Beans, French, perlb.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunoh	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Caulliflowers, Eng.dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumbers .....each	1 0	2 0	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bnn.	0 6	
Horse Radish, bundle	2 0	4 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Evergreens, Invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
" gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Azalea.....doz. bchs.	6 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pink Roses...per doz.	3 0	6 0
Carnations...per doz.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Primula, double, bun.	0 6	0 9
" doz. bunches	4 0	12 0	Roses, yellow, dozen	2 0	4 0
Eucharis ...per doz.	3 0	4 0	— Red..... doz. blms.	3 0	6 0
Gardenias 12 blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 6	0 9	Scarlet Geraniums, doz. bchs.	5 0	6 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Tuberoses, per doz	0 4	0 6
Lilac (French) per bch.	5 0	6 0	Violets (French) Parme, per bch.	2 0	3 6
Lilium Harrisii, doz. blooms	6 0	8 0	Violets (French) Czar, per bch.	1 9	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) doz. bch.	2 0	2 6
Marguerites, 12 bun.	1 6	3 0	Violets (English) doz. bch.	1 6	2 6
Mignonette... 12 bun.	3 0	4 0			
Narciss (French) doz. bch.	4 0	5 0			

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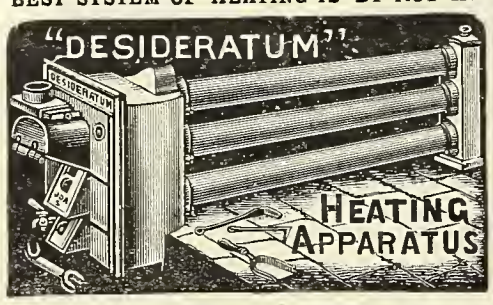

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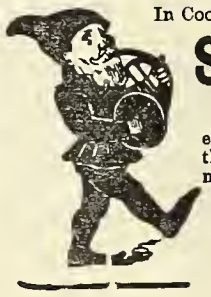

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 14th.—Sale of Hardy Plants at Protheroe & Morris' Rooms.

TUESDAY, Jan. 15th.—R.H.S.: Meeting of Committees at 12 o'clock.
Meeting of the Committee of the National Vegetable Exhibition at the Royal Aquarium, Westminster, at 2.30 p.m.
Sale of Bulbous Roots, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, Jan. 16th.—Sale of Japanese Lilies and Plants at Protheroe & Morris' Rooms.

THURSDAY, Jan. 17th.—Annual Meeting of the Gardeners' Royal Benevolent Institution at "Simpson's" at 3 p.m.

FRIDAY, Jan. 18th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, JANUARY 12th, 1895.

POLLINATION OF PEAR FLOWERS.—On this side of the Atlantic our great writers on the subject have generally, if not always used the word fertilisation instead of pollination. The former includes the application of pollen to the stigma, which is pollination, and also relates to the action of the pollen tube upon the ovules, which is fecundation. A large number of experiments have been carried out in America in connection with the subject, and the results are recorded by Mr. Merton B. Waite, of the Smithsonian Institution, Washington, in *Bulletin No.* 5 of the Division of Vegetable Pathology, U.S. Department of Agriculture. Two kinds of experiments were carried on rather extensively, namely, the covering up of trusses of unopened flowers with bags of thin paper or cheese cloth, and secondly, the removal of the stamens from other trusses of buds which were hand-pollinated, and then covered up in the same way to exclude insects. A considerable number of distinct varieties were treated in this way, while uncovered buds served as a control upon the protected ones and for comparison.

These experiments were conducted at several widely distant localities, where differences in climatic and other conditions prevailed, so as to give weight and validity to the general results. Surprisingly enough, the latter were remarkably uniform at all the places.

It has been determined that many of the old and best known varieties are practically barren when limited to their own pollen by this process of covering the flowers with bags. They must be crossed with the pollen of some other variety. The question then arises how this is effected in a state of nature. The structure of the flowers, but particularly the shortness of the stamens precludes the idea of cross-pollination being effected by the wind. The only other hypothesis is that insects are the active agents by which this is accomplished. Many years ago Knight, Downing and Thomas, in carrying out experiments of a similar character, cross-pollinated the flowers of several varieties and found that there was no material difference in size and quality between those fruits produced in this way, and the natural productions; but they overlooked the agency of insects so that the natural product was really the result of crosses between different varieties, and for the matter of that the insects may have obtained their pollen from the same varieties as the human operators themselves. Some might advance the theory that the artificial coverings were, in themselves injurious to the blossom; but much of the best fruit was obtained as a product of flowers that were not merely protected but must have been injured to some extent by the removal of stamens from unopened buds, afterwards hand-pollinated.

Amongst the varieties that are self-sterile and must be cross-pollinated are Beurré Clairgeau, Clapp's Favourite, Easter Beurré, Louise Bonne de Jersey, Pound Pear, Souvenir du Congress and other well known kinds. There is a smaller number of those operated upon, that will give a fair percentage of fruit, even when covered up and limited to their own pollen. Amongst these are Duchess d'Angoulême, Beurré Bose, Beurré Diel, Seckel, White Doyenné and others. Where cross-pollination is essential, it cannot be accomplished by using pollen from another part of the same tree, nor even from another tree of the same variety; so that a plantation of Louise Bonne de Jersey made at such a distance from any other variety as to exclude the possibility of insect agency, would be relatively, if not completely barren. Some latitude may be allowed for differences, if any, that may exist between trees grown in this country, and those in America; but such differences cannot be of material importance to the question as far as can readily be perceived without experiment. The inference is that orchards of Pears to ensure a maximum of fertility should be of a mixed character. Self-sterile varieties at least, should not be planted in blocks of more than three or four rows, though the same may be repeated in other parts of the orchards. Where this sort of thing already prevails, and the trees are bearing badly, the matter may be remedied by heading down some of the worst trees and grafting other kinds upon them to supply foreign pollen.

Besides the importance of securing a crop from the self-sterile varieties by cross-pollination, other important advantages accrue. The fruits resulting from crosses are always larger and nearly always contain a fuller compliment of perfect seeds than in the case of self-pollinated kinds, provided the other conditions are equal; and they are fuller towards the blossom end. The vigour of the tree, its general health, and environment, as well as the vigour of the individual branch from which the fruit is obtained, must be taken in consideration when comparing the differences between those which require foreign pollen and those which do not. Bad weather at the time of flowering, is also an important factor in the chances of a crop, and cannot be overlooked. Late frosts destroy the delicate organs of fully expanded flowers; but rain and windy weather also act detrimentally in keeping away insects of various kinds.

Fine weather, on the contrary, favours cross-pollination, and consequently the chances of a good fruit harvest. A strong characteristic of the fruits produced by the self-fertile kinds whose blossoms were protected, was their uniform shape and generally small size. Even these trees when left to their own resources in a mixed orchard, and when favoured by fine weather when in bloom, produce large fruits. This is due to crossing effected by insect agency; and shows, that although a variety may be self-fertile, it derives great advantage from foreign pollen. Then it follows that a maximum of advantage is derivable by the formation of mixed plantations in all cases, in situations where they will naturally be sheltered from the effects of storms, or by planting windbreaks, so as to favour insect visits, particularly those of bees.

Mr. H. Hall, lately foreman at Rooksnest, Godstone, has been engaged as gardener to General Marshall, Broadwater House, Godalming.

Mr. E. J. Beale, of Messrs. James Carter & Co., who is suffering from a carbuncle, has been compelled to cancel his public engagements, and intends, when convalescent, to take a lengthened sea voyage.

The Liverpool Horticultural Association.—The annual dinner of this association is arranged to take place this (Saturday) evening at the Adelphi Hotel, Liverpool.

The Primulas and Cyclamens in the London Seed Grounds of Messrs. Sutton & Sons are now in full bloom, and well worthy of a visit from any horticulturalist, who may be visiting Reading, or the neighbourhood. Visitors are always made welcome, and the floral display is, of its kind, one of the most beautiful to be seen.

Crown Lands in Wales.—Her Majesty's Commissioners of Woods and Forests have commissioned Messrs. Clibran & Son, of Altrincham, and of the Principality Nurseries, Llandudno Junction, to carry out the planting of Crown lands in Wales. The work is now in progress under the supervision of Mr. T. Lewis, Jr.

Devon and Exeter Gardeners' Improvement Association.—Spring programme of session 1895. January 23rd, Mr. Edwards, gardener at Honeylands, Whipton; subject: "Melons and Cucumbers and their Culture." February 6th, short essays by the younger members of the Association. February 20, Mr. E. Sparks, Pynes Gardens; subject, "The Cultivation of Early Vegetables." March 6th, Mr. G. Camp, Culver Gardens; subject, "Foliage Plants and their Culture." March 20th, Hyacinth and Spring Flower Show at the Royal Public Rooms. April 3rd; subject, "The Papers of Last Session."

The Yorkshire Gala.—The thirty-seventh annual meeting of the Guarantors and Life Members of the Yorkshire Gala was held recently at Harker's Hotel, the Chairman, Alderman Sir Joseph Terry, presiding. On the motion of the Chairman, the Lord Mayor, (Mr. Alderman W. McKay), was unanimously elected President for the present year, and the following officers were re-elected: Sir Joseph Terry, Chairman; Mr. E. Rooke, Vice-President; Mr. Jos. Wilkinson, Treasurer; and Mr. Charles W. Simmons, Secretary. The last named gentleman being highly complimented on the admirable manner in which he had discharged the duties of his office. The floral, financial and entertainment committees were elected, and the following grants were made: For prizes to the floral exhibition, £600; for music, £120; for fireworks, £100; for balloon, £60; and other amusements, £175. The amounts are similar to those of last year, with the exception of the last, which is increased. A vote of thanks to the Chairman concluded the business of the meeting.

Gardeners' Royal Benevolent Institution.—The annual general meeting of the subscribers to this Institution will take place at "Simpson's," 101, Strand, on Thursday next, at 3 p.m. After the annual meeting, and at the same place, at 6 p.m., the usual friendly supper will be held, presided over by George A. Dickson, Esq., of Chester. The committee will heartily welcome to this gathering any friends and supporters of the Institution who may desire to be present, tickets for which may be obtained on application to the Secretary, Mr. George J. Ingram, 50, Parliament Street, London, S.W.

Forestry Honours.—The "honours diploma" for the science and practice of forestry has been granted by the Grand Ducal Forestry College at Eisenach, in the Duchy of Saxe-Weimar, to Mr. James William Watt, the eldest son of Mr. James Watt, Knowefield Nurseries, Carlisle. Prior to taking his course of study at Eisenach, Mr. James William Watt had worked for one season at a large seed establishment at Erfurt, in Germany. Having now taken his degree in forestry he will henceforth be associated with his father, the seed and nursery firm of Messrs. Little & Ballantyne, Carlisle.

The Word "Scientist."—In the December number of *Science Gossip* a protest was entered against the use of the word "scientist," and opinions on the point have now been received from some well-known men. The Duke of Argyll, Sir John Lubbock, Lord Rayleigh, Professor Huxley, and Dr. Albert Günther unreservedly condemn the word. Lord Rayleigh approves Lord Kelvin's proposal to revert to the wider meaning of "naturalist," while Dr. Günther sarcastically suggests that "scientist" might advantageously be reserved to denote the modern dahblers in great scientific questions. Professor Huxley thinks "scientist" must be "about as pleasing as 'electrocution'" to anyone who respects the English language.

Novel Decorations at a New Year's Ball.—For the New Year's Ball at Bystock, near Exmouth, the seat of Mr. J. P. Bryce, the decorations were of a unique character, and were designed by Mr. F. W. Meyer, landscape gardener to Messrs. Veitch & Son, Exeter, who some years ago laid out the extensive caves and grottoes in the pleasure grounds. The leading features were a floral kiosk a "New Year's card," and a snow cave. The kiosk was erected in the entrance hall over a magnificent Oriental statue, and consisted of large Poinsettias, on a background of dark ivy leaves, and rising from a bed of white arum lilies, the corners of the roof being illuminated with ruby-coloured lights. The hall-room has five large bay windows, and the central one was transformed into a New Year's card. The device "A Happy New Year" being formed of large gilded fir cones, so skilfully suspended that they appeared to be growing from the fir trees which formed the background. At the base were some tasteful floral decorations, which had been added by the gardener, Mr. W. Swan. The most interesting and novel part of the decorations, however, was a large snow cave, adjoining the supper room, the cave being an exact representation of a snowdrift, with many irregular projections and deep recesses filled with clusters of "icicles" of all sizes, and of most weird and picturesque appearance. Here and there the icicles were transparent, and reflecting a crimson glow, reminding one of the Northern lights. The cave provided additional accommodation for six supper tables, and caused many expressions of surprise and admiration. Notwithstanding that the place was thoroughly heated, the scene was so strikingly realistic that many of the guests shivered as they entered!

Furcraea Selloa.—Visitors to the Palm House at Kew can scarcely fail to notice a fine specimen of the above noble Mexican plant, which is now flowering in the eastern transept. The huge panicled inflorescence reaches nearly to the top of the curved glass roof. The flowers are white upon the edges of the petals, but tinged a rich green towards the centre. The leaves are some 3 or 4 ft. in length, and are produced in a dense rosette, their margins being armed with stout upcurved spines of a brownish colour at intervals of about an inch. We doubt not that the flowering of this noble subject will before long give rise to a renewal of the "Century Plant" nonsense that crops up every now and then with surprising vitality.

A SECRETARIAL DILEMMA.

The Secretary of an influential Horticultural Society in the West of England, writing to me a few days ago, asks if it is possible to modify the classes for stove and greenhouse and foliage plants in some way, so as to render them more attractive to the general public. He, like some other managers of large exhibitions finds fault with the stereotyped character of the flower shows, one year's display being little better than a slavish imitation of the preceding one; and he fears that visitors tire of this and so he, with commendable foresight, asks if some more attractive features can be substituted. Stove and greenhouse plants are generally shown at this particular exhibition in excellent character; but as the Secretary states: "The same people exhibit year after year, and we get the same specimens over and over again and they are certainly stiff and formal, and in addition, lacking in novelty. Two or three classes for groups of Plants arranged for effect already find a place in the schedule of prizes, and they make an interesting and improving feature, so that there is no addition to be made in that direction. Can then any suggestion be put forth likely to be useful to our Horticultural brothers in the West?

Supposing a class was formed for six specimen foliaged plants and six specimen flowering plants intermixed with small Palms, Crotons, Dracaenas, and such like; and having an edging of small decorative plants. As a matter of course, the twelve specimens should be of sufficient size to display their individuality, and they should be so arranged as to show themselves in the best way. A collection like this would cover a good space of ground, but well done would undoubtedly prove an attractive feature, and, therefore, prizes would need to be good; but the money can be obtained by fusing the classes for stove and greenhouse and fine foliaged plants. Then another somewhat novel and, I think, an attractive class might be for six or nine conservatory or greenhouse plants, foliaged and flowering, all formally trained specimens excluded, might, and would, make a class that would find favour with gardeners who do not cultivate the usual trained stove and greenhouse specimens for exhibition. Here there are two suggestions of mine towards a solution of the difficulty: What have other readers of the Gardening World to put forward?

I hold that we cannot do without big specimen plants at our flower shows. They possess and present to view power; they are not common, and they afford a ready and convincing illustration of the skill and capacities of the cultivator. One can always admire a splendid Ixora, Bougainvillea, Allamanda, Erica, Anthurium, etc., but the present method of staging robs them of half their beauty. If a dozen large examples have to be staged, they are generally placed two deep, and the back ones have to be raised up upon pots, boxes, etc., to enable them to be seen. The visitor sees a broken surface of bloom or foliage, and a very pronounced substratum of huge pots or boxes, and a hand-barrow, and other utensils thrust among them. It is becauee this becomes such an eyesore, that in the foregoing lines I have suggested making up a class which permits the use of smaller plants to hide the pots and fill up the empty spaces between them. Who else will endeavour to assist our Secretarial friend in grasping some new and novel ideas?—*R. D.*

GARDENERS' HALF-HOLIDAY.

Without doubt "Gamma" in his interesting remarks upon page 293 of the last issue of The Gardening World, anent "A Saturday Half-holiday for Gardeners," has touched upon a subject of vital importance to all connected with the profession of horticulture. No one will, we think, deny the statement with which he commenced that "this is confessedly an age of social improvement." We, as a nation, are at last after a long sleep of apathy and sluggishness waking up to the fact that some alterations are abundantly necessary in our system of social economy, although the schemes which are to remedy the existing evils have in many instances yet to be elaborated. All of us will agree that a great point would be gained if the hours of labour could be shortened and more time placed at the disposal of the working classes than they have hitherto enjoyed. The idea of a weekly half-holiday is the immediate offspring of this idea, and thus naturally enough we find ourselves discussing its "whys and wherefores," its "pros and cons."

Perhaps in no other trade or profession is there exhibited such a spirit of bigotry and conservatism as in that of gardening. Other callings in which such a state of affairs has not so rampantly prevailed are far ahead of us in the advantages they possess. The blacksmith, the mason, and the carpenter have for long been in the enjoyment of the boon of a weekly half-day off, and we have got to consider this as the usual and hence the correct thing. From what curious system of logic then is the gardener debarred from a like enjoyment? Is it because he does not work as hard as the average mechanic? This surely cannot be the reason, for even if we allow it that his work is not of so laborious a character as that of the afore-mentioned craftsmen, this apparent advantage is more than counterbalanced by its excessively trying nature—trying alike to mind and body. From the very nature of a gardener's employment he is subjected to sudden and violent changes of temperature, which in themselves cannot fail to be fraught to an enormous extent with risks to the constitution.

Then again the average artisan or mechanic as soon as the "leaving-off" bell has sounded at night has finished until starting time next morning. Not so the gardener, for if he is not employed in stoking or performing the usual routine of jobs with which the man on duty is plagued, he never knows when he may be called upon to go hither or thither at the will or fancy of his employer. The seventh day, too, instead of being with him a day of rest from his week day occupation, often finds him busily employed in the never-too-much anathematized "Sunday duty," and this while his friends the mechanics are at liberty to wander at their own sweet will or to do whatsoever their fancy prompts them. In many cases, moreover, this extra Sunday work meets with no appropriate response from the employer in the way of extra payment.

Taking the trades and professions generally, it will be exceedingly difficult to find a calling which claims such a large percentage of steady and industrious followers. Seldom indeed is it that we find a gardener guilty of any indictable offence, and we are inclined to think that both judges and lawyers would starve were all classes of society as peaceably disposed as is the gardener. True, he has ere now figured in a "breach of promise" case, but still the tendency to promise more than it is possible to perform is an essentially human characteristic, and it is because the gardener is a human being, and as such entitled to considerate treatment, that we would urge the advisability, nay, the justice, of now and again releasing him from the pressure of the harness.

Many of the employers of the old school will not admit the fact that times have changed, and that the great social evolution that has been going on for the last fifty years has wrought great and marvellous alterations in men as well as in customs. Far too frequently we find that as it was, so it shall be now, is the idea that governs the mind of the employer, and thus many young men who venture to ask for a little time off for recreative purposes often find themselves greeted with the question, What do you want to go off for? I can't think what young men are coming to nowadays! In my young days I had no time for sports! Although the British workman was formerly much worse off than he is at present, it must not be supposed that we have by any means come to the end of our chain of improvement. What has past is but an earnest of what is to come, let us hope, in the near future.

In a few large gardens throughout the country the weekly half-holiday is an established fact, and we are pleased to see that others, seeing the common sense of the example thus given, are imitating it to a certain extent. Thus the young gardeners employed in the Royal Gardens at Kew have recently been granted the privilege of a Saturday afternoon off once a month. This may not perhaps be considered as a very large concession, but still it is the thin end of the wedge that we trust will ere long be driven still further home to the minds of those in authority, and that a *weekly* half-holiday will be conceded to the employés there at no very distant date.—*G.*

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

ASPARAGUS FOR DECORATIVE PURPOSES.

The gardens in which a few specimens of Asparagus of some kind or other are not grown, are we should imagine exceedingly few in number. Their value as decorative subjects has been so severely tested for a great number of years, and, needless to say, they have emerged from the tests with a considerable share of honour. The kinds most frequently met with are Asparagus plumosus and A. plumosus nanus: and of these thousands are sent out annually from the many different nurseries. There can be no two ideas with regard to their suitability for training to pillars, rafters or trellices, in the stove or conservatory, and where the making of bouquets, wreaths or button-holes is extensively practised, their light and graceful fronds are always utilised to a very large extent.

When the space which it is desired for them to cover is a large one, it is much the better plan to plant them out in a specially prepared border, a light sandy loam suiting them admirably. When treated in this way the growth made is always stronger, and more vigorous than that produced from pot plants; the latter method of treatment having a tendency to reduce the vigour of growth. In the matter of insect pests, the Asparagus enjoy a comparative immunity, mealy bug being the only thing to be dreaded, although slugs will take a little watching when the young growths are a few inches long, as they evince a decided partiality towards them.

Mealy bug, however, must never be allowed to gain anything like a foothold, or the appearance of the plants will soon be ruined completely. The infinitesimal size of the pinnules as well as the closeness of the network they form, preclude the possibility of syringing with insecticide, which cannot be made to penetrate the network with sufficient force to dislodge the bug, and that it is a manifest impossibility to use the sponge as an operating medium is evident to all. The best, and in fact, the only way is never to let the plants get dirty, the old motto of "prevention is better than cure" being here illustrated with exceptional clearness and force. Should plants get really dirty, however, the only way is to cut off and remove the infected pieces, for although this may seem rather a drastic method of procedure, it is hopeless to attempt the removal of the bug in any other way. The following will be found to be the most suitable subjects for indoor culture.

A. plumosus.—This is a well-known variety of exceedingly strong growing habit. It will succeed in either stove or greenhouse, although young plants in pots need the warmer temperature to stimulate and facilitate growth. It is a native of South Africa, from whence it was brought about the year 1876.

A plumosus nanus.—This variety differs from the type in being of a dwarfer habit and slenderer growth. The fineness and graceful character of the fronds render it particularly suitable for making up with cut flowers into bouquets, etc.; for the young fronds, although seemingly of so fragile a character, possess a large degree of vitality, and do not soon wither; indeed, if placed in water, they will keep quite fresh for a surprisingly long time. It was also introduced from South Africa about four years later than A. p. nanus.

A. scandens.—Here we have one of the prettiest climbing subjects of the whole genus. It thrives exceedingly well when planted out in the manner suggested previously, a greenhouse temperature being quite sufficient for its requirements. Native of the Cape of Good Hope.

A. decumbens.—Being of decumbent or prostrate habit as the name signifies, this species is best seen to advantage when grown in a basket and suspended from the roof of the stove. In one or two instances that have come before our notice, plants grown thus have formed most beautiful objects; all the more striking perhaps because they are so astonishingly rare. When it is elected to grow it in this fashion, the basket should be well lined with pieces of tough fibry turf, the grassy side being turned inwards, so as to keep the soil from being washed through when water is given. A compost of two parts of good loam to one of leaf soil with a liberal allowance of sharp sand will answer admirably.—*Z.*

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, Gardening World 1, Clement's Inn, Strand, London, W.C.

ON SOWING VEGETABLE SEEDS.

ALTHOUGH just at present there is but little of this sort of work requiring attention, we are reminded by the incoming of another year, and by the rapid strides which time is ever making, that the busy time for seed sowing is rapidly approaching. Seeds in stock and seed lists have to be looked over, and the kinds and quantities likely to be required determined upon. A consideration of the first importance is to secure seeds of the best quality with respect to germinating power and select strain, which happily any respectable seedsman may be depended upon to supply pure and good. No one can justly arrogate to themselves the honour of supplying all articles better than their rivals. Many of them, it is true, have specialities and novelties with which to tempt the public, but after once being distributed they become in the second season common to all.

Having obtained the seeds the next thing, and an all important one, is a favourable seed time. This can generally be had by waiting and watching, and having everything in readiness, so that advantage can be taken of favourable circumstances when they occur. It is far better to wait till the last moment for these than to put seed into the ground when it is in an unfit state to receive it. In some instances when having to deal with heavy cold soils which are difficult to work, further delay being undesirable, a crop may often be got in with the aid of light boards laid on the ground to prevent it being worked into a quagmire with the feet. This of course means more time and labour, but it will often insure success in place of failure in such cases, for nothing renders soil of this character more unfit for either sowing or planting on than trampling upon it in wet weather.

Generally speaking, it is better to sow vegetable seeds in drills, as this system gives better facilities for cleaning and hoeing, but whether sown broadcast or in drills, ample space should be afforded for these necessary operations, and not only the question of cleanliness but the well-being of crops of whatever kind is largely influenced by the amount of breathing space afforded them in the early stages of growth. Too thick and over thin sowing have both their disadvantages, and the nature of the soil intended for the reception of the seed should regulate in some measure the quantity of seed sown. On light, warm soils, where in favourable seasons scarcely a seed will fail to germinate, it may be sown very much more sparingly than on heavy cold ones, which, besides being more unkindly to the young plants, often in unfavourable seasons abound in slugs, snails, and other insect pests.

Too thin sowing on any soil presents the disadvantage of offering little or no choice being made when thinning-out time comes, for, from whatever source the seeds may be procured, it will invariably happen that some of the plants will from the commencement be stronger and more promising than the rest. For this reason it is desirable that a sufficiency of seeds be sown to allow of liberal thinnings out being made. By this practice, "when finally set out" as the market men say, the land or quarter devoted to any particular vegetable will contain selected plants only. The depth at which seed should be buried ought to bear some relative proportion to its size. Very many err in the direction of sowing small seeds too deeply, It may often be observed where the drills have been drawn too deeply that stray seeds blown by the wind during the process of sowing, germinate freely, whilst the others, from the adverse conditions under which they have been placed, are tardy in making a show above ground, and often fail entirely in their attempts to break through the thick crust of earth under which they lay and ultimately rot.

One of the best uses to which wood ashes, and burnt earth can be put, is the covering in of small seeds sown in drills. It is the very best material obtainable for the purpose, seeds germinating in it readily, and being free from weed seeds, it reduces the labour of keeping the crop clean. Besides it marks out most clearly the drills in which the seeds lay, and should weeds put in an appearance, (which they generally do) before the crop is sown, they may be hoed down without risk to the crop. The nature of the soil should be taken into account when drawing the drills. On light warm ground it will often prove advantageous to sow a little deeper than usual in dry seasons; but it is seldom a wise practice on heavy soil. Large seeds for the early crops may be covered from one and a half, to two inches deep, and the later ones somewhat deeper. The germination of Peas and Beans is often hastened by soaking them in water for twenty-four hours. When this is done during dry weather the drills should also be watered beforehand. This is a good practice, whether the seeds are all soaked beforehand or no.

The ground on which seed is sown should in all cases be made moderately firm, especially for Onions and Turnips. In most instances in private gardens treading is resorted to. It will often be found best to give one treading over, and then to pass an iron roller over it in contrary directions. Soils differ very much, and what can be done with the greatest facility in some gardens, cannot be accomplished by the same methods in others. There is no absolutely necessity to render the ground firm immediately the seed is sown, providing it is done before they germinate. A week to ten days may elapse, and it will be rare that the ground if not in a suitable condition for either treading or rolling when the seed is sown, is not so within that time.

The gardener has many enemies, seen and unseen, to contend with; the birds seem to know that he is depositing in the ground rich stores of food, and unless some check is placed upon them they will speedily appropriate to their own uses that which he intends shall be for his own benefit. Then, again, there are the mice! Both these foes may be foiled by the use of red lead. The best method we ever tried in using this was to place the seed in a pan and put a few drops of glycerine on it. A very little of this goes a long way, in moistening the seed it may be distributed over, care being taken either to stir or shake them repeatedly. Its advantages over any oil are that it is perfectly safe to use, the red lead sticks better to it, a much thicker coating of it being obtainable with its use than by the employment of oil of any kind or water.—*W. B. G.*

ORCHID NOTES AND GLEANINGS.

By JOHN FRASER, F.L.S., KEW.

Cypripedium insigne Baroness Sarah De Worms. *Nov. var.*—Every Orchid grower is now well acquainted with the fact that the purple blotches on the top of the upper sepal, is the characteristic feature of C. i. Maulei. It will open up a new line of variation when the brown colour washed out of the rest of the sepal, gives rise to purple blotches all the way to the base. The variety under notice shows a tendency in this direction. The upper sepal is roundly elliptic, and apple-green on the lower portion, marked with numerous, brownish purple blotches; the apical portion is pure white with a group of large purple blotches, and the margin is equally pure with a few purple blotches on either side of it, similar to those at the apex. The lateral sepals are bifid (at least in the case of both blooms on a plant now flowering in the nursery of Mr. P. McArthur, 4, Maida Vale, W.) and they are greenish-white with brownish-purple spots over the greater portion of the surface. The petals are yellow, slightly suffused and netted with brown, and marked with purple spots on the lower half. The lip is yellow, lightly suffused and netted with brown veins: and the lateral lobes are pubescent on both surfaces.

Oncidium tigrinum splendidum.—Of the two varieties of O. tigrinum that under notice is the finer, and although it does not attain the same height, the flower stems are sturdier and the flowers more conspicuous. The scapes are erect and bear their flowers in slightly branching racemes. The spreading and oblong wavy sepals and petals are reflexed at the tips, and although the ground colour is yellow they are nearly covered with brown blotches and transverse bars. The most conspicuous feature of the flowers, however, is the massive looking lip, which is transversely oblong and clear bright yellow, with exception of a large, purple, eye-like spot on each of the lateral lobes, and which contrast strangely with the brown markings of the sepals and petals. The variety was originally imported from Guatemala between forty and fifty years ago, and was first distributed in France by M. Quesnd, of Havre, amongst his friends. It flowered in England for the first time in 1870, but continued rare for some years. The smaller pseudo-bulbs, bearing only one leaf, separate it from the type, while the short and broad claw of the middle lobe of the lip separate it from O. t. unguiculatum.

Odontoglossum crispum François Masereel.—The history of this remarkable Odontoglossum, which was recorded in our issues for the 17th and 24th November last, is now given together with a coloured plate in the *Revue de L'Horticulture Belge* for this month. It was introduced in a large importation by MM. Vervaet et Cie, in July, 1893, and was named O. crispum Franz Masereel in commemoration of the youngest partner of the firm recently deceased. It formed part of a considerable consignment, of which all the large plants were dried up or rotten. This was nothing short of a disaster, for to the hopes which vanished come to be added the loss of money uselessly expended on the importation. The small plants were in better condition. Fifteen hundred of them as well as some back bulbs saved from the large pieces were put into a hot house. About 250 more of them perished before being put into pots. Thus then scarcely 1,000 semi-established plants to-day represent one of the most considerable consignments ot Odontoglossum crispum which has been sent into Belgium. A dozen of those plants have already flowered; all are of good form, the greatest part being of admirable purity of colour.

THE VEGETABLE GARDEN.

Frost and Protection.

SIMILAR to last year the frost has set in with the new year, and though not so severe it has almost brought to a standstill many out-door operations. Those who took the precaution to have everything well protected need not fear any harm unless we have it with greater severity, as a little frost now will be very seasonable in keeping vegetation in check. Should severe weather set in there are always plenty of odd jobs that may be done under cover, or when the ground is froze hedges may be clipped, wheeling done, walks gravelled, soil heaps turned over, Pea-sticks sharpened, in short anything that will assist in forwarding the work later on. Forced vegetables will now need much attention, particularly where there is not sufficient heat to enable ventilation without lowering the temperature too much. Where frames have to be kept covered with mats in order to exclude the frost there is but poor prospect of a sturdy and healthy growth.

Asparagus.

THOSE who took the precaution as previously advised to cover the beds intended to be lifted with litter, will be able to take up a sufficient quantity of roots to keep them going even though the frost should continue for some time. Be careful when lifting not to expose the roots longer to the atmosphere than can be avoided, especially if cold frosty winds are blowing, as this has a tendency to weaken them. Much judgment will be needed where Potatos require earthing, for the foliage of these is very tender, especially where the lights have been kept closed. The soil used ought to be warmed previously, and the middle of the day, when the sun is bright, should be chosen for the work. See that there is not too much moisture in the bed, at the same time it is not well to allow it to become dry. Seakale and Rhubarb should be introduced into the forcing house at intervals in order that there be no lack in the supplies of these useful commodities.

Salads, &c.

ENDIVE, Lettuce, Chicory, Dandelion, and other salads should be put in to blanch. A strong heat is not required for these things, it is, however, essential that all light be excluded, otherwise they will not be crisp and of a delicate flavour. French Beans should be sown either in pots or cold frames to give a succession. At this time of the year they do not set freely, particularly in such weather as we are now having, as the flowers do not get perfectly dry. Advantage should be taken of every favourable opportunity to ventilate, in order that the superfluous moisture may be passed off. French Beans are by no means a difficult vegetable to force, if due precaution be taken to have them well-attended to. Should they be neglected, red spider soon makes its appearance, and if this is not checked will spread with marvellous rapidity, and spoil the prospect of a crop.

Seed Sowing.

CAULIFLOWER seed should now be sown in a gentle heat to produce plants, either for growing in frames or planting out at the beginning of April. First Crop or Early forcing is the best for this purpose. A pinch of Golden Queen Lettuce should also be sown now. This dwarf early variety is not so well-known as it deserves to be, it makes but few outside leaves, quite a ball in shape, and is of most delicate flavour. Radishes may also be sown on a slight hot bed, and these will be found very useful later on. Mint and Tarragon should be taken up and planted in pots to give a supply of green leaves, Chervil and Celery too are so often called for that these should by no means be forgotten. The former does not require a strong heat to cause the seed to germinate, while the latter will grow far more freely if a slight hot bed could be afforded it. Prepare Shallots for planting the first favourable opportunity, by removing the outside skins. Sow Mustard and Cress in pans or boxes to keep up a succession.—*Kitchen Gardener.*

THE FLOWER GARDEN.

THE present unmistakeable touch of Winter's icy fingers will to a great extent impede work in this department, although it must by no means be supposed that there is nothing to do. The work will undoubtedly be of a different nature, as it is not possible to use the spade whilst the ground is hard as iron from the effects of frost, and pruning during severe weather will not be practicable either. The occasion may be improved, however, by the prosecution of work of a heavy character, such as wheeling or carting of manure to the positions where it is intended to apply it as soon as digging becomes practicable.

Gravel paths which are to receive a coating of fresh material often cause a considerable amount of labour, owing to the undesirability of allowing heavy carts to pass over the lawns and grass plots of the flower garden, the natural result being that wheelbarrows have to be used as a means of conveyance—a procedure that necessarily lengthens the operation considerably. Advantage may, therefore, be taken of the firmness of the ground to bring the material as close to the scene of proposed operations as possible.

Care must be taken that all semi-hardy plants are afforded sufficient protection or the cold, nipping winds that have prevailed of late will cause considerable damage. Cuttings of Violas that were put in during the autumn under the shelter of a south wall will also need protection. A few Spruce boughs or old mats thrown over them will be quite sufficient. After a thaw, the covering may be removed and the plants looked over, as at such times it often happens that they are lifted out of the ground entirely, a fact that will not conduce greatly to increase their chances of surviving the winter. Where this lifting up is observed, the young plants should be carefully yet firmly pushed down again, and the stems covered pretty deeply with soil.

STOREROOM.—A few days may be spent here with advantage in looking over and sorting bulbs that are to be planted as soon as the weather breaks, such as Anemones of sorts and Narcissi, which press of time has prevented from being put out earlier. Dahlias, too, should be looked over, as it will soon be time to commence the propagation of new or rare sorts. All rotten tubers should, therefore, be cut off to prevent their affecting the other healthy ones.

SEED LISTS.—At this season of the year most gardeners are busily engaged in studying the catalogues of the various seedsmen with a view to the making up of their seed order for the ensuing year—the difficulty, in many cases, being in the calculation of how to get as good a show as possible for the money. Of late years, the cultivation of many showy flowered annuals has received a great deal of attention, and the catalogues of various firms exhibit a wealth of these sufficient to satisfy anyone who is able to deal in them to a fair extent. To the gardeners, both professional and amateur who have to study the £ s. d. of the matter, it is not advisable to go in for too many of the higher-priced novelties, but rather to be content with plants of an older standing, whose worth has been tested by several seasons of cultivation. To restrict one's seed order in this way is often difficult of accomplishment, the temptation to go for the new things usually being exceedingly strong.

FRUIT UNDER GLASS.

EARLY VINERY.—Attention must be paid to the bringing down of the shoots into their required position the amount of pressure upon the strings being judiciously increased day by day until all are in their proper place. The damping of pipes or flues of walls and paths must be frequently performed as they soon dry up, a corresponding aridity being imparted to the atmosphere if due attention to this is not given, particularly when, as is often the case at this time of year, the fires have to be kept going pretty vigorously to maintain the requisite temperature. When the vines are in flower, however, these dampings must in a great measure cease, a dryer atmosphere than usual being necessary to assist the setting of the berries.

WATERING.—This is an operation to which too much importance can scarcely be attached, as on it hinges to a large extent success or failure in Grape growing. It is well-nigh impossible to state how often watering should be performed, so much depending upon the construction of the border, and the health and vigour of the vines themselves as well as in a less degree upon the variety cultivated. Practical acquaintance with each border is therefore necessary, but on no consideration must the vines be stinted in the water supply or good-bye to all hopes of success. The water used should be carefully chilled by the addition of hot water until it bears a temperature of from 58° to 60° Fahr. A sufficient quantity to thoroughly soak the border must be given each time, and on no account should the application of insufficient driblets be tolerated.

LATER VINERIES.—No time should be lost in starting a succession house. The cleaning of the house and the pruning of the canes having been seen to, as advocated for the early house, it should be started with a minimum night temperature of 45°, rising to 60° in the day by the aid of sun heat. A similar course of treatment should be observed here as in the case of the early vines, the same regular syringings and the usual gradually increasing temperature.

FIGS.—The house that was started at the end of December at a minimum night temperature of 50° Fahr. may have a substantial increase in this direction, a prevailing night temperature of not less than 58° being maintained, rising to 65° in the day.

PEACHES AND NECTARINES.—As soon as the flowers in the early houses begin to expand, a drier atmosphere must be kept up, and as soon as the anthers begin to shed their pollen the process of pollenization must be commenced. For this purpose some soft material must be used to convey the pollen grains to the stigmatic surface. A camel's hair-brush is the best of all, although the careful use of a rabbit's tail or even an old silk handkerchief may be attended with exceedingly good results. In any case a light hand is necessary, undue roughness being very often the chief cause of failure in obtaining a good "set." When the trees are in bloom the night temperature should range between 50° and 55° Fahr., rising to 70° on sunny days.

STRAWBERRIES.—Succession batches of these must be brought into heat at intervals, commencing to force with a minimum temperature of 45° Fahr.—*A. S. G.*

THE HARDY FRUIT GARDEN.

THE work of pruning and nailing that has been so vigorously conducted here of late, and which, if due advantage has been taken of the exceptionally mild and open weather we have been favoured with during the latter end of 1894, should be pretty well advanced, will, now that winter has at last condescended to make its appearance in earnest, no longer be practicable while the present inclement weather holds.

Pruning, as has been noted in a previous issue, must not be carried on when the wood of the trees is frozen, and the question of personal convenience will be sufficient argument against all ideas of nailing.

In orchards or fruit gardens that are open to the visitations of rabbits, care must be taken that the lower part of the stems of Apples, Pears, Plums, etc. are protected from their attacks, as not a little damage is done during hard weather by the gnawing of the bark by these mischievous little animals. To place round the stem of the trees a cylinder of iron meshed wire, which should be considerably larger than the stem of the tree it encircles, is both a simple and inexpensive method of affording the necessary protection.

Gleanings from the World of Science.

Mexican Clover.—A noteworthy feature of modern times is the growing importance of many members of the Leguminous or Pea family as fodder plants, particularly in dry countries or in chalky and other districts, where the soil is naturally very dry, especially in summer. In this respect Lathyrus sylvestris is the latest addition to British plants, and the Sainfoin (Onobrychis sativa) is well known to agriculturists in chalky districts of the south of England. The Crimson Clover (Trifolium incarnatum) is even more commonly cultivated than the last-named in southern counties; nor must the cultivated Clovers generally be overlooked. The species of Melilot (Melilotus officinalis and M. albus) ought to receive more attention than they do. The Lucerne (Medicago sativa) is a native of Europe and the East, and was introduced by the Romans to this country as fodder for their horses, but has become naturalised in chalky soils and upon many a railway embankment in the south of England. It has received various names in its own and also other countries to which it has been carried. The Spanish call it Alfalfa, and in America it is known by the latter name as well as Mexican Clover. From Texas to California it is extensively cultivated as a forage plant, and is both nutritious, fattening, and palatable to horses, cows, sheep, and pigs. Its growth is so rapid that several crops of it can be cut in a season.

Cultivation and Uses of the same.—From Texas to California large and thrifty fields of Mexican Clover or Alfalfa may be noted. The land and live stock investment companies of New Mexico and Arizona make a point of utilising the desert wastes of those regions for the growing of this leguminous subject to fatten cattle. On one range or ranch in Moro County as many as 1,000 head of Cattle are being fed for market upon it. Irrigation is occasionally employed to stimulate its growth, but a most important feature in connection with it is that land producing it tends to get more fertile than poorer. Like other members of this extensive family, it shows its adaptability for dry soils, by the great depth to which its roots penetrate in search of moisture. The roots are also furnished with small tubercles containing bacteria, by means of which they can collect and utilise a larger quantity of nitrogen than other plants, thereby rendering the surface soil more fertile than it was previously. North of Denver in Colorado, along the lower ranges of hills, Alfalfa or Lucerne constitutes one of the staple crops, especially in purely agricultural districts at some distance from large towns. The product is so great, and the large quantities of hay made from it, have constituted this country a winter feeding ground for cattle from the south, and which are taken eastwards in spring. Last winter nearly 50,000 sheep were fattened on Alfalfa in the neighbourhood of Fort Collins. This crop is also proving important to some of the settlements in Arapahoe County.

Growth of Plants by Night.—Our contemporary, *The Landscape Architect* (American), states it as a curious fact that Nature utilises the night-time for the most rapid growth. This is certainly the case if by growth mere extension is meant. But we do not quite agree with the purport of the statement that "during the day the plant is very busy gathering nourishment from various sources, and during the night this raw material is assimilated into the plant." The raw materials are not only collected during the day but manufactured into solid plant food in the chlorophyll granules under the influence of sunlight. This solid material adds to the weight of the plant as fast as it is manufactured, and is stored somewhere or other in the plant merely as a temporary reserve. Then during the night this is again converted into soluble material and conveyed to those parts of the plant where growth is going on; but in this it adds no new matter to the plant which it did not possess during the day. The night growth is mere extension of the tissues with the material manufacture by day merely transferred to other places. Plants cannot extend or lengthen their leaves and shoots to any extent during the day because their tissues are soft and relatively flabby: the cells are limp through the loss of moisture caused by transpiration, and leaves and shoots can only increase in length when the tissues, or rather the individual cells, are in a state of tension or turgidity, owing to the pressure of protoplasm and cell sap which they contain.

THE HOLY THORN OF GLASTONBURY.

I was informed, a few days ago, by Mr. George Nicholson, the Curator of the Royal Botanic Gardens at Kew, that this precocious Thorn, which is said to blossom every year on Christmas Day, and of which there are specimens at Kew, did actually blossom at the Christmas season, though for two or three years, at least, it had not done so much before the ordinary Hawthorn of the hedgerow. It is interesting that the plant should have, as it were, surrendered for a time this peculiarity of unusual precocity, and then displayed it again. When I resided in the Denmark Road, Ealing Dean, I had a plant of this Thorn sent me from Glastonbury. It reached me at the end of November, it was duly planted in the open, and it certainly bloomed about Christmas. I grew it for several years afterwards, but it then budded and blossomed in spring, about or a little before the usual time at which the common form flowers, and it did not again bloom at Christmas. I eventually gave it away, thinking that transplanting in autumn and a change in position might induce it to revive its precocious character, but I never heard of its doing so. But that this particular Thorn does abound at Glastonbury, where it blossoms at mid-winter, there can be no doubt.

A Curious Tradition.

The old tradition respecting the Glastonbury Hawthorn sets forth that Joseph of Arimathea once visited Glastonbury, and there preached the Gospel to the inhabitants, who had never heard the good news before. On his arrival he felt fatigued, as he had walked with feeble steps up a toilsome hill, which still bears the name Weary-all-hill. It is a steep hill to climb, and it is not to be wondered at that Joseph should have felt tired. Here he planted his Hawthorn staff firmly in the ground, where it at once took root and grew into a flourishing tree, bearing buds and flowers even in the depth of winter.

It is said that the fact of blooming at Christmas rendered its blossoms of so much value to Christian nations, who saw in their production miraculous testimony to the birth of Christ, that the Bristol merchants exported them as things of price to foreign lands. The original tree had two trunks until the time of Queen Elizabeth, when a Puritan —so the record goes—cut down one of them and left the other, which was about the girth of an ordinary man. The reputation which the Glastonbury Thorn still retained, notwithstanding the change in religion, may be estimated by the fact that it is stated on good authority that King James and his Queen, and other persons of distinction, gave large sums for small cuttings from the original tree.

Precocity the Result of Natural Conditions.

Respecting this and similar superstitions, Sir Thomas Browne, in his "Vulgar Errors," tells us: "Strange effects are naturally taken for miracles by weaker heads, and artificially improved to that apprehension by wiser. Certainly many precocious trees, and such as spring in the winter, may be found in England. Most trees sprout in the fall of the leaf, or autumn, and, if not kept back by cold and outward causes, would leaf about the Solstice (or say New Year). Now, if it happen that any be so strongly constituted as to make this good against the power of winter, they may produce their leaves or blossoms at that season, and perform that in some singles, which is observable in old kinds, as in Ivy, which blossoms and bears at least twice a year, and once in the winter; as also in Furze, which flowereth in that season." In addition to the plants named by Sir Thomas Browne as flourishing in winter, I may name that beautiful form of the Allspice known as Chimonanthus fragrans, which, 'midst frost and snow, furnishes bunches of deliciously fragrant flowers on Christmas Day, the blossoms of this winter-loving bush being produced in bunches. But it needs the protection of a wall to be able to do this. Also the yellow Jasminum nudiflorum, which is in bloom all the winter; the common Laurustinus; while Forsythia suspensa and viridissima are in blossom in the open before winter leaves us.

What is the Glastonbury Thorn?

Simply an early flowering form of our common Hawthorn—Crataegus Oxyacantha. How or where it gained this property of blooming early I cannot say, but this I do know, that a change in the conditions of growth or surrounding circumstances has a remarkable effect upon individuals in the vegetable kingdom, modifying them in a remarkable manner, and in some such matter the Glastonbury Thorn was probably developed.

The Historical Associations of the Hawthorn.

It has many, and Miss Strickland tells us that when Richard III. was slain at Redmore, and his body plundered, a soldier hid the crown in a Hawthorn bush. It was soon found, and carried to Lord Stanley, who placed it on the head of his son-in-law, saluting him by the title of Henry VII. In memory of this circumstance the House of Tudor assumed the device of a crown in a bush of fruited Hawthorn. This is thought to be the origin of the saying, "Cleave to the crown though it hang on a bush."—*R. D.*

HOW TO GROW TOMATOS FOR PROFIT.

The time is once again drawing near when preparations will have to be made for the cultivation of this beautiful fruit. People are repeatedly saying that Tomatos have had their day, and that not nearly so many are used now as formerly, forgetting the vast numbers of beginners in their culture that are every season becoming more plentiful. The demand in the market for a smooth, highly-coloured Tomato of good flavour will always be brisk. "Prelude" has again stood the severe test of a very bad season admirably, Challenger coming in a good second. I have seen this season plants of the former variety bearing from ten to twelve pounds each of fine marketable fruit. Heavy cropping, smooth varieties are difficult to obtain, but these two sorts I have mentioned I can confidently recommend. Large, coarse fruits, even if they are of a smooth appearance, do not command any great sale.

As it is useless to expect good results from the culture of inferior varieties, the choosing of a good reliable sort is essential to success in Tomato culture. The next point upon which I would like to lay stress is that of the sowing of the seed. I would recommend sowing for a main crop not later than from the middle of March to the beginning of April. Many seasons' experience have convinced me that if you want plants bearing trusses of fruit right from the bottom that you must not sow too early. I know of many growers that have already sown their seed, some of the plants being even now up; but to my mind the present weather is anything but conducive to good growth.

These plants, together with the necessity for a good position to grow the plants in, are the main features of successful Tomato growing. I prefer the single rod system of training, all laterals being kept well in check. Plant widely apart and firmly, and if the foliage is healthy, instead of cutting and hacking every leaf, choose those which are near the flower truss, give them an upward jerk, thus removing them completely. Avoid damp by judicious watering, ventilating, firing, etc. Never be niggardly in the use of the last. Avoid all stimulants as poison until the plants have reached a good size. Tomatos are very excitable subjects, and the least drop of stimulant acts upon them in pretty much the same way as whiskey does on a young lad that has ne'er tasted. Deal the manure water out in small quantities, using judgment in its application, when the result will be entirely satisfactory.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

THE PUBLIC PARK OF GHENT.

The site of the public park of Ghent occupies a surface of about 75 acres or thereby. The land formed the glacis of the citadelle of Ghent, constructed in 1822, after the plan of the Dutch officer Gey Van Pittius and approved of by the Duke of Wellington. It had been planted with trees and shrubs, but that plantation, done without care and without technical knowledge, was for some length of time a waste, when the Belgian government ceded it to the town in 1871. Its form is that of an irregular polygon. It was very difficult to form a plan conjointly from the very origin, the land having only been put at the disposition of the architects successively. M. Ed. Pynaert while describing the public park in the *Revue de L'Horticultural Belge*, says that the greatest part of the park has been laid out by our colleague, M. H. J. Van Hulle, who was at that period inspector of plantations of the town of Ghent. That is the roughest part, to-day as the trees planted upon the slope of the fortifications have taken a certain shape, the visitors to the park are unanimous in recognizing the art and the science which have presided in the choice of the divers subjects selected and permitted to make rapid headway, and a beautiful decorative effect at little expense.

Happy transformations have since been made in the less uneven part. The most important consists in the excavating and management of a piece of water of irregular outline, having a surface of more than 6,000 yards. It has been established under conditions relatively not very burdensome, in a natural depression of the soil; its level is from two yards less elevated than that of another piece of water known under the name of the swan pond. That is fed by the water coming from the reservoirs of the general town supply, or taken directly from the Escaut. Fortunately being situated upon the high grounds of Mount Saint Pierre, the culminating point of the town separating the basin of the Lys from that of the Escaut, the ponds of the park are assured against a scarcity of water, thanks to that latter mode of supply. It is that which has suggested to the communal administration the happy idea of relying upon the two pieces of water. The swan pond falls into the lower pond by a beautiful cascade (of which a beautiful illustration is given in the January number of our contemporary), giving a fall of water almost fifteen yards in width. The masses of rock which extend on either side of that cascade lose themselves in the verdure. Above that very decorative mass, a bridge fifteen yards wide is thrown. A photogravure of that work of art is also reproduced; the structure, both the arch and appendages, consists of cement. It was executed after the system of Monnier by MM. Picha Brothers & Co.. of Ghent. That very elegant construction is of recognised solidity, inasmuch as the arch has only a thickness of 3¼ in.; the bridge has undergone the proof of the passage of a carriage charged with 10,000 kilogrammes (about ten tons). The approaches were entrusted to M. A. Detreeuw, of Brussels. They have been conceived with taste and sobriety; the work is marked out with black lines to represent large and massive stones.

The park of Ghent grows more handsome and transforms itself every year, thanks to the efforts of two principal officials, the alderman, M. Octave Bruneel, and the inspector of plantations. M. Henri Moerman. Unfortunately, the local resources do not permit of immediately realising the projects elaborated by the administration. It is hoped that the town will soon be able to complete its work in demolishing the barracks of the old citadel established in the middle of the park upon a space of thirteen acres, and which forms an islet more spirited than picturesque. The barracks gone, the park can be finished, and it counts for certain amongst the most beautiful parks of Europe. A fact will prove to what extent it is popular. Hardly a planting season passes during which particulars do not come of species of rare plants or of new introduction to put at the disposal of the communal authority. It is Dr. Burggraeve, an old communal councillor, who has taken the initiative in these gifts of trees, and his example has already found numerous imitators.

CUPRESSUS NUTKAENSIS LUTEA.

There are now several golden Conifers in cultivation, of which Retinospora plumosa aurea and Cupressus Lawsonianus luteus are perhaps the most common. Less common in collections are Retinospora obtusa aurea, R. o. gracilis aurea, R. pisifera aurea, R. filifera aurea, and R. filicoides tetragona aurea. There are also some golden Junipers. One of the most recent golden Conifers to be put into commerce is Cupressus nutkaensis lutea. Notwithstanding that it was raised some ten or twelve years ago it is only beginning to come before the public. The older plants are, however, of good size, say from 5 ft. to 9 ft. high. In habit and vigour of growth it is equal to the type, though, as might naturally be expected, it may not grow so rapidly. Golden Conifers seldom do. The habit of C. nutkaensis and its general appearance is so different from C. Lawsonianus that the two are worth growing for the sake of the different hues alone. The branches and twigs of the former are much stouter and this gives to its golden variety a robust appearance well shown in the accompanying illustration,

for which we are indebted to Messrs. J. Veitch & Sons. The tree is perfectly hardy, and may be planted in any situation that is not too much shaded or overhung by trees; but its graceful and pyramidal outline can only be seen to best advantage when it is isolated upon the grass. The type was introduced from British Columbia in 1850, and there it grows to a height of 40 ft. to 60 ft. The golden variety is bright yellow in the younger stages of the branches, but the older ones assume a rich dark green hue.

NOTES FROM GUNNERSBURY.

In the majority of gardens at this season of the year there is but little doing; nature in her dullest and most apathetic of moods exercises a corresponding effect upon everything, including the occupants of the plant and fruit houses. In the above fine establishment, the property of the Messrs. De Rothschild, however, an air of brightness and attractiveness prevails which is to a large extent euhanced by the strict tidyness and cleanliness which obtains under the careful management of Mr. G. Reynolds, the gardener.

The glass is of an extensive character, as indeed it would need to be, having regard to the immense amount of fruit and flowers that it is expected to produce. The greatest run on the resources of the establishment, in the way of cut flowers more particularly, usually being experienced during the autumn months, numbers of the plants have to be flowered somewhat earlier than is generally the case in many other private gardens. Large quantities of the hybrid perpetual section of Carnations are grown in pots, but at the present they are long past their best, as from the reason before stated, their flowers are required earlier in the season. Such varieties as Mrs. Calcraft, Mrs. Leopold De Rothschild, Mrs. H. Cannell, and Countess of Erne—the latter a fine yellow—may be cited as examples of sorts that are held in high estimation at Gunnersbury Park. Most of the plants I saw were of a single year's growth only. The cuttings are struck about the end of September or the beginning of October in a gentle heat, and potted on into thumbs or small sixties as soon as they have acquired sufficient root.

A large central bed in one roomy house was filled with large healthy-looking specimens of Eucharis amazonica from which large quantities of the much-esteemed flowers were obtained for some time before Christmas, and even now as if not satisfied with their labours some of the plants are again throwing up their flower scapes. Amongst the usual stove plants some splendidly coloured Crotons were very conspicuous, some fine heads in small pots of C. Warreni and C. Prince Henry of Prussia being exceedingly neat. Orchids are not made a speciality of, although numbers of Vanda teres, Cattleya Gaskelliana, Dendrobium Wardianum, Cypripediums of sorts, etc. are cultivated.

A number of well-flowered plants of Cyclamens were affording a brave show, some fine whites and not a few pink and purple varieties being very meritorious. It is the usual practice here to raise a number of plants each season, but very few of them being grown on for the second year. Primulas were represented by a quantity of nice little plants of the double-flowered section; single varieties were, however, conspicuous by their absence.

The fruit houses are very numerous and throughout of an extensive and commodious character. Pot Vines were just starting away well, the shoots being 2 in. or 3 in. in length. In other houses the canes were being tied down in readiness for forcing or undergoing the usual pruning. A fine run of Peach cases upwards of 300 ft. in length is a principal feature of the establishment. In the earliest house the buds were just beginning to swell nicely.

A range of Fig houses erected against the wall at the time of my visit were just breaking into rough leaf, and as the houses in question have recently been painted, they presented a particularly clean appearance. The trees are trained in a peculiar manner which allows of the roof of the house as well as the the walls being furnished. A stout stem is taken up to the point where the house joins the wall, is bent over and allowed to ramnify in all directions, some exceedingly fine fruit being thus obtained. As in many other gardens, so here the Brown Turkey and the White Marseilles varieties are held in high esteem.

Melons are here looked upon as a most important crop, and although the conveniences for their culture are somewhat restricted with regard to space, by dint of careful management, successful results are arrived at. I was informed that during last year an abundance of fine fruit was procured, canker making its appearance only in one or two instances, and then without doing any injury. When we consider the wet, sunless, and unfavourable character generally of the past season, such a record as this speaks volumes for the skill of those in authority at Gunnersbury Park in the cultivation of such a fastidious subject as the Melon.

Cupressus nutkaensis lutea.

LENTIL CULTURE IN FRANCE.

The Lentil has been cultivated since pre-historic times in temperate Oriental countries, in the Mediterranean regions, and even in Switzerland. It is believed that it existed in a spontaneous state in Western Asia, in Greece, and in Italy, and its geographical area now includes all Europe and all temperate Asia. The United States Consul-General in Paris says that the production of Lentils in France is confined chiefly to the eastern and south-eastern departments. In the western provinces they are grown to a limited extent by farmers and used as food for their stock. There seems to be a great diversity in the habits and tastes of the people of the different sections of France as regards this vegetable. In some provinces they are almost universally used by the peasantry and the labouring people of the cities in the making of soup and porridge and for other purposes, and are regarded as a nutritious and economical food stuff. The Lentil is, like all farinaceous vegetables, very nourishing, and among the peasantry in some sections the belief exists that it induces the hypersecretion of milk after parturition. Sometimes Lentils are ground into flour from which bread of an inferior quality is made. In the north, Lentils are said to be used to some extent in the manufacture of chocolate, cocoa, and infants' food. There are several species, viz., the common Lentils, large white or rather pale green Lentils, with very flat seeds of a pale blonde colour, about one-fourth of an inch in diameter; the small Lentil of the same colour; and the small red Lentil, the seeds of which are of a reddish colour and do not reach a larger size than about one-sixth of an inch in diameter. There is of the species last named a spring Lentil known as Lentil à la Reine, and a species of small winter Lentil.

The Puy Lentil, of a green colour, especially cultivated in the neighbourhood of the towh of Puy-en-Velay, is plainly characterised by its small seeds and showing a green colour dotted with black. There are many differences in the culture of Lentils according to the species. The common Lentil is the kind more generally met with in commerce. It is especially consumed in the north, being a spring Lentil which, in the central part of France, is sown as soon as the cold and frosts are over. As it requires a light soil, two ploughings alternately with harrowing are sufficient to bring the earth to the required state. They are sown sometimes in "pockets," sometimes in rows. The sowing in "pockets," performed with a hoe, produces a tuft of Lentils about every 12 in. For this purpose five or six seeds are placed in holes rather large, not

deep, and are covered with earth to the depth of probably 2 ins. The way of sowing requires a great deal of time and is very inconvenient, rendering the digging difficult, and yields only a small production. The preference is given to sowing in rows, which may be done at the same time as the last ploughing or even after harrowing. In the first place a woman follows the plough and drops the Lentil seeds as regularly as possible in the rows; they sow only every other line, so as to obtain sufficient space between the rows of plants. The Lentils mature about the end of July, and the returns are from twenty-eight to about forty bushels per hectare (2·47 acres).

The small red Lentil is generally used as fodder for animals, and is sown broadcast. The green, or Puy Lentil, is highly thought of in the south of France; it is an important culture all over the Auvergne province. It grows at a considerable altitude. The ground is generally prepared in the autumn or during the winter even when the snow is on the ground. The United States Consular agent at Calais says that in the north of France large quantities of Lentils are cultivated for animal food, especially for horses.

On almost every northern farm they sow in September a mixture called Hivernache, composed of one-half of Rye, one-fourth of Vetches, and one-fourth of Lentils. The crop is ripe in July, and in the autumn is reported to be one of the best stimulants for horses when they have the heaviest work to do. This mixture offers great advantages because the Rye has grain at the top of the bunch, Vetch in the middle, and the Lentils about a foot high give rich food at the bottom of the bunch, where the straw has rarely any nutritive qualities. Sometimes cows are fed with this Hivernache when the meadow grasses are scarce and poor, and the milk is at once more plentiful and richer in butter. —*Society of Arts Journal.*

FRUIT GROWING IN AUSTRALIA.

At a recent meeting of the Balloon Society at the Gallery, Conduit Street, under the presidency of Mr. J. E. Vincent, F.R.G.S., Chief Commissioner for the Australian Irrigation Colonies, Mr. James Stevens delivered a lecture on "Fruit Growing in Australia." There was a numerous attendance of members. The chairman claimed for these now extensively developed settlements that they were no longer in the experimental stage, but had reached the point of complete and recognised successful demonstration. After some six or seven years since the commencement of the planting of Vines, Citrus fruits, Olives, Apricots, and other fruits, the first substantial output was made last year, amounting to nearly £50,000.

This year the output would be doubled, and it would go on in similarly increasing proportions from year to year, until, as was now beginning to be predicted, from this comparatively new and unknown resources of productive capability, Australia and her people would derive more substantial and enduring profit and advantage than from her goldfields or any other line of production. Experts from France were now being employed in the manufacture of wine, and with such excellent results that even Frenchmen themselves, like Max O'Rell, were constrained to declare that "in twenty years Australia would be sending her wines to the four corners of the world," and such was the increase in the power of production by means of irrigation that the previously arid, but otherwise most suitable soils on the banks of the river Murray would amply reward the skilful grower at a price as low as 6d. or 9d. per gallon.

It was, indeed, very possible that Mr. Gladstone might yet live to see the fulfilment of Mr. Cobden's anticipations when he negotiated the treaty of commerce with France admitting her light wines at a low rate of duty, and witness the working men of England in daily consumption of the temperance-conducing light wines of Australia instead of the intoxicating spirits and heavy beers which they now indulged in so exclusively. The extensive wine-yards and other cultivations which had been established on the river Murray had already proved that excellent light wines of claret and burgundy character, in true purity and soundness of quality, could be, and now were actually being, produced at the irrigation colonies; that Oranges and Lemons inferior to none in the world were being raised in abundance; that Currants and Raisins, Olive oil, pure Grape brandy, Apricots, Peaches, Figs, indeed, nearly, if not all, the most valuable fruits of commerce, were now produced and would be producible for the colonial, English, and foreign markets in any required quantities. At the irrigation colonies many hundreds of Britons had found a congenial home and occupation, and plenty of scope for their enterprise, capital, and intelligence; while British manufacturers found a substantial and ever-widening field for their machinery and goods of all descriptions; and last, though not least, the British investor found that such enterprises as these valuable productive colonies represented were adding materially to the basis of the security upon which he had lent his money to Governments, urban communities, &c., since they did not merely absorb the capital which he advanced, often with more or less misgiving, but honestly earned, and easily bore the burden of the interest at which it was borrowed —points which were not always sufficiently thought of.

Mr. Stevens then gave a descriptive account of the settlements and of their progress up to the latest date, exhibiting by an oxy-hydrogen lantern a very large collection of photographic views of the vineyards and plantations, revealing the extraordinary growth of the trees, their size and bearing capacity from year to year after being planted; the pleasant and picturesque homes of the settlers; the flourishing towns of Mildura and Renmark, with the coffee palaces, State schools, post offices, public halls, churches, chapels, stores, shops, and other places of business.

The area under direct cultivation consisted of upwards of 10,000 acres at Mildura, spreading over country some ten miles in diameter, showing long lines and avenues of trees in various stages of growth and many in bearing—the whole of the work thus illustrated having been accomplished within the last seven years, previous to which the country was devoid of population and almost of life-sustaining vegetation. The population of the two settlements now numbers between 4,000 and 5,000.

HERBACEOUS SPIRAEAS.

Following my recent note upon our shrubby Spiraeas I now name a few of the most useful herbaceous species.

S. Aruncus, or the Goat's Beard, is one of the most showy. Extensively distributed over Asia, Europe, and N. America, it thrives in many variations of climate and soil. It is consequently a very easily managed flower, and produces quantities of its long, feathery spikes throughout summer and early autumn. These are pure white and fragrant. Unless we give it a fair amount of space and good soil we do not realise what beauty it is capable of developing into. In a semi-wild part of a large pleasure garden it is simply grand.

S. astilboides is a moisture-loving plant, and thoroughly distinct from all others. The flowers are not a pure white, but are closely packed upon many-branched stems. On the larger rockeries or for mixed borders it is very useful. In the cool house, also, it is not to be despised, but I do not find it so amenable to forcing as we were led to believe upon its introduction.

S. japonica, or Hotea japonica as it is now classed, is well known as the most generally useful of our meadow sweets. With plenty of water and steady treatment at first, this will force admirably, and is, in fact, one of our most popular early spring flowers. When growing in a sheltered spot near water, or in moist, rich soil, it is sometimes very pretty outside. As a general rule, however, this, like the Deutzia gracilis, gets nipped by our late frosts, and quite spoilt when compared to our plants beneath glass.

S. palmata is not so robust as we would desire, and like the former is almost semi-aquatic. It is good near a pond or stream, and its huge panicles of deep crimson flowers are most showy, provided a moist root-run is found. It is less liable to spring injuries than japonica, but greatly resents a dry or starved soil.

S. lobata is after the same class of plant and flower, but the colour varies from pale crimson to almost white; indeed, there are many varieties that closely approach one another, but perhaps those already named, with S. filipendula purpurea and S. Ulmaria, are the best.

But we must not forget the large type of meadow sweet that was introduced during the present decade, and which grows from 6ft. to 8 ft. high. It is a grand thing, but needs much room, and will be out of place in a small garden.—*Experience.*

FERNS FOR CUTTING.

Of late years foliage of many kinds has become more popular throughout all floral decorations, and we seldom meet the glaring mass of colour that prevailed far too much a few years back. When we bear this in mind it is only natural that Ferns for cutting should be in constant demand. Then we can have such a choice of form, one which is most surprising to those who looked upon our Maidenhair as almost the only one fitted for this purpose. In truth it is by no means the best, although the popular idea will make it the most grown for many years yet. What is wanted in cut fronds of Ferns is hardy and matured growth. They may be hurried on while the fronds are young, but previous to cutting they should receive much cooler treatment, without this precaution the majority will not stand well.

We all know how much better some stand than others, and there is little doubt but what partial hardening off is the chief point. Gradually hardened and fully exposed to light, there are many very beautiful Ferns that are seldom used in a cut state which are admirably adapted for the purpose. Adiantum elegans is an improvement upon A. cuneatum, both in early growth, better shape of frond as a whole, and greater size. Then we have A. decorum and A. scutum. If A. Williamsi is treated as advised, the boldly handsome and large fronds stand well. Then what a quantity of Pterises we have. In the serrulata section alone there is vast variety. We may have many sizes and forms. P. straminea is good.

In the Nephrolepsises we get beautifully long and upright fronds; they stand well. A few of the best are N. tuberosa, N. exaltata, N. rufescens tripinnatifida, and N. davallioides furcans.

Davallias, again, give us very lasting fronds and of stout character. D. elegans, D. Mariesi, D. bullata, and others might be used. Then the strong growing climbing Fern Lygodium japonicum, sometimes confused with the Scandens variety, is also very useful for festooning when grown in the same way as Smilax and Asparagus—on strings. Nor must we forget our hardy Ferns, many of which can favourably compare with more than one of our greenhouse species. Less flower and more foliage has a pleasing effect, and is far beyond the old style of massing colours.—*Experience.*

NIGHT SCENTED STOCKS.

Mathiola Bicornis.—All lovers of sweet scented flowers should grow a few of these. Those who have no particular liking for sweet scents may, however, well pass pass it by, for beyond the most delicious perfume emitted during the evening and on through the night till the dawn of day, there is nothing to repay for the growing of it, the flowers being small and of a dirty brown colour, and the plant itself at its best presents a somewhat weedy appearance. A few plants placed in a dwelling-room or Conservatory on a festive occasion, in the absence of other odoriferous plants, owing to their insignificant appearance will often arouse the curiosity of strangers to it, as to where the scent comes from. During warm summer evenings it is particularly pleasant. The plant is nearly hardy and will withstand the frost of mild winters; but a constant succession should be kept up by striking a few every spring in sandy soil in a cold pit or frame, keeping close for a short time. They root readily, and when rooted should be potted off and grown on into 48's. A few may be planted out and a reserve kept for indoor use.—*W. B. G.*

Protecting Plants, Frames, etc.—Too much stress cannot be laid upon the great desirability of keeping all covering material as dry as possible. The security of the inmates of any unheated frame from frost does not depend upon the quantity of covering accorded, so much as upon the capabilities of the covering with regard to the exclusion of frost, and this is decided in a great measure by the dryness of the material used.

JADOO FIBRE.

As far as we have been able to determine hitherto, the chief recommendation which Jadoo fibre carries with it is that it constitutes a suitable substitute for soil that may be used by amateurs in large towns where good potting material is expensive and difficult to procure. Being very light the cost of carriage must of a necessity be less than soil or ordinary plant compost. A comparison of prices must also be made, together with the durability of the two kinds of material and the result obtained. This can only be fairly estimated by a consensus of opinion on the part of those who use the Jadoo fibre to determine its general utility as compared with the soil which they have hitherto been accustomed to employ.

The material consists of native mosses, chiefly belonging to the genus Hypnum, with the peaty material on the base of the tufts or patches, and with which it becomes mixed, forming a compost of moss and peat. In the process of manufacture it is fermented and mixed with some plant food of an artificial nature. Why a mixture of peat and native mosses should be invested or obscured by a foreign name we are unable to say. "A Rose by any other name would smell as sweet," so surely the so-called Jadoo fibre would be as useful, efficient, and acceptable to the British public under a name of native growth. It possesses little or no smell beyond what the moss and peat themselves would naturally give off in a state of decay. Being very light it is advantageous in that respect for hanging baskets, and we should imagine would prove suitable for Ferns, particularly in cool greenhouses or conservatories. Yet the Jadoo Company do not seem to recommend it for that purpose. We have seen a large number of different species of Ferns grown with great success in a compost consisting largely of sphagnum, peat, and finely broken crocks.

Owing to the spongy nature of Jadoo fibre, it requires only half the amount of watering demanded by ordinary soil. The question arises whether it would constitute a source of danger to plants under the hands of amateurs not particularly well skilled in the use of the watering pot. While the plants are growing in summer the danger would be minimised, provided always the pots are well drained, but in winter the case would be different, while by that time the fibre would necessarily be more decayed. Smaller pots, however, suffice where the fibre is used than in the case of ordinary compost, and the material should be well permeated with roots, besides offering other economical advantages. Those who grow a large number of Pelargoniums for bedding purposes might find Jadoo fibre useful, as the plants do not experience any check when transferred to the open ground. By tying some of the fibre round the Pelargonium roots they could be planted in frames till the planting out time in May or June.

DROPPING OF PEACH BUDS.

Now that the earlier Peach houses are well started and the time for setting the mid-season ones going is so close upon us, many gardeners find themselves worrying over the dropping of the buds, which may occur to a greater or a less degree, and are consequently brought face to face with the problem of how to lessen the evil, or, in other words, are confronted with the task of finding out the best plan for keeping the buds upon the trees. It is manifestly provoking after every care has been taken with the trees in the way of pruning, tying, etc., for the buds to drop off with provoking persistency—more especially when, as is often the case, they are none too plentiful in the first instance.

Every cultivator is aware that this undesirable tendency to drop their buds is more particularly characteristic of some varieties than it is of others. Still, various errors in cultivation are quite sufficient to cause the evil irrespective of the natural tendency of the particular variety cultivated to such erratic proceedings. Like other fruit trees grown under glass, whether in pots or planted out in borders, an abundance of water—more particularly during that part of the growing season when the energies of the trees are taxed to the utmost to swell their fruit to a good size—is an absolute necessity.

It oftens happens that during the few weeks in which the fruit is ripening off, that the borders are allowed to get into so dry a condition that it needs several subsequent waterings to reduce it once more to a state of sufficient moistness. If, therefore, water is given with a niggardly hand, this dry state of affairs cannot fail to be directly injurious to the constitution of the tree, and through lack of sufficient nourishment it is impoverished to a great extent. After the fruit has been plucked from the trees, it should be seen that a sufficient quantity of water is given to thoroughly soak the whole of the border. An examination of the surface only must necessarily be misleading.

It is in the ordinary course of cultivation usual to syringe the trees liberally after the removal of the fruit to assist in keeping them free from the attack of insect pests, as well as to get rid of any dirt or dust that would choke up the breathing pores of the leaves, and thus hinder them in their work of respiration, all parts of the tree sustaining injury proportionate to the amount of retardment they meet with in the fulfilling of their important functions. These constant syringings cannot fail to give a wet appearance to the border, and thus it is very often the case that while the surface soil is almost muddy in character, the roots in the lower strata of soil are clamouring for water.

In instances of this kind, therefore, it is not difficult to understand how the tree, stinted in its water supply from the deceptive character of the surface soil, becomes impoverished in constitution, which may in a great measure account for it dropping its buds at the commencement of another season from sheer lack of the strength necessary to bear them. As tending to the same result, too heavy cropping must be studiously avoided. It cannot be classed as economy in fruit culture (a field in which the economist is as much to the front as in any other which could be mentioned) to overcrop and tax too heavily the fruit-bearing resources of any tree. Nothing but the detailed acquaintance with the abilities and requirements of any one tree, a knowledge that comes only from practical experience in its culture, can possibly teach the cultivator the bounds or the limits of the fruit-bearing qualities of subjects under his charge, beyond which it is not advisable to go.

But the greatest mistake of all in Peach culture, and the one which we would be inclined to consider as the most fruitful cause of the much-to-be-deplored "dropping of buds," is that of "too hard forcing." Naturally, both the Peach, as well as its closely allied relative, the Nectarine, flowers at an early part of the year, weather, of course, permitting; and it takes surprisingly little artificial heat to induce them to bloom. Accordingly, the sudden application of a lot of artificial heat, and the persistent maintenance of a too high temperature cannot fail to be injurious to them. A minimum night temperature of 45° Fahr. is amply sufficient for all purposes upon starting, rising gradually about 1° Fahr. per week as the buds begin to swell. On sunny days the house may be ventilated as freely as it is possible to do without causing draughts, which should be as carefully avoided as the too high temperature.—*Pomona.*

NOTES ON HARDY PLANTS.

Geranium Wallichianum (Buxton's variety).—This is one of the rarest and most beautiful members of the Geranium family, and although originally introduced to our gardens so far back as 1819 from Nepaul it is as yet very seldom seen. In appearance it is somewhat of a creeping nature, scarcely ever exceeding 9 in. in height, with spikes of deep Nemophila blue flowers, which appear in July and continuing to flower until late autumn. When planted on the rockery in a sunny position, and in a compost consisting of rich loam and sand, it forms a very attractive plant, and as it has proved to be thoroughly hardy and easily grown without any extra care or attention, it should be possessed by every lover of hardy plants. This plant will be found described in Sweet's "Geraniacea," t. 90.

Erigeron speciosum.—This is an old inhabitant of our gardens, and is often met with under the synonymous name of Stenactis speciosa, and for cutting or decorative purposes it is invaluable, as is testified by its great popularity with the market growers, there being indeed few plants that can equal it for its free-flowering qualities. It commences to flower in June and continues until cut down by frost, while often in mild winters it will be found flowering abundantly. It grows about 3 ft. in height, with large purplish-blue flowers and yellow centres. The individual flowers often measure an inch across, and as it is easily grown in almost any soil or situation, and its hardiness is unquestionable, it deserves to be grown where cut flowers are wanted. A native of California and was introduced to this country about 1838.—*E. Scaplehorn, Rose Bank, Fleet, Hants.*

NOTICES OF BOOKS.

Sweet-scented Flowers and Fragrant Leaves: Interesting Associations gathered from many sources, with notes on their History and Utility. By Donald McDonald, with Introduction by W. Robinson. London: Sampson Low, Marston & Company, Ltd.

Pleasing indeed are the varied scents, the all-pervading fragrance of various flowers, and the delicious aroma of others, to those who by nature are favoured with the faculty of perceiving them; for there are hundreds perhaps amongst us to whom the terms scent and fragrance scarcely convey any meaning, because the sense of smell is very feebly developed in them. Others live the greater part of their lives surrounded by the flowers that breathe the breath of spring, by fragrant meadows whose atmosphere is redolent with the scent of Clover, by fields of Hay, and by woods and forests of Pines, Spruces, Silver Firs, and fragrant Birch, each in their season loading the air with a balmy perfume; and yet they are scarcely conscious of the favours at their command, nor the wholesome air they breathe, and can hardly be said to enjoy.

It is not surprising that some one should conceive the idea of writing upon the subject, or of making an effort to pigeon-hole all the known species or tribes of fragrant flowers as an aid to memory in time of need. It will take many years to make a work like this complete, but the author has evidently taken great care and exercised great patience in placing before his readers what cannot be but delightful reading to those especially who are pent up in towns and can only, at rare intervals, enjoy the sweets of life in garden or field under the broad expanse of the sky. He makes no pretension to completeness, but speaks of his book as a "fresh posy of interesting associations amongst these—the sweetest of sweet odours." The historical sketch which precedes the author's list of sweet-smelling plants and flowers contains many quotations from the best of old authors, both in prose and poetry, and constitutes pleasant reading, both for those who have a garden and can introduce the living plants to their own doors, and upon the walls of their houses, and to those who can only imagine the presence of those sweet-smelling odours while reading the book. We cannot agree with the author when he quotes Gray, upon flowers wasting their "sweetness on the desert air," and asks "why should they be scattered where there are none to enjoy them." To many it constitutes half the pleasure to visit those flowers in their native habitats, where they will continue to flower and give off their sweet-smelling odours to generations yet unborn; whereas like Emerson's shells of the sea shore, many of them lose more than half their beauty when removed from their natural surroundings.

The list of sweet-smelling plants is arranged in alphabetical order, the botanical names determining the sequence. Doubtless like many another writer, the author in this case found it impossible to utilise the English names to determine the arrangement, for the simple reason that only a small percentage of the plants enumerated have any English equivalent at all by which they could be recognised. Interspersed with the various subjects enumerated, are short interesting topics about their history, economic or other uses, and occasional references to the folk-lore of certain kinds. The list is a lengthy one, but might well receive additions, particularly of our native plants, seeing that the Yarrow is included amongst the list, for the writer of this well remembers his first experience of that weed, because while inhaling peculiar odour too freely in order to make its acquaintance, he contracted violent sneezing and headache. Since then, however, he has learnt that moderate doses of the smell of various other things are more enjoyable than a feast of the same. That maxim applies to many other plants that are really delicious at proper distance according to their power and penetration, which must also be regulated according to individual experiences and peculiar constitution. Another experience of the writer is that two plants of the Night-scented Tobacco were too powerful for endurance in the same room on a warm summer's night. Nicotiana affinis is not, however, a variety of the plant of commerce, nor does it come from Eastern Asia. It is the N. alata of the botanist, and comes from Brazil.

To the Musk Thistle, most or all of the rest of our native Thistles might have been added, for most of them share in their own peculiar and not at all

disagreeable odour. That many of the species of Cyclamen are powerfully scented, will be news to many gardeners; but only some of the garden varieties of C. persicum are perceptibly scented. Woodbine spires is doubtless a misprint for Woodbine spices. Trichopilia fragrans nobilis is recorded under the name of Trichopilia nobilis and Pilumna nobilis but one name should have served in both cases for they apply to one plant only. The Lime (Tilia vulgaris) might have been supplemented by several others, particularly the Crimean Lime (T. petiolaris) which is more powerfully fragrant than the common one. It is to be regretted that all the praise should be accorded to the Persian Lilac, for the common species is really the most popular, and the most extensively cultivated. It is also worthy of recording that the flowers of the Apple are fragrant, those of the Pear slightly fishy, that Progne and Mrs. Langtry amongst Chrysanthemums are scented independently of the odour of Chamomile of the foliage. The Hay-scented Fern (Nephrodium aemulum) is overlooked, and the fact that several of the Golden Rods smell of heather and wild honey: the purple heather of the poet (Calluna vulgaries) might have been mentioned by name, also that the foliage of Herb Burnett smells like that of the Meadow Sweet, and is redolent of meadows and the open air. The Pines, Spruces, Silver Firs and Birches of our woods are all worthy of being included in a work like this, as well as Coleonema alba, grown in many a greenhouse for the fragrance of its foliage. We do not at all under-estimate the labours of the author, for, on the contrary, we confess that he has been very diligent, and has got together a remarkable list of sweet-smelling plants for which his readers will be grateful. Amongst the latter we sympathise with those whose sense of smell is feebly developed, and on the contrary with those who may "die of a rose in aromatic pain."

"Exposition Universelle d'Anvers, 1894. Section Horticole Expositions permanentes et temporaires d'Horticulture Anvers. Typographic Bellemans Frères, Marché aux Oeufs, 12, Antwerp."

To those who are interested in the Universal Exhibition, held at Antwerp, last year, this catalogue will be useful as a reminder of who were the exhibitors, what they exhibited, and the prize awarded. It is an official catalogue written in the French language, and concerns itself only with the horticultural section of the Exhibition, which was opened on the 5th of May, and continued to the 5th of November. The book runs to 366 pages, and contains a record of the various committees, councils of administration, and the judges who made the awards in the various classes of plants. A large number of exhibits were kept up continually from the commencement to the end of the Exhibition, such as ornamental trees, flowering plants for groups, Roses and fine foliaged plants; these are spoken of as the permanent exhibits in the gardens. On certain occasions, special exhibitions were got up for cut flowers, fruit, chrysanthemums, etc., and these are all recorded as temporary exhibits. A list is given of those who obtained Diplomas of Honour, and Medals, and at the end a general list of the exhibitors, which will prove valuable to all concerned as a catalogue of reference.

GARDENING MISCELLANY.

THE PARABLE OF THE FIG TREE.

Your correspondent "Z." quotes on p. 276 of your issue for December 29th, from the old proverbs, by which term I assume he means "The Proverbs" of Solomon. His quotation is as follows:—"The Fig tree putteth forth her leaves reminding us that summer is nigh." These words, however, do not appear in The Proverbs, though something like them is to be found in the Gospels of St. Matthew and St. Mark, the verse in St. Matthew being "Now learn a parable of the Fig tree, when her branch is yet tender, and putteth forth leaves ye know that summer is near." Quotations from the Scriptures should at all times be accurate, but especially so when a correspondent signing merely "Z" quotes from them, for fear of mistaken identity. Suspecting, however, his manly personality, I wish "Z" a happy new year.—*J. C. Stogdon, Inglenook, Bellaggio.*

TOBACCO WATER.

In your issue about a fortnight since, "C," in Orchid Notes, spoke of Tobacco water made from two pounds of best Tobacco paper as being an effectual means of getting rid of thrips. Would you kindly say how the Tobacco water should be prepared, the proportion of water, and whether hot or cold; if hot, whether the mixture should be boiled and strained, &c.; also, whether the Tobacco water so prepared would be injurious to the soil or roots, if a small quantity was poured occasionally as required into the hearts of the shoots of Cypripediums, &c.—*J. F. A.* [Take one pound of Tobacco paper and pour over it two gallons of boiling water; allow it to cool, then strain out the paper and the liquid is ready for use. Another plan is to take a pound of good shag Tobacco and pour over it say two gallons of boiling water, and allow it to cool; then strain out the Tobacco and add four gallons of water, making six in all, and the liquid is fit for use. Half a pound of soft soap put in before the hot water would greatly increase the effectiveness of the insecticide, especially when the plants are merely to be syringed with it. A little Tobacco water in the soil would do no harm to the roots, but in the case of the shoots you could syringe them twelve hours afterwards with clean water if you have any fear of their being injured. Rather than soak the roots with Tobacco or other water you could lay the pots partly on their sides, so that any superfluous portion may run away.—Ed.]

TOTTENHAM EARLY RHUBARB.

The value of all the early varieties of Rhubarb in cultivation will be tested to the fullest extent during the next three months till the later kinds come into use in the open ground in April and May. Those which are naturally early will start into growth with the smallest amount of forcing, whether under glass or in the open ground. Another recommendation of no small importance is the quality, colour, and size of the stalks when fit for use. The new variety named Tottenham Early, seems to excel in all these characteristics, both when ready for use and when cooked. It was raised some three years ago as a cross between Linnaeus and Victoria, between which it is intermediate, possessing the bright colour of the former and the size of the latter to some extent. Some stalks sent us the other day by Mr. W. Gradwell, grower to Mr. H. Richmond, "Ashton-Keynes," Park Lane, Tottenham, N., and which were forced in a shed in the northern style, measured 15 in. in length to the base of the blade, and $1\frac{1}{8}$ to $1\frac{3}{8}$ in width near the base, and were of a bright crimson-red throughout. The blades were only $3\frac{1}{4}$ to $4\frac{1}{2}$ in. long. The interior of the stalk was of a uniform red throughout, and this rich hue is maintained even after being cooked without the use of sugar or anything else. A very small amount of sugar is sufficient to render it not only palatable, but delicious to those who have a partiality for this useful esculent. In the fresh state it takes the eye at once by reason of its fine colour and the handsome size of the stalks, and is certain to become popular for early forcing.

BROWNEA CRAWFORDI.

The large bright scarlet fascicled flower heads of this noble leguminous plant are once again enlivening the Palm house at Kew with a touch of conspicuous colour. Although the genus contains a number of splendid plants, many of which are eminently deserving of cultivation, none are more worthy of mention than this really beautiful subject, although it is very rarely met with. This is no doubt in a great measure accounted for by the fact that it requires a large and roomy house to exhibit to the full its great beauty. The presence of such large houses as are necessary in the ordinary private establishments is to say the least of it is rather an uncommon occurrence. Still, although it attains to a large size, medium-sized plants in pots have been flowered successfully, and in this condition its unique beauty quite repays any trouble expended in its behalf. Brownea Crawfordi is of hybrid origin, and is the result of a cross between B. grandiceps and B. macrophylla.

EUCHARIDIUM GRANDIFLORUM.

This is not a new plant by any means, but it is one of the most beautiful of all our Anemones, and should be in every garden. It is a cheap annual to purchase, and I cannot too strongly recommend it for its bright, beautiful, rosy-crimson colour, and good habit, growing about 15 in. high and blooming profusely. It does best sown out of doors in March or April, thinly, as indeed all annuals should be. It is a very great mistake—universally made—to sow too thickly. It is surprising what neat bushy plants many of our annuals form if they only get the chance of doing so by getting plenty of room.—*Salopian.*

DOUBLE STOCKS.

When at the great Horticultural Exhibition in the Public Park at Wolverhampton last July, I was greatly pleased with some beds of double ten-week stocks there, one in particular named Princess Alice, a beautiful white; and I enquired of Mr. Thomas, the Curator, how he managed year after year—for I had seen them in previous years—to get such fine plants whilst they were failures in many other places. He sows the seed on the 10th of March, or as near to it as he can, and then pricks them off into boxes as soon as they can be handled, and again into a cold frame when they can form stocky, well-rooted plants, and they are transplanted into the beds in due course. A finer lot I never saw, and as the beds were large and well filled, the display was an imposing one.—*Salopian.*

CRASSULA FALCATA.

This wonderfully pretty little species has been an occupant of our plant houses for a considerable number of years, and has won for itself golden opinions as a decorative subject. It is usually met with, however, under the better known name of Rochea falcata. Several plants are in flower at the present time in the cool end of the succulent house at Kew, and are presenting an exceedingly attractive appearance. The flowers are thickly borne upon a terminal corymb, and are usually of a bright crimson colour, that contrasts most agreeably with the thick oblong glaucous leaves, which are produced in pairs and are joined together at their bases.

SENECIO GRANDIFOLIUS.

Whilst the genus Senecio is certainly one of the largest in the vegetable kingdom, and although it contains very many plants of high value from a garden point of view, none of its members can boast of a nobler or more attractive appearance than that possessed by S. grandifolius. A batch of fine plants in 8-in. pots, varying from 3 ft. to 4 ft. in height, is at the present time a principal and noticeable feature in the greenhouse at Kew. The large dark green leaves, borne upon the stout, curiously mottled stem, together with the large corymbose head of yellow flowers, stamp it as a plant of exceeding beauty and merit. The leaf margins are roughly toothed or lobed, and this adds not a little to the beautiful appearance of a plant which, whether utilised for outdoor decoration as a fine foliage plant, or used for the furnishing of the greenhouse or conservatory during the winter months, can scarce fail to give every satisfaction. S. grandifolius hails from Mexico, and was at one time known as S. Ghiesbreghtii.

A NEW AMERICAN ASPARAGUS.

I am told that a gardener in Fife, or somewhere beyond the Tweed, grows a wonderful edible Asparagus, which he had from America, and which is stated to be very early and good, and grows about eight feet high. Should this meet the eye of the grower, in question, may I say that particulars would oblige his brethren across the border.—*J. Hamilton.*

BEGONIA GLOIRE DE SCEAUX.

Among all the valuable winter flowering subjects of which the genus Begonia boasts, none are more worthy of cultivation than the above pretty and distinct variety. A batch of nicely flowered plants are at the present time affording a bright and gay appearance in a stove at Gunnersbury Park. It is also highly thought of at Kew, and in the house which is there devoted more especially to the culture of the winter flowering section of Begonias, it receives an honourable position. It usually runs about three feet in height, the leaves are large, purplish in colour, and in themselves constitute no small part of the charm of the plant. The flowers are rather larger than are those of B. socotrana, are rosy-pink in colour, and of good substance. Altogether, the possession of a batch of plants of this kind is of the greatest service to the gardener, who wishes to keep up a bright appearance in the plant houses during the duller months of the year.

Gardeners' Improvement Associations.

Exmouth, Devon.—The members of this Society dined together on the evening of the 20th ult. Mr. W. Swan (Bystock) presided, and the vice-chair was occupied by Mr. W. J. Godfrey. After the loyal toast, the Chairman submitted the "Exmouth Gardeners' Mutual Improvement Society." Mr. Godfrey responded, and gave a history of the Society, and claimed for it the honour of being the pioneer of all similar societies in the West of England. Exmouth had been followed by Exeter, Teignmouth, Torquay, Axminster, and many other places. He was pleased at the continued progress the Society was making, and the interest of the gardeners of the neighbourhood and their employers took in its work. In responding to the toast of "Our Chairman," Mr. Swan said he was proud to belong to the ancient craft of gardening, giving many incidents of a personal character in which he had taken a part, as well as many others that had come under his observation. He referred to many improvements and advances which had been made in horticulture during the past forty years, especially the great love of flowers, which was more apparent now than ever. He could not help remarking the meagre appearance of many house fronts, referring particularly to window gardening. It was resolved to hold a dinner annually.

Devon and Exeter.—The annual dinner of this Association was held on the 4th inst., Mr. T. E. Bartlett presiding over a goodly company. The Chairman, in proposing "The Devon and Exeter Gardeners' Association," said the Association had been established about four years. It had done very good work. It was an Association greatly required by gardeners; it brought them together, created a feeling of sociability, and was the means of their helping one another. Their discussions enabled them to gain valuable information on matters relating to horticulture. The meetings of last session were very successful, several of their young members having come forward and given them many interesting papers. Mr. Andrews, in responding, remarked that the Association was of the greatest good. He hoped more gardeners in Exeter and the district would come forward and join them. By the reading of essays and taking part in discussions they learnt a good deal which they were previously ignorant of with reference to fruit culture, flowers, gardens, bedding of plants, and other matters of importance to them. There were several excellent papers to be read next session. He hoped the Association would increase in membership and friendship, and be for the promotion of them all. Mr. Lansdale, who also replied, said many of their members were like books. Whether they asked questions on plants and fruit culture, or trees, their species, and how they were grown, the information was always readily given. The Association began well, and was growing in membership. The funds had increased at the bank, and the annual outings had been most enjoyable. Other toasts followed, and a very pleasant evening was spent.

Woolton.—At the regular meeting of this Society held on the 3rd inst., Mr. J. Stoney in the chair, the subject on the agenda was "Notes on Herbaceous Plants," by Mr. Llewellyn Jones, of Roby, who gave an able paper on this class of plants, of which he has an important collection under his charge. The paper proved exceedingly interesting, the best sorts being named and described, and reference made to any special feature met with in certain varieties. The treatment advised was of a simple character, and planting was recommended to be done in a bold style, whether in beds or borders. In the latter case no two portions of the border should be alike. Special merit was claimed for many kinds for cut work, the flowers lasting well and having peculiarly pleasing colours and forms. A discussion followed, in which Messrs. Todd, Waterman, Griffiths, and the Chairman took part. A cordial vote of thanks was accorded to Mr. Jones for his excellent essay and to Mr. Stoney for presiding.

Questions and Answers.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Names of Plants.—*W. Y.*: The dark Orchid is a highly-coloured and good variety of Odontoglossum Lindleyanum; the white one is Coelogyne nervosa, a South Indian species extremely rare in cultivation. —*G. S.*: 1, Peristrophe speciosa; 2, Reinwardtia trigyna; 3, Epacris miniata splendens; 4, Coleonema alba; 5, Semale androgyna.—*A. L. W.*: 1, Abies cephalonica; 2, Abies Nordmanniana; 3, Abies Pinsapo. *Omega*: Juniperus excelsa, as far as we can see from the small piece you send. *W.A.*: Pteris straminea; 2, Selaginella Mertensi robusta; 3, Crassula lactea; 4, Woodwardia radicans; 5, Oncidium tigrinum.

Fruit and Deciduous Trees.—*Omega*: Choose mild and open weather in March, when the soil is fairly dry, if possible to plant the trees you mention. In either case they should be put in the soil before the commencement of growth, and fruit trees in particular should be planted long before that time if possible, so as to give the roots time to settle and commence to move freely before the dry weather of summer can affect them.

Wild Primroses.—*Omega*: They can be transplanted at any time now, provided the weather is mild and the ground open. Lift the plants with as good roots as possible, and if there is so much soil upon them, they will take all the more kindly to the shift. Make the soil firm about the roots again when you plant them, and as the weather becomes mild and they begin to grow, give plenty of ventilation.

Heating a Conservatory.—*Constant Reader*: The height of your house runs away with a great deal of the heating power. The amount of piping you have is insufficient, particularly when the temperature outside is low. You would require at least two flow and two return pipes all round the house to keep up the temperature to 60°. You would thus have eight rows of piping running the length of the house, four on each side. By having ample piping you can save the driving of your boiler and at the same time produce a more genial atmosphere for your plants. A temperature of 50° by night would be quite ample for Primulas and at the same time enable you to keep a considerable number of the hardier Palms. If you can conveniently manage it, run the piping round the ends as well as the sides of the house.

Arrangement of Flower Bed.—*Diagram*: Begonia sempervirens Vernon's variety edged with blue Lobelia will answer very well for No. 1. Cerastium tomentosum or Antennaria tomentosa would answer very well for No. 2; but we should reduce the size of that area by making the four beds marked No. 3 larger. Then all of the four beds No. 3 could be planted with Begonia Lafayette with scarlet flowers; or two of them might be filled with pink Begonias of the tuberous type, and the other two with rose coloured ones. It would even be more complimentary to No. 1 to plant two of the small circles with Begonia Sutton's Duchess of Edinburgh, white suffused with pink; and the other two with Sutton's Coral Gem, pale rose or peach colour. Edge all of the four small circles with the Iresine which you name. The bed itself might have an inside edging of Coleus Verschaffeltii or some flowering plant such as the dwarf Pelargonium Robert Fish, or Little David, or Tom Thumb, and an outside edging of blue Lobelia.

Communications Received.—A. H.—W. S.—W. D.—L. & B.—W. I.—H. B. M.—I.—W. B. G.—Q.—R. S.—J. H. W.—Scotia.

TRADE CATALOGUES RECEIVED.

John Peed & Sons, Roupell Park Nurseries, West Norwood, S.E.—Vegetable and Flower Seeds, Hardy Plants, &c.

Armitage Bros., High Street, Nottingham.—Choice and Reliable Seeds.

Wm. Clibran & Son, 10, 12, Market Street, Manchester.—Vegetable and Flower Seeds.

John Cowan & Co., Garston, near Liverpool.—Imported Orchids, ex steamer "Thames."

M. Cuthbertson, Rothesay, N.B.—Seeds, Plants, etc.

David W. Thomson, 24, Frederick Street, Edinburgh—Garden and Agricultural Seeds, etc.

Dicksons & Co., 1, Waterloo Place, Edinburgh.—Garden Seeds for 1895.

Pape & Bergmann, Quadlinburg, Germany.—Flower & Vegetable Seeds.

Thomas Methven & Sons, 15, Princes Street, Edinburgh.—Garden Seeds, Implements, &c.

Robert Veitch & Son, 54, High Street, Exeter.—Kitchen Garden and Flower Seeds.

J. McRonald, 65, South Street, Chichester.—Flower and Vegetable Seeds.

Toogood & Sons, Southampton.—Garden Seeds for 1895.

Drummond & Sons, Stirling.—Garden Seed Catalogue.

LONDON SEED TRADE.

January 8th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed market, Mark Lane, report an increased demand for Clover seeds at unchanged rates. White Clover is in short supply and firmly held. Rye-grasses steady.

COVENT GARDEN MARKET.

January 9th, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	15 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per hlf. sieve	0 0	0 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	20 0	21 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	1 0	2 0	Strawberries, per lb.	0 0	0 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumbers .....each	1 0	2 0	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Evergreens, Invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
,, gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Azalea.....doz. bchs.	6 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pink Roses...per doz.	3 0	6 0
Carnations...per doz.	2 0	3 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Primula, double, bun.	0 6	0 9
,, doz. bunches	4 0	12 0	Roses, yellow, dozen	2 0	4 0
Eucharis ...per doz.	3 0	4 0	— Red..... doz. blms.	3 0	6 0
Gardenias 12 blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 6	0 9	Scarlet Geraniums, doz. bchs.	5 0	9 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Tuberoses, per doz	0 6	1 0
Lilac (French) per bch.	5 0	6 0	Violets (French) Parme, per bch.	4 0	5 0
Lilium Harrisii, doz. blooms	6 0	10 0	Violets (French) Czar, per bch.	1 9	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) doz. bch.	2 0	4 0
Marguerites, 12 bnn.	1 6	3 0	Violets (English) doz. bch.	1 6	2 6
Narciss (French) doz. bch.	4 0	6 0			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 21st. — National Chrysanthemum Society: Meeting of the General Committee at 7 p.m.
Sale of Hardy Perennials, &c., at Protheroe & Morris' Rooms.
TUESDAY, Jan. 22.—Sale of Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, Jan. 23rd.—Sale of Japanese Lilies at Protheroe & Morris' Rooms.
THURSDAY, Jan. 24th.—Sale of Plants and Bulbs at Protheroe & Morris' Rooms.
FRIDAY, Jan. 25th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, JANUARY 19th, 1895.

PLANT NOMENCLATURE.—Linnaeus conferred a great boon upon botanists, horticulturists, and plant lovers of all degrees and stations throughout the world, when he invented the binominal method of naming plants. Previous to that, the only way of distinguishing one species from another was to give a short description of it which to be of sufficient length to enable a plant to be identified by it must have been exceedingly cumbrous and impossible to arrange in any alphabetical sequence. Our own Philip Miller, who wrote the time-serving *Dictionary of Gardening* of his day, may be taken as an example of how the naming of plants was managed and placed

before the British public. The generic names were placed in alphabetical sequence, but the species were arranged under numbers. The following is an example of his description of the single Carnation:—"5, Dianthus floribus solitariis squamis calycinis subovatis brevissimus corollis crenatis. Hort. Cliff. 164. Dianthus with a single flower, having short oval scales to the empalement and crenated petals. This is the Caryophyllus hortensis simplex, flore majore, C.B.P. 208. Single garden Carnation with a large flower." We are afraid that few of the young gardeners of the present generation, and whose education has just passed the sanction of the School Board, would readily recognise the Carnation in the above. Many of his superiors would have a similar difficulty.

Philip Miller was a contemporary of Linnaeus, so that the new method of naming invented by the latter had not had time to take root in this country. It is questionable whether, if Linnaeus lived today, he would be able to help us over the difficulties that have since arisen in plant nomenclature, but more particularly for garden purposes. One of the chief difficulties in such a case is the inordinate length of the names, making it a serious matter to remember them, to spell them, and to write them upon the labels. Linnaeus himself loved to dabble in Greek names, although by no means a good Greek scholar. Even quite recently, however, Professor Reichenbach manufactured strange conglomerations of Greek to answer the purpose of names of garden hybrids of Cypripediums such as C. porphyróchlamis and C. melanophthalmum, and generic terms were often equally euphonious. For botanical works, the herbarium and botanical purposes generally, such terms may answer the purpose admirably; but the makers of them are heedless of the inflictions they confer on the gardening community not only of to-day, but, as far as we can see, for all time coming. The spelling and pronunciation of Greek and Latin are, however, easy by comparison with Latinised commemorative names of many botanists in different parts of the world. Such a name as Tillandsia Pastuchoffiana is easy by comparison with T. Schlechtendahlii; but to most gardeners outside the respective countries of the botanists whose names they commemorate, Statice Suworowi, Pyrethrum Tchikatchewii and Quercus pedunculata Ahlfvengreni, must prove rather formidable conundrums to tackle. Even to many foreigners some of the commemorative names emanating from this country must be rather confounding; for instance, how would a Frenchman or Russian pronounce Odontoglossum Londesboroughianum.

The botanists are not, however, entirely to blame, for horticulturists themselves are even greater offenders, not exactly in the length, but the number of names with which they encumber their novelties, which in the course of some years are liable to acquire an additional list of appendages. For instance, in Thymus Serpyllum citriodorus aureus marginatus, we have a botanical history of the plant, and indication of its qualities in the way of odour, and also a description of the colour of the foliage. In like manner we have Acer palmatum septemlobum laciniatum, Euonymus japonicus latifolius-aureus. The latter case indicates its native country, the leading feature of the foliage as compared with the type, and also a feature of the same acquired in gardens. Dozens of such names might be quoted and they would seem to indicate that plant-naming is reverting to botanical descriptions including historical associations. The nomenclature of Daffodils has been considerably reformed, and it is to be hoped that many other classes of garden plants will be overhauled in a similar way in the near future. Strong combination on the part of horticulturists and plant lovers generally, is necessary to accomplish this end effectually. The inconvenience of the modern system of plant naming is being felt not only in this country, but on the Continent, in America and elsewhere, wherever horticultural progress is in full activity. Such a name as Prunus cerasifera Pissardii diversifolia tricolor marginata must puzzle a gardener who is unfamiliar with the inflections of Latin, to write it correctly.

The inconvenience of plant names is not confined to those which are rendered in Latin and Greek. English names and those in the mother tongue, or even the court language of other countries are liable to confound those of other nationalities, who may be obliged to use them. Fortunately we are not much troubled with Chinese Japanese and Russian native names; but to those of our own may be added French, German and Italian ones, particularly French in the case of Roses, Chrysanthemums, Pears and many other subjects. It is to be hoped that such names as Rose Souvenir de Mademoiselle Marie Gourdin, Chrysanthemum Mademoiselle Marguerite Marrouch and Mademoiselle Marie Louise Duchesne, could be shortened. They are only instances of hundreds of a like nature. What harm would be done by shortening the names of Pears and writing Angoulême, Clairgeau, Diel, Easter and Congres, instead of Duchess d'Angoulême, Beurré Clairgeau, Beurré Diel, Easter Beurré and Souvenir du Congres? Outside of the raiser's family it must be difficult to remember such a list as Ada Spaulding, Mrs. F. Spaulding, Mrs. H. F. Spaulding, Mrs. T. H. Spaulding, H. F. Spaulding, Master Bates Spaulding, and Spaulding's Black Diamond amongst Chyrsanthemums.

The National Chrysanthemum Society's Year Book for 1895, a capital shillingsworth of Chrysanthemum lore, reaches us as we go to press, too late for an extended notice.

Mr. John Hayes, for some time foreman to the late Mr. Henry Birch, has been engaged to succeed him, by the Marquis of Northampton as gardener at Castle Ashby.

Mr. H. Vickery, for nine years gardener to R. S. Taylor, Esq., Huntsmoor Park, Ivor, Bucks, has been promoted to the office of estate manager.

Mr. John Deacon, lately gardener at Bowden Hill, Chippenham, has been engaged as gardener to the Rt. Hon. J. Chamberlain, Highbury, Birmingham.

Royal Horticultural Society.—The Council of this Society have nominated Mr. Sydney Courtauld, Mr. Henry Williams, and Mr. Thomas Statter, for election to their body at the forthcoming annual meeting in the place of the Earl of Annersley, the Hon. Walter Rothschild, and Mr. Charles J. Lucas.

"The Culture of Vegetables and Flowers from Seeds and Roots."—The fifth edition of this most useful work having been exhausted, Messrs. Sutton & Sons have just issued the sixth and largest edition they have yet printed, and which has been thoroughly revised throughout, and a chapter on Herbs added.

The Proposed National Vegetable Exhibition.—At a numerously attended meeting held at the Royal Aquarium, Westminster, on Tuesday afternoon, Mr. H. Briscoe-Ironside presiding, a report of the provisional committee prepared by Mr. A. Dean was presented and accepted, and further discussion of the same adjourned for a month. Mr. A. Dean having resigned the office of secretary, he was cordially thanked for his services, and Mr. E. Molyneux, Swanmore Park Gardens, Bishops Waltham, elected to continue the duties of the office until the next meeting.

Royal Botanic Garden, Edinburgh.—The visitors during 1894 to the Botanic Gardens were as follows: —Total visitors during the year, 526,948. Of these 268,793 were on Sundays, and 258,155 on week days. The largest number of visitors on a Sunday was 13 515, on July first; the smallest 68, on February. 11th. The largest number of visitors on a week day was 2,578 on July 7th; the smallest 28, on February 16. The largest number of visitors on a public holiday was 3,153, on Queen's Birthday, May 24th.

United Horticultural Benefit and Provident Society. —The quarterly meeting of this Society was held at the Caledonian Hotel on Monday evening last, Mr. Joseph Wheeler presiding. Twelve new members were elected and four others nominated. Two deaths occurred during the quarter, one being that of Mr. Charles Collins, who died suddenly on Dec. 26th, at Forest Gate Railway Station, and the widow being left in distressed circumstances and in very delicate health, the Committee granted her £10 from the Benevolent Fund, in addition to the small amount standing to her late husband's credit. The other member who died was Mr. Arthur Locke, of Woking, and the amount standing to his credit has been paid to his widow, according to rule. The proposed increase in the amount of sick pay was discussed, and a requisition signed by members present for a special meeting to be called in March to alter the Rule bearing on the point. The Treasurer was instructed to invest £400 in West Bromwich 3 % Stock, and a vote of thanks to the Chairman ended the meeting.

Death of Mr. Lumsden.—We regret to learn of the death recently of a very able gardener and most worthy man in the person of Mr. David Lumsden, Bloxholm Hall, Sleaford, where he had been in charge of the gardens for over forty years. He came prominently to the front as a grower and exhibitor of vegetables at the provincial exhibitions of the Royal Horticultural Society, and held his own well at a time when Miles of Wycombe, Gilbert of Burghley, Garland of Killerton, and Frisby of Blankney took a lot of ousting out of the premier position when they entered the lists. A quiet, unassuming and thoroughly honourable man, he was greatly respected.

William's Memorial Medals.—At a recent meeting of the William's Memorial Trustees, it was decided to offer large Silver Medals at the following shows, to be held during 1895. Newcastle-on-Tyne, for the most meritorious specimen flowering plant; Richmond, for the best collection of vegetables; Crystal Palace Autumn Fruit Show, for the most meritorious collection of fruit; and Trentham, for the most meretorious collection of fruit. A sum of two guineas was also voted to the fund, being raised in aid of the Lindley Library.

A large Hydrangea.—Our contemporary, the *Bulletin d'Arboriculture*, says that it recently saw in a garden of the town of Lierre an example of Hydrangea hortensis, whose inflorescences to the number of more than 180 formed a single bouquet. That floral richness contrasted admirably with the verdure of the sward upon which the Hydrangea was planted. In similar condition that old species constitutes without doubt an ornament of the greatest value.

Propagation of Nicotiana tomentosa.—This is now considered to be the proper name of the species which was put into commerce under the name of N. colossea. In speaking of its propagation in the absence of the seeds, the *Bulletin d'Arboriculture*, says that it will suffice to keep a specimen in a pot and winter it in a cool greenhouse, when the lateral shoots in spring will furnish excellent cuttings that can be put in a hot-bed, rooted, and thereafter potted. Sowing is done on the surface of a peaty soil in a pan under a square of glass; the seeds are not covered with soil. M. Ch. Maron, gardener at the castle of St. Germain, near Corbeil, indicates, in the *Revue Horticole* a new method of multiplication, which consists in making cuttings of the thick portions of the roots, in the same manner as is done for Dracaenas.

Mr. W. G. Hodge, a much respected horticulturist in the Three Towns, died at his residence, Plymouth, on the 9th inst., after a few day's illness. He took an active interest in all horticultural movements in the district, and had built up a large fruit and flower business, and in addition thereto had a large trade in connection with the incoming and outgoing mail boats of the port, whilst for floral decorations at every banquet or dance of any importance, his firm was always in evidence. Mr. Hodge caught

cold during the severe weather whilst boarding a mail boat, and succumbed to a combined attack of rheumatism and inflammation of the liver.

Ill-advised hybridisation.—Our horticultural friends on the Continent would seem to have fallen upon evil ways or ill-advised experiments, according to the *Bulletin d'Arboriculture*. For some time past, horticulturists have been trying to obtain by way of seed-sowing, but more particularly by artificial fertilisation and even by hybridisation, other colours and more regular flowers amongst the Clivias. They have thus fecundated the best flowers with the pollen of Amaryllis and Hippeastrum. It is asked whether it is not this crossing that one sought to attribute the decay that exists amongst the leaves of many of the Clivias. At first, yellow spots without any trace of parasites are noticed; then, the yellow spots spread and the leaves become entirely yellow. Now, Clivias have persistent foliage, so that the plants whose pollen has been employed naturally spoil the foliage. Is it not this latter character which tends to reproduce itself equally in Clivia to the detriment of the stability of the foliage of the latter.

Scottish Horticultural Association.——The annual general meeting of this Association was held on the 8th inst at 5, St. Andrew Square, Edinburgh. Mr. M. Todd presided. The Secretary (Mr. Robert Laird) submitted the report, which summarised the work of the past year, and stated that there were now 520 members on the roll. Acknowledgment was made of the continued support and co-operation of the Town Council. On the motion of Mr. W. M. Welsh, the report was adopted. The treasurer (Mr. Alex. Mackenzie) gave in his statement, showing a total income of £52, 14s. 11d., and an expenditure of £41, 1s. 7d., leaving a balance of £11, 13s. 4d. The total revenue from the recent Chrysanthemum show amounted to £998, 7s. 2d., and after meeting the expenses there was a surplus of £125, 7s. 5d. The reserve fund now amounted to £647, 12s. The report was adopted. On the recommendation of the Council, supported by the chairman, Mr. R. W. E. Murray, Blackford House, was unanimously elected president of the Association. Messrs. Laird & Mackenzie were also unanimously re-elected secretary and treasurer respectively. During the season, it should be mentioned, the Council have made the following awards to assistant gardeners:—For the best collection of herbaceous plants, dried and correctly named—1, Mr. A. M'Lennan, Easter Duddingston Lodge, silver medal; 2, Mr. J. C. Newsham, Kew, Surrey, bronze medal. For the best plan of laying out a kitchen garden of not more than two acres—1, Mr. George Beech, Mortonhall, Liberton, silver medal; 2, Mr. Newsham, bronze medal.

The weather of December in Edinburgh.—At the meeting of the Edinburgh Botanical Society on the 10th inst., Mr. Lindsay, curator of the Royal Botanic Garden, in his report on the vegetation of the month, stated that the weather during December was exceedingly mild, with comparatively little frost and no snow, and but for the severe gales which occurred towards the close of the month, it would have been one of the most favourable Decembers on record. Owing to the mildness, spring-flowering bulbous plants were well started into growth, the young shoots in some cases being nearly an inch above the ground. On the Rock Garden no new plants came into flower in December. The total number of species and varieties which flowered on the Rock Garden during 1894 amounted to 1,143, as against 1,114 in the previous year; and the largest number came into flower during the month of June. Mr. A. D. Richardson, in his meteorological observations at the Gardens, reported that the mean of the barometer during December was 29·754, being 0·058 above the average of the three previous years. The mean temperature of the month was 41·4, which was 0·5 above the average of the same period. The highest temperature in the sun was on 10th December (78·8), and the lowest on the ground was on the 31st (22·7). There was frost on the ground twenty times during the month; and rain fell on sixteen days, the total fall being 1·995 inch. The highest temperature for the year was 76·9 degs. on 7th July —which was the lowest maximum for four years— and the lowest was 11·8 degs. on 7th January. The mean temperature for the year was 47·3, being 0·8 deg. above the average of the three previous years. July was the warmest month, with a mean of 58·3 deg., and January was the coldest, with a mean of 37·6 deg. Rain fell on 212 days during the year, and the fall was 29·894 inches, being the greatest for four years. The largest fall occurred on 16th February, and it was 1·650 inch; September was the driest month, with a fall of 0·445 inch; and February was the wettest, with 6·697 inches.

THE CAMELLIA.

This is the season of the Camellia and on to April. Once a great favourite, it has ceased to be so much grown as formerly, and yet it makes a noble conservatory plant and blooms abundantly under proper management, whether it be planted out, or grown in tubs and pots. One is sometimes surprised to see huge plants of Camellias in tubs and pots that appear to be very small for the size of the plants, and it does, appear as if the very leaves of the plants, from their large and glossy nature and full substance, were indicative of gross roots. But this is not the case. To over-pot Camellia plants, unless attended with more than ordinary vigilance in the way of watering, is bad practice. In fact, it is well known that collections of plants seldom potted, if grown in good compost and the drainage thoroughly efficient, are generally the most luxuriant and most productive of flower buds. Small-sized portable plants are perhaps better re-potted every second year. Large plants in pots and tubs require only looking to in this way once in five or six years, according to size, and some have been known to grow and produce fine blooms that have had no re-potting for a much longer period. But occasional top dressings of some good soil, with the addition at times of some plant manure applied upon the surface, is frequently found of good advantage. Evidently, the constitution of the plant does not require an over rich diet, and if growing in well-drained pots, in a compost made up of tough fibry loam, and peat in nearly equal parts with some sand to make the whole porous, and the temperature be right, the plants will do well.

Temperature properly regulated and a proper degree of shade in summer appear necessary to the well-being of this fine plant. A somewhat high temperature is of decided advantage at the season of growth as assisting bud formation, though we have knowledge of plants growing in the open air in the South of England, which bloom profusely season after season. But let it be remembered that it is only during the season of growth that a high temperature is necessary. During what is known as the season of rest the plants may be kept only two or three degrees above the freezing point, and they are better in such a temperature than in a house at a temperature exceeding 45° or so. I have known plants to resist frost with impunity, and I think there is less bud dropping from this cause than in a high and dry heat. No temperature higher than that above-mentioned is necessary until the plants have done blooming and the young growth commences, then a gradual rise may take place and a proportionate degree of moisture at the root and in the atmosphere be maintained until the buds are swelled up to the size of quite small Beans. If this can be accomplished early in the season, so much the better are the buds likely to be persistent and bloom well; such a temperature as is maintained in a vinery from first to last, which is probably the best way of explaining in a general way, is fitted for growing and flowering the Camellia in a satisfactory manner. When the plants have arrived at this stage with their buds so far advanced and they may be placed out of doors in a situation sheltered from sun and wind, or in a house, which is better, where there is no fire heat. A selection of varieties can be made, some of which will bloom as early as November, and successionally far on into April.

Shading during summer is necessary. I have seen Camellias in the dark heavy houses built a half century ago, where architectural adornment formed the chief feature of the plan, in the enjoyment of the rudest health. The young leaves of the Camellia are not only impatient of sun, but the old leaves appear to become scorched quicker than those almost of any other hard-wooded plant I am acquainted with. The elements of success during a season of growth are heat, shade, and moisture.

Plants in or about to bloom should have a warmer temperature than those less forward. A little fire-heat every day, with the ventilators open at top in favourable weather, and occasionally at bottom, is desirable. Such sorts as the old double white, and all light varieties, are better where a circulation of moisture and air takes place, as they prove good preventives to the ironmould-like spots that invariably follow a close moist atmosphere. The plants must never be allowed to become too dry at the roots, or else bud-dropping sooner or later will take place; but it is quite as bad practice to have the roots saturated with moisture, and equally destructive to the bud. As to guano or manure water, it should be applied very sparingly, and never during the short days, when the system of the plant is least excited. No fresh potted plants requires any artificial manure or liquid, but such plants as have been growing for two or three years in the same pot, and the roots compact and thickly laid together, will be much benefited by surface applications of a fertiliser judiciously applied.

And now as to varieties. The deepest crimson is Mathottiana, the flowers large and full; and the finest crimson is C. M. Hovey; Marchioness of Exeter, when rosy-scarlet; and Archduchess Isabella de Toscana is also very fine, of a deep reddish-rose colour. Of rose-coloured varieties the following are very fine:—Th. Commendatore Betti, pale bright rose; L'Avenir, pale rosy-pink; and Bella d'Ardighoni, rose, with slight narrow pale veins. Beautiful pink varieties are found in Countess of Derby, soft pink, very pleasing; Mrs. C. M. Hovey, very delicate pink; and Madame Ambrose Verschaffelt, delicate pink, with a distinct white margin to the petals. White—La Vestale (new), later in flowering than the old white; Montironi alba, very pure white; and the old Alba plena, all very good. Blush—Romanensis, with slight rosy flakes; and Cup of Beauty. Striped—Archduke Carle, deep reddish-rose, flaked white; Princess Clotilde, white, with rosy stripes; and Prince Albert. —*R. D.*

LILIES OF THE VALLEY.

Amongst all the wealth of flowers with which we are able to adorn our hardy flower-gardens, as well as those flower-gardens under glass common to the more wealthy establishments, it is a great question if any are more admired than this time-honoured favourite. The old-fashioned hardy flower garden filled with old floral favourites, so closely associated with our childhood's days, usually contained a corner where the Lily of the Valley flourished at its own sweet will. While it has thus long been known and appreciated, many people might be surprised to learn that it is a native of our own country, although the localities in which it is to be found growing wild are comparatively few, and owing to the mania for building and other so-called improvements, are becoming scarcer year by year. It always haunts the shade of the woods, and with regard to natural distribution is sprinkled over the countries between the Mediterranean and the Arctic Circle. Bentham in his "Illustrated handbook of the British Flora" states that it is abundant in some counties of England, very local or wanting in others and scarcely indigenous in Scotland or Ireland.

It flowers naturally during early summer, May usually, but does not keep in bloom for any length of time, certainly not nearly long enough for us to get tired of its deliciously fragrant flowers. The demand for flowers out of their natural season is exceedingly great and year by year gives employment to hundreds of persons in the preparation of crowns suitable for forcing, as well as in the active work of growing the plants on and inducing them to bloom in spite of a low outside temperature, a work in which most gardeners have to take an active part. By the judicious forcing or retarding of the growth of the plants, the season during which it is possible to obtain Lilies of the Valley in flower may be extended throughout a great part of the year, always supposing a sufficient stock of crowns to be available for keeping up the supply.

The freezing of Lily of the Valley crowns has of late received considerable attention as a means of keeping them in a dormant condition for any reasonable length of time. This treatment does not injure them in any way whatever, indeed, it would almost seem to be the other way about, for it is a well-known fact that crowns which have been thus frozen break away into growth on being taken into the forcing

house much earlier than do those which have not been so treated. The flowers that we see in the market during the earliest part of the forcing season are usually produced from crowns of the previous season which have been kept in the manner described from starting into growth at the usual time.

The forcing of Lily of the Valley presents no particular difficulties if the requisite heat and moisture be given them. For ordinary clumps for forcing can be obtained at a reasonable price from most of the nurserymen. These may be potted up some time during the autumn in pots or boxes filled with any light compost; we have seen them bloomed very successfully in leaf soil alone. Where it is desired to have numbers of them in bloom for table decoration or kindred purposes it is advisable to use single crowns instead of the clumps that are used for the rougher work. By selecting the crowns in this way, and using only the strongest, more uniform results are obtained, and the flowers, moreover, are of better quality.

A very good plan for growing Lilies of the Valley so as to allow of their being utilised for table decoration that recently came before our notice is worthy of mention. Cone-shaped pieces of framework, about a foot in height and composed of strong wire, had been lined with moss, which served to keep in its place the Cocoanut fibre refuse with which the receptacle was filled. The plants were growing and blooming away in this as happily as possible, and illustrated an easy and effective method of utilising forced Lilies of the Valley to good purpose as decorative subjects for the dinner-table.

Taking into consideration and making allowance for the manifest love of the plant for moist and shady places when growing in a wild state, a shady moist situation should if possible be chosen as the site upon which to make permanent plantations. Almost any out-of-the-way corner may be utilised, providing the soil is deep enough and rich enough to support them. Another point which may render growing them in such a situation desirable is that they present a somewhat untidy appearance during a part of the year when, as a rule, things generally are expected to be at their best. Plantations, such as these, should not be allowed to stay too long without the crowns being thinned out, or the flowers will gradually degenerate in size and substance and become weak and poor. Liberal or top-dressings of well-decayed manure should be given each autumn without fail, undue disturbance ought, however, to be avoided until it is desired to replant any part of the plantation. Where woods, and damp, and shady places abound, exceedingly fine effects may be obtained by naturalising quantities of them in suitable positions, an operation which presents no great difficulty in its performance, as once planted they will take care of themselves.

CYCLAMENS AT READING.

It is pleasant in the early days of January, with a coating of snow on the ground, a keen frost, an east wind, and the trees encased in a hoary coating of rime, to walk into the Portland Road Nursery of Messrs. Sutton & Sons, Reading, where the Cyclamens and Chinese Primulas are now in all their glory independent of season or weather. The low, span-roofed houses are practically all aglow with the most varied and charming hues arranged in masses of a colour. This in itself gives a fine effect, but the primary object is to keep the colours and strains together, because the flowers are being fertilised for the production of seed.

We were in the fortunate position to witness two contemporary stages of growth by which the ultimate success is secured, the two being separated by an interval of twelve months in point of time. Those in bloom were sown in November, 1893, while those that will take their place this time next year were sown (we should say planted) in November last. The object of this is to bring them on for winter and spring flowering; but the present is a more suitable time for amateurs to sow their main batches. Those who desire early supplies of bloom may also sow in November to secure that end. A large number of pans were well drained and filled with compost consisting of three parts of leaf soil, one part of loam, and a sprinkling of silver sand; then a small quantity of more loamy soil was placed over the top and pressed down evenly. The seeds were then put in singly with a dibber, at regular distances of about 1½ in. each way, and at regular depth, so that no transplanting is required till the seedlings have made four or more leaves. This is a great advantage, inasmuch as the plants receive no check in their early stages. A growing temperature of 56° is maintained by night and 60° by day. The seedlings are potted off separately when they have acquired the above specified size. At present they have only one leaf, in various stages of development, and a few have not yet germinated: but as every seed is expected to produce a plant, the patient and successful grower is seldom disappointed by waiting, as he knows that backward seedlings beat up upon the more forward during August and September. Amateurs would do well to remember this fact as well as the grower's successful method of planting the seeds singly.

In April the young plants are placed in cold frames, upon old, spent hot-beds. In June and July they are transferred to their flowering pots, never larger than 48-size. Larger plants could be produced in large pots, but such are always furnished with a greater proportion of foliage, and as one plant is only allowed to bear a limited number of pods, in order to ensure the quality of the seed and keep up the standard of perfection, there would be no object in using larger pots in this case. Nor is it necessary, seeing that such a floriferous display can be produced in 48-size pots. A batch of plants, flowering for the second time may, however, be seen in larger pots in one of the houses, and wonderful they are for two-year-old plants. The young ones could be made to flower in October and November if kept in a high temperature on purpose, but as the process of fertilisation is not commenced till after the new year, the plants are retarded rather than hurried.

In the matter of insect enemies it is always well to take speedy and active remedies against them, particularly during the early stages of growth, but most of all during the heat of summer. Thrips are sometimes very destructive to the leaves and flower buds, piercing them to suck the juices in their initial stages, and if allowed to prolong their mischievous work, the plants never surmount the injury, though they may not show the effects till weeks afterwards. The remedy here is fir tree oil of medium strength, say one part of oil to three of water. Into this the plants are dipped till every leaf is submersed and the crown of the plant as well, for it is there that the greatest harm is done when injury is effected at all. Green-fly is destroyed by means of the fumes from burning Lethorion Cones. The pans containing the seeds and the young seedlings are placed in a house where they are directly under the eye the whole time. They could be reared in heated frames, but during severe weather, when there is a difficulty in opening the frames on account of the cold and frost, the seeds and seedlings may be undergoing the process of demolition by mice, slugs, woodlice, and all the hosts of enemies over whose barbarian forces the grower has no chance of exercising any control.

The Persicum Strain.

Few gardeners have any idea of what the old Cyclamen persicum was like, even although they have been associated with the culture of the improved varieties for many years. Here they may see a plant of what we conceive comes very near the wild original. The flowers are small, the segments oblong, narrow, much twisted, and pale pink with a dark mouth. The flowers have the recommendation of being fragrant, though not one in a thousand of the cultivated and improved varieties are scented. The darkest of the modern varieties is Vulcan, with flowers of a dark crimson, uniformly true, exceedingly floriferous, and when dying off they assume a deep violet tint beautiful even in death. The leaves are of a deep purple-red underneath and distinct in that respect. The flowers are produced as early as those of any of the lighter varieties, and as freely, while the contrast is bold and striking. White Butterfly still maintains its interest for the cultivator and the amateur on the outlook for meritorious varieties. Album is also pure white, but different in form and very floriferous; while both are the purest and most chaste of winter flowers. Roseum Album is white with a purple or rosy base, and is usually considered the type of the species, but the size of the flowers is several times greater than that of the original wilding. Roseum is a shade darker, being rose with a dark purple mouth. The queen of the lighter coloured varieties is undoubtedly Salmon Queen, the novelty of the season. The beautiful salmon hue of the flowers deepens to chocolate at the mouth, and the mass of bloom is set off by the silvery-veined foliage. Phoenix is lighter and brighter than Vulcan, and may be compared to the Rose, Chas. Lefebvre, as contrasted with the maroon-crimson sorts. Very choice also is a plum-purple seedling which when fading assumes a decided tint of blue, and makes one long for a variety of that colour. It is more pronounced than in the fading flowers of Vulcan. Another seedling, a sister to Salmon Queen, is crimson at the mouth, fading to pale pink, which is faintest at the margin of the segments. Both of these seedlings are grown in some quantity, but have not yet been named.

The Giganteum Strain.

The leading feature of this strain is the great size of the flowers. When the strain first originated, there was a falling off in the number of flowers, but that cannot be applied to the varieties grown here and which Messrs. Sutton & Sons have brought to a state of great floriferousness and beauty. Giant White is very pure, and its popularity is fully attested by a batch of plants occupying the whole of one side of a house. Some of the plants measure 20 in. through. Giant Crimson and White is white with a crimson base and very attractive. On the contrary, Giant Crimson is a dark variety whose large flowers are borne on stout scapes that require no staking. Giant Purple supplies a shade of colour that is indispensable for contrast with the lighter sorts. Giant Cherry Red is another pleasing colour on account of its brilliancy best seen by contrast with other kinds. Giant Rose completes a half dozen of the giant strain that would be difficult to beat and could scarcely have been imagined a few years ago. We were much interested with a variety with flowers having six, ten, fifteen, twenty, and sometimes thirty segments. Those of our readers who have opportunity of visiting Reading should not miss seeing for themselves the grand display of Cyclamens whose cultivation we have detailed above as it is pursued by the far-famed Reading firm.

THE PLANT HOUSES.

The Stove.

As long as the severe weather holds it will not be advisable to excite the plants any more than can be helped. A sparing use of the watering-can must be practised above all things until things show signs of moving somewhat as the season proceeds. The great problem will now be how to maintain the requisite heat in the house without making the atmosphere smell too strongly of fire-heat. This can be much better performed in houses which have been furnished with an abundance of piping in the first instance. Where, however, houses are not so well supplied with piping, and as a natural consequence what there is has to be kept extremely hot to maintain anything like the necessary temperature, great care must be exercised that the damping down is well looked after, otherwise the parched and arid atmosphere in the house that will inevitably result will cause many of the foliage plants to lose a great deal of colour.

Complete the work of cleaning, for very soon jobs will multiply apace, and other important operations will call for attention, leaving little time for the use of the sponge. Any plants that require heading down or pruning back may now be attended to, so as to allow them time to break before potting is commenced.

Potting.—In most establishments it is the usual thing to look over the whole of the stove plants in the spring, shifting into larger pots those that require it, top-dressing any which it is not thought advisable to shift, examining the drainage to see that it is in working order. Preparations should be made so that when once started the work may be carried on to a finish with as little hindrance as possible, for the potting usually occupies some time, and it is advisable to get as much of it done as circumstances will allow before the sun acquires very great power. It should be seen, therefore, that a sufficiency of clean pots of suitable sizes are to hand, and the preparation of the compost will need serious attention. Loam, which should be of as fibrous a nature as possible, may be chopped up roughly with a spade, afterwards picking it over by hand, a sharp eye meanwhile being kept for worms or wireworms. Leaf soil, too, must be freed from all sticks, stones,

or fungoid growths, which are present usually in a greater or a less degree. Many of the ills which are said to result from the use of leaf soil arise from its employment in a careless manner, neglecting to free it from foreign substances such as described. Before using, it is very necessary to see that the compost is in a suitable condition with regard to moisture, a happy medium between wet and dry being aimed at.

CROCKING.—A word or two on this extremely simple, yet often neglected, operation may be necessary. When we take into consideration the large quantities of water that stove plants need, it is obvious that the drainage should at all times be as efficient as it can be made, and not scamped or insufficiently looked after, as is often the case.

Greenhouse and Cool Conservatory.

ALTHOUGH the majority of greenhouse plants manifest a dislike to fire heat, its employment at periods like the present is unavoidable. On sunny days, however, the fires should be checked as much as possible, air being admitted whenever it is practicable to do so. The temperature should range between 40° and 45° Fahr. by night, but may rise from 5° to 10° higher than this by day with the assistance of the sun. A great part of the work here will consist in the removal of old blossoms and unsightly leaves. Azaleas and Camellias, although exceedingly showy and useful plants, make a deal of litter when they commence to drop their flowers.

As soon as any of the forced subjects go out of bloom, or become shabby, they should be removed to the shelter of cold frames, others being brought in to take their places. It must, however, be borne in mind that it is better to keep fewer plants in the show house and to have them in good condition than it is to have a larger quantity, the bad and good being mixed up together in a way that is not calculated to increase the attractive appearance of the house.

FREESIAS.—There are very few places, indeed, in which a few of these beautiful plants are not grown, and their delicately scented white flowers are always in great request. Weak solutions of manure may be given at alternate waterings as soon as the plants commence to throw up their flowers. The growths should be neatly staked out, and the plants kept as close to the glass as possible.

AGAPANTHUS UMBELLATUS.—Upon the approach of winter these fine old plants are usually placed beneath the greenhouse stage out of harm's way, any place being thought good enough to winter them in; but out of sight should not mean out of mind here, especially with regard to the water supply, for although they will grow and flower under almost any circumstances, this should not be a sufficient reason for wilfully neglecting them.

Pits and Frames.

THE warm pits will still be filled with Azaleas, Spiraeas, Deutzias, Roses, etc., which are being forced into bloom. Where the plants can only be got at through lifting up the lights, great care must be exercised in uncovering them for purposes of watering. The water used must always be chilled, and should be applied in the middle of the day when the thermometer outside is at its highest, The lights too must not be left open a moment longer than is necessary or the plants will sustain injury.

FUCHSIAS.—Where it is desired to increase the stock of new or valuable varieties the old plants must be looked over and pruned. A few of those which it is purposed to propagate from should be introduced into a gentle growing atmosphere (such as that in an early vinery) to induce them to break into growth. The cuttings may be taken with a small heel when about a couple of inches long, inserted four or five in a thumb pot in light sandy soil, and placed in a warm propagating frame.

BEDDING STUFF.—Preparations must also be made for working up a sufficient stock of bedding plants, which are likely to be in request during the coming season. Verbenas, Alternantheras, Mesembryanthemums, etc., may therefore be placed in heat, taking care to keep them as near the glass as possible, in order to stimulate the plants to make the necessary growths. Where much spring propagation of bedding plants has to be conducted it is a good plan to construct a hot-bed in a corner of the frame yard, a frame being placed upon it together with a few inches of Cocoanut fibre refuse or other suitable plunging material. Here the cutting pots may be plunged, the moist heat of a hot-bed especially favouring a good "strike." It is very important that the strong and injurious gases generated by a hot-bed should not be kept pent up within the frame, a chink of air must therefore be left on to allow of their escape.

Polyanthuses, Auriculas, etc, which are passing the winter in cold frames should have as much air given them as practicable, although this should not be given in such a way as to admit the entry of the rain. The watering-can must be very judiciously used and the plants kept rather on the dry side. Late flowering bulbs of Tulips and Hyacinths that have been removed from the ashes to frames and are there waiting their turn to be forced must also be kept quite cool, air being admitted to them pretty freely.—*A. S. G.*

THE ORCHID HOUSES.

POTTING MATERIAL.—Although it is early days to talk of repotting Orchids, the work will come much easier when a start is made if advantage is taken of the dull time to get a good quantity of crocks, pots, pans, etc., washed and stacked in a dry place, also to make new stakes and labels, the stakes to be painted green, as they harmonise better with the plants than do white ones. A good quantity of peat too may be pulled ready for use. This should be stored where it will not get too dry. Sphagnum moss as soon as it can be procured may be got ready. At this time of the year it is generally long and lanky, in this case we only use the live points, which are sure to grow. The great thing is to use the peat and moss neither too wet nor too dry.

LAELIA ANCEPS.—I notice that those plants of the white forms which are not flowering have already began to push out new roots. Last year they were the first to show signs of activity, and as I am a great advocate for catching them before the roots get very far advanced they will be attended too as soon as possible. They do not mind being shifted in the least, if done carefully and at the proper time. Basket culture seems to suit them best, they are much more at home and flower more freely than when grown in pots, in fact, most of the Mexican Orchids do best when suspended near the glass where they get more light and a drier atmosphere, which is more natural to them.

CATTLEYA GIGAS.—This fine species will soon be starting into growth, and should be placed at the warmest end of the division. Although ours have not been allowed to shrivel to any noticeable extent they have received but very little water for the past few months, neither will they until the growths are well advanced, for if kept wet at the roots during the early stages of their growth the dreaded black spot is almost sure to make its appearance. Especially so will this be the case if the compost is in any way sour, but if potted after flowering as advised they will not suffer on this account.

CATTLEYA TRIANAE.—This fine Cattleya will be all the better if afforded a few more degrees of warmth to open its flowers in. A low temperature causes the spikes to go off in the sheaths. An importation of this Cattleya ought to sell well again now. A few years ago a big plant in bloom could be had almost for the asking, for the supply was greater than the demand, but now a medium variety fetches a fair price.

ANGRAECUM SESQUIPEDALE, coming into flower if in the Cattleya house, must be placed at the warm end, or the blooms will turn yellow and drop off, which is very disappointing after watching them develop to almost the expanding stage; the leaves will also become spotted if kept too wet and cold. —*C.*

Gleanings from the World of Science.

Bulb Mites.—There are two very closely allied mites and several forms or different stages of the same found on various bulbs and sometimes in too great abundance, either separately or in company. That most familiar to gardeners, at least by name, is the Eucharis mite (Rhizoglyphus Robini), distinguished by the great clumsiness of its third pair of legs, which have the effect of throwing the fourth or hinder pair farther back than usual. This inveterate enemy may be found beneath the outer scales of the bulbs of Eucharis, Amaryllis, Hippeastrum, Vallota, and many other allied subjects. The other bulb mite is Rhizoglyphus echinopus, which is more typical of the genus of mites that infest, as a rule, the roots of plants or that portion usually covered by the soil. It lives beneath the scales of Liliaceous plants, particularly Hyacinths, but may also be found on Potatos, Dahlias, and occasionally on vine roots. So abundant is it on the bulbs of Hyacinths during some seasons that it causes a disagreeable itching and irritation to the hands of those who handle many bulbs during the autumn months, when they are out of the ground and in the dry state ready for distribution. These mites cannot be particularly harmful to the bulbs, otherwise there would have been a great outcry long before now, seeing that they must be co-extensive with bulb cultivation, at least as far as Hyacinths are concerned. The great mischief effected upon the Eucharis bulbs is doubtless due to the destruction of the roots by a fungus whose presence is readily recognisable by the bright red colour of patches of roots, both old and young.

Insects and Pear Blossom.—Mueller, in his work on "The Fertilisation of Flowers," gives a list of thirty European species of insects that visit the Pear, and doubtless the number would be greater were the tree to flower at a more propitious and favourable season for insects. The latter are more numerous in the United States of America, as recorded in the Bulletin sent out from the Smithsonian Institution at Washington. The names of the insects are not recorded, as they will be given in a future publication, but the variety is exceedingly great considering that fifty of them are already recognised, while an equal number yet remain to be identified. The open character of the flowers exposes the nectary to mostly all classes of insects, and this accounts for the variety of insect visitors. That hive bees and humble bees are amongst the number, few will be inclined to doubt, but there are still some people who are ready to cry "cui bono?" without taking the trouble to investigate the matter on a scientific basis, that can recommend itself to thinking people and prove convincing. Wasps are also amongst the visitors, though that fact will hardly redeem their character with gardeners who have been incensed by their depredations upon fruit of various kinds later in the season when the colonies of wasps had multiplied and become too strong to be desirable. Ladybirds, also amongst the visitors, are harmless at any season, and therefore to be encouraged. Flies of all sorts, including the bluebottle, resort to the flowers; but those insects are most beneficial whose bodies are clothed with hair or a close down like the bees, and can therefore convey pollen from one flower to another. Smooth-cased beetles, even if harmless, would confer but a small amount of benefit on the trees.

Object of the Visits and Results.—That visitors should be numerous is not surprising when we consider the quantity of nectar produced and the facilities which are offered even to short-tongued insects to collect it. The quantity of nectar varies according to the character of the weather prevalent at the time the flowers are fully expanded. When the conditions are favourable it collects till it drops from the flowers when the trees are slightly shaken. Rough winds and cold weather keep the insects inactive, while rainy weather is directly inimicable to all the insect tribe, bees, perhaps, being most sensitive to unfavourable conditions. When insect visitors have been delayed beyond a certain length of time, very few fruits will set, and those chiefly on the few varieties that are capable of fertilisation by their own pollen. Those fruits which are produced as the result of cross-fertilisation by insects or other agency are larger, finer in appearance, and wider near the apex than those resulting from self-pollination. The seeds of the latter are usually small and imperfect, and in fact do not contain an embryo. On the contrary, the seeds resulting from cross-pollinated flowers are full-sized, plump, darker in colour, and capable of germination. Most fruit growers would doubless regard this as an altogether unimportant matter; but when it is recognised that the largest and best formed fruits are associated with good seeds, the importance of cross-fertilisation by insects cannot be ignored. The chief question to be solved in the absence of insects through unfavourable conditions is how cross-pollination can be expeditiously and artifically effected to ensure a paying crop.

DEATH OF MR. WM. THOMSON OF CLOVENFORDS.

WITH deep regret, which will be shared in by all who knew him, we have to record the death on Saturday morning last of Mr. William Thomson, of the Tweed Vineyard, Clovenfords, near Galashiels, in his eighty-first year. Until the third inst. he had been in excellent health, vigorous in body and mind, with eyesight still good and his hearing only slightly dulled, but on that day when taking his usual walk to the Manse at Caddonfoot, a little hamlet near to Clovenfords on the banks of the Galawater, when he accidentally tripped and fell. Although not in any way bruised or hurt, his system sustained a shock which brought on a chill, and that developed into pneumonia and jaundice, with the fatal result we now record, and thus has passed from amongst us one of Scotland's greatest gardeners, a man of world-wide renown, whom to know was to honour for his great skill as a horticulturist, his wide range of knowledge, and high moral character.

As we learn from an appreciative notice of his career in *The Scotsman*, Mr. Thomson's ancestors were located for generations in the Border county of Roxburgh, where Mr. Thomson was born in 1814, but his father having been sent by Sir Walter Scott as land steward on the estate of Maclaine of Lochbuie in 1816, the family were brought up in the Island of Mull, where his brother, Mr. David Thomson, of Drumlanrig, was born in 1824. In the Island of Mull, Mr. William Thomson served his apprenticeship as a gardener under Mr. Wilson, afterwards wood manager on the Penrhyn estates in North Wales. Leaving his island home, Mr. Thomson acquired experience in his profession, like all young gardeners of his time, in serving as a journeyman and foreman in various good gardens in Scotland, ultimately being employed in the latter capacity under the late Mr. Andrew Turnbull at Bothwell Castle, the seat of the Earl of Home, in Lanarkshire. This place was then one of the most famed in Scotland as a school for horticulture, and especially for the cultivation of hard-wooded greenhouse plants, the collection of Cape Heaths being one of the very finest in this country, and remained so until the death of Mr. Turnbull, about a decade ago. Young Thomson reaped the full advantage of serving under such a distinguished horticulturist as Mr. Turnbull, and when he had completed his service at Bothwell Castle he was appointed gardener to the Hon. Mr. Byng, at Wrotham Park, near Barnet, about the year 1839. There he remained for sixteen years, and acquired great experience as a horticulturist as well as a contributor to horticultural literature, then in its infancy. During that period he was well known at the great horticultural shows, then in the hey-day of their fame in and around London, taking an active part as an exhibitor and a judge, and acquiring considerable reputation as an authority on Grapes and their successful cultivation. On the retirement of Mr. Charles M'Intosh, the famed author of the "Book of the Garden," from the charge of the Duke of Buccleuch's gardens at Dalkeith Palace, in 1855, Mr. Thomson was appointed his successor, and in that prominent position in the gardening world he fully maintained his skill and reputation as a leading horticulturist of the time. As editor for some years of the *Scottish Gardener*, he did much to stimulate a taste for gardening among the community, and especially among his professional brethren, on his favourite topic, the cultivation of the Grape vine. While at Dalkeith he also wrote "A Practical Treatise on the Cultivation of the Grape Vine," which has run through several editions and still remains a standard work on vine culture.

Always a keen and successful competitor at the shows of the Edinburgh Horticultural Society and of the Royal Caledonian Horticultural Society, where he won many prizes for the excellence of his exhibits, he turned his attention to the raising of new varieties of fruits and flowers, and in the latter years of his career at Dalkeith he was successful in raising the two well-known varieties of white grapes, the Duke of Buccleuch, a large, luscious, golden-berried variety, much relished by those who prefer a mild-flavoured, juicy grape; and the Duchess of Buccleuch, a handsome bunched variety, with smallish golden berries of the richest flavour. He also raised two other seedling grapes which appeared in commerce while he was at Dalkeith—viz,, Golden Champion and White Lady Downs—but neither is much grown at the present time. Mr. Thomson remained also for sixteen years at Dalkeith, leaving there in 1871, when he established the Tweed Vineyard at Clovenfords, the fame of which has spread far and wide among grape growers.

In latter years he was assisted by his sons in the business at Clovenfords, (one of whom, the eldest, William, died in July, 1893), where besides the growing of grapes on a large scale, a fine business has been created in orchids and other high-class plants, as well as in an excellent Vine and Plant manure, to which much of Mr. Thomson's success as a grape grower is attributed. Since he established himself at Clovenfords, Mr. Thomson has created around him quite a little town of industry, where formerly there was a mere hamlet, with the usual country inn and blacksmith, and joiner s shop of the neighbourhood. He has all along taken a keen interest in horticultural affairs, and was a regular attendant at the shows of the Royal Caledonian Horticultural Society, where his well known robust figure with white hat was always a centre of rally to a crowd of his gardening friends and the general horticultural public. He is survived by his youngest son, Mr. John Thompson, and two daughters, one of whom has been for some years an invalid, and great sympathy is felt for their loss in horticultural circles.

A SECRETARIAL DILEMMA.

I FULLY endorse "R.D.'s" sensible remarks and practical suggestions (p. 309), regarding the introduction of young foliage plants as a ground work for hiding the pots and other hideous things so often used and exposed to view in the arranging of large specimen plants. It is but too true as "R. D." states that a grand effect is often utterly spoilt by these unsightly objects, whereas if dwarf plants were used as a setting, what now so much offends the eye would be hidden in a natural way. I commend the Western secretary for his pains in seeking out new ideas for making his show attractive and pleasing to the public taste. I have for years past visited the principal shows in the United Kingdom annually, and have got sick of the sight of the same huge and worn-out specimens (especially of foliage plants), shown year after year, and in many cases exactly in the same position. As regards flowering plants the case is a little different. Here we certainly see a little change, as to get them fit for the various exhibitions depends more upon circumstances than is the case with foliage plants, which may be said to be always ready.

"R. D.'s" second idea is also a good one, and, if carried out, would give many a gardener a chance of exhibiting who has not the time to train specimens, and, at the same time, would enable the public to get an idea of the natural habits of the various objects exhibited. I am ignorant of the time at which the particular show referred to is held, but in May or June a good display of hardy Rhododendrons would form a grand feature if planted out, as they have them at Manchester. Hardy Ferns in pots are not always so much encouraged as they deserve to be; and at the autumn show much more might be made of hardy trees and shrubs flowering or pictorial leaved. Fruiting Vines and other fruit trees in pots when well done always form a most interesting feature, but require a good prize to bring them out.

Dinner table decorations for ten or twelve persons are always attractive, especially to the fair sex, and a tent devoted to these and classes of cut flowers for personal adornment would, I feel sure, be attractive and interesting anywhere. One of the grandest features, to my way of thinking, that has ever been introduced into horticultural exhibitions is the classes for groups arranged for effect, and the glorious examples that have been seen about the country must have inspired and encouraged many a brother to try his hand at home in the development of new ideas and the improvement of decorative work, no doubt, with satisfaction alike to himself and his employer. How often do we see exposed to one's full gaze, the untidy underneath part of the stages where cut flowers, fruit, and vegetables, are exhibited; a green drapery is the best colour, I think, and now being so cheap could easily be procured to remedy this unsightliness, and would help to show off the exhibits to greater advantage.—*Rusticus.*

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne, F.R.H.S. Price, 1s.; post free, 1s. 1½d., from the Publisher of the GARDENING WORLD, 1, Clement's Inn, Strand, W.C.

WINDOW GARDENING.*

THE ground I have to traverse this evening is of a most circumscribed character, or I would rather say, the space to which I have to call your attention is scarcely on the ground at all, it can hardly be said to exist in the air—still, it is between heaven and earth, and may be described as a little space, a ledge projecting from a larger building, a shelf, a sill, the lower portion of a window casement, sometimes 3 ft. by 6 in., 4 ft. by 9 in., 5 ft. by 1 ft., and every other figure in length and width comprised in the dimensions I have just given. Ah, but I hear some saying, what of the space inside the window? Surely we have more room there, and our limits are not so restricted as on the outer shelf. Well, truly, you may have a little more room for development there, but at best in regard to a question of space we must acknowledge that the enthusiastic amateur in this phase of the matter is necessarily cribbed, cabined and confined.

Do I then say, Why have thoughts at all in this direction? Why attempt that which seems so difficult of attainment? Should I then neglect the adornment of my windows because they are of such small dimensions? Well, there are those who would answer these questions in such a manner that, although no word was uttered, one could quickly see that to them the idea is distasteful, the labour too irksome, the patience necessary is of too severe a nature; in fact, there is no desire for added beauty, no determination to secure that which is pleasing and joy-inspiring, and so the subject is simply permitted to glide out of thought, to slip away from the mind, and in a very short time, that which might have been an attraction and charm, a mark of neatness and beauty, is just allowed to remain as so many of its fellows, a bare, unattractive, repellent shelf with no redeeming feature to break the monotony of the hard, harsh, ugly lines.

However, I take it that you are not of that number. If remission of duty has been laid at your door in days gone by, that neglect has been atoned for, sorrow has been expressed for omissions that have passed, a brighter and more cheering frame of mind has come to you, and that now and henceforth you will each in your sphere do all you can to add to the pleasure and beauty of your own dwellings, and by concerted action give such a charm and attractiveness to our towns and adjoining villages, that visitors may feast their eyes on the beauties you spread out, and their gladness causes them to send information to their friends that, if there is one place in all Devonshire where a floral display in full glory may be seen, and where gazing upon Nature's beauties may be indulged in under most pleasant conditions, and gratis withal, surely that place is Exmouth—and no other seaside town can show anything approaching it.

I am led to make this suggestion inasmuch as it appears to me there is much room for improvement in this matter in the windows of the houses here. Whether it is that the sea has greater attractions, or the country lanes have a winsomeness about them, that is different to most other places I do not pretend to say; but it does seem to me that a little more embellishment might be carried out, and that many floral displays might be attempted, nay, successfully accomplished, if only a thought were given to the matter, a little labour expended, and a slight cost incurred.

I remember many years ago being taken to some relatives who were living not far from King's Cross Station, London. There were no underground railways, no trams, and but a very limited number of buses. The air in that part of London then was much more helpful to plant life than is the case at present. I remember noticing in the windows some flower pots in which some Auriculas were growing, and in their season brought fine clusters of flowers. As a reward for some service rendered, some portions were broken off and given to me. I took great care of them, and my Auriculas for a long time were the talk of my home, and among the pets of my garden. Some few years after, among my schoolfellows was one whose father was a florist, with greenhouses, vineries, etc., and many beds of choice Dahlias and Tulips. I was always willing to hurry home from school, accompanying my companion to his garden, and assisting him in light duties that devolved upon him. On one occasion, I remember, he very

*A paper read by Mr. W. SWAN, Bystock, at a recent meeting at the Withycombe Workmen's Institute, Exmouth.

generously, as I thought, gave me a small Fuchsia about 2 in. or 3 in. high. This was considered a prize, and was duly placed on the window ledge, tended and cared for; it grew vigorously, and in time rewarded me with some fine blossoms, but judge of my dismay one day on coming home to be informed my Fuchsia was gone. The father of my schoolfellow, who I should say was a raiser of new florists' flowers, had noticed my plant was different to anything he had; he made inquiry and found his lad had given me one of his new seedlings in place of a cutting of some other sort. My plant changed places, and I doubt not in due course was sent out as some Hero, Defiance, or Beauty of Blankshire. So you see I had at least some initiation into the varying fortunes of window gardening many years ago; and thence onward in one way or another have had some little to do in this matter.

I remember on one occasion travelling some 400 miles with a large number of plants to embellish the windows of a mansion in the immediate vicinity of Kensington Palace. This was to me a most pleasant occupation, and I have every reason to believe gave perfect satisfaction to those whom I had the pleasure of serving. I think the most casual observer must have noticed the affection that many exhibit for a few flowering plants in their windows who dwell in large centres of population; the old recollections of the gardens in the country in days gone by cling to them with a tenacity it is impossible to shake off, and so, in spite of most adverse surroundings, often a very deleterious atmosphere and small share of sunshine, still grow a few plants, and if the blooms are small and scarce the foliage is often fairly abundant and green.

Some such feeling must surely have possessed the Frenchman who in days gone by found he must follow his occupation into the city instead of the country where he had always resided. On reaching Paris he found that whilst the windows of his front rooms looked out into the busy street, where all appeared lively and animated, and though unable to take part in that which passed under his eye, he could at least enter into the spirit of the gaiety and he charmed at the sight of another's joy. But the back window. What a difference! No life, no motion, nothing to interest, simply surrounded by blank brick walls. This, thought he, will never do. So covering the walls with paints of a good French grey, he filled in, with most artistic taste, here the green fields and gardens of his native village, the glorious hills clothed with verdure, and at another portion a good stretch of the ocean and seashore, each in good keeping and proportion, in fact a work of art. So, when jaded with work, and wearied with looking on the scenes in front, he would retire to the back and with open window imagine he received an invigorating breeze from the pine-clad mountains, or a breath from the sea filling his lungs with fresh and life-giving ozone.

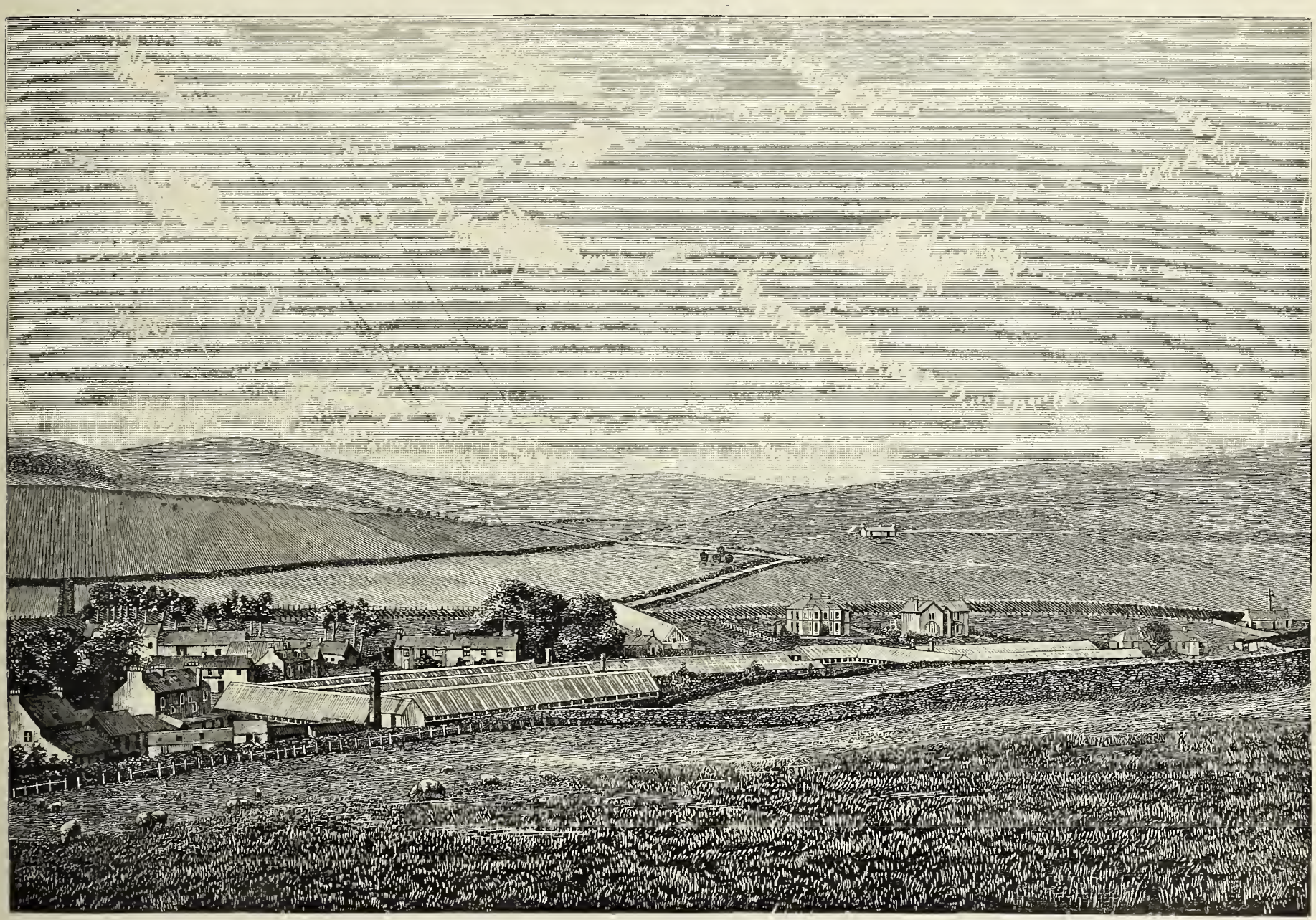
In the new number of *The Forum*, one of the leading American magazines, the Rev. W. B. Hale has given a description of the manner of living among the Cotton operatives at Fall River, one of the textile centres in the United States. After mentioning the feeling of enmity existing between employed and employers, he refers to a strike recently taking place against a reduction of wages, and then goes on to say—"the houses in which the people live are in blocks of tenements, arranged around a court. The buildings all being on ground that is very low and always damp; and the stench and filth abominable." After describing the Richard Burden block, the little Canada group, the Slade Mill tenements, it passes on to those of the Globe Company, respecting which, he says—"The first floor of this block is deserted, the tenants were overpowered with rats." He also says at one of the upper windows is a box filled with soil in which stands a leafless Geranium.

I must confess, Sir, this plant stripped, denuded and bare, appealed most strongly to me, for where plants cannot thrive, depend upon it, it is equally dangerous and life imperilling to all human beings.

This brings me to a part of my subject, I think most important, viz., the aspect and surroundings of the windows it is intended to decorate, and the class of plants most suitable to the different positions of the casements.

By all means endeavour if possible to get some colour on the window sills. If the house is so situated that there are windows facing either the East, South or West points of the compass, many plants can be grown in these that will bring a large amount of flowers and foliage all through the Summer and Autumn. It will, of course, be borne in mind that those facing South and West will always produce finer displays than those facing East, but to make amends for this, the Eastern and Northern positions may have the casement filled with Ferns and Mosses, for these possess a charm and give pleasure to many, who cannot for long gaze with delight upon the dazzling colours of the flowering plants. There are many kinds of Ferns easily obtainable in the immediate vicinity, such as Scolopendriums Polypodium Lastreas, Aspleniums, as wel as the Blechnum Spicant so there need be no scarcity of these cool and lovely denizens of our banks and woods. There are also many other European and North American species, that could easily be secured and successfully grown with those of our own country. Many of the Ferns are best managed when grown in the rooms. I am aware, however, that a number of plants indoors has a tendency to cause the rooms to become somewhat damp, for a degree of humidity is present such as would not be the case if no plants were present. Still if a limited number were grown, the amount of moisture would be so slight as to be scarcely noticeable.

Endeavour then to obtain a healthy plant of Adiantum cuneatum or a Capillus-Veneris; if they are fairly well established it is better that they be left alone for a short time, that is as far as potting is concerned. When, however, they have got used to the position and are growing freely and need a larger pot, the soil I would recommend would be of a light nature, rather than a heavy one. Some boggy peat, leaf soil and sand, with a little garden soil would suit them admirably. Before potting, there must be some broken potsherds, charcoal, or small cinders, placed



The famous Tweed Vineyard, Clovenfords, established by the late Mr. William Thomson.

over the hole at the bottom of the pot; a little of the rougher portions of the soil placed upon the drainage to prevent the soil running into the crocks, etc., and so preventing the escape of an excess of water. Pot the plants fairly firm, water in short time after, and when the soil is settled it is probable no further watering will be required for two or three days. As the young rootlets become active, extra water will be needed, which simply means the plants must be looked over every day, or but one day should intervene in this matter. The plants should be stood in saucers so as to hold the water that runs from them after watering, and then when they have drained, the water should be turned into a water-can and thrown away. By so doing, the plants will not be kept standing in water, for though Ferns may delight in abundance of this element, they do not flourish when this is always remaining under them. The same remark holds good with all plants indoors, and if not again alluded to, it will be remembered that flowering plants as well as Ferns might not continually be overdosed with water.

Besides the Maidenhair Ferns I recommend the Pteris cretica, P. serrulata, the Hart's Tongue, Polystichums Lastreas, and the common Polpody. This latter, which doubtless is known to you all, may be grown in pots of fancy shapes, for since it makes numerous rhizomes or ground stems, these quickly spread and cover a surface of more or less fantastic design. In the winter some of these may have the fronds become seared and brown. It is better then that these be cut away, for in the spring, if well rooted, they will push up a good cluster of healthy fronds from the fixed crowns. Many Ferns may be grown in wire baskets, and suspended from hooks in the ceiling, of course, hanging so that they be near the light of the window. These often grow into beautiful plants; in watering, however, it is necessary that occasionally they are dipped in a pail, or if watered overhead, that a large saucer or dish be placed underneath them until they cease dropping the water that runs through them. The Ferns in pots or terra cotta vases may be stood on a ledge immediately in front of the window inside, or if a low stage with two shelves can be used, it is better for the plants, as by this arrangement they receive more light than if all were on a single level shelf. It is a good plan when Ferns are grown thus to sponge the fronds occasionally, removing dust or mildew, or a little insect that is apt to infest them when grown inside. If now and then the plants be stood outdoors, when there is no wind, and sprinkled with a syringe or fine rose of a watering can, they will be much freshened, and a vigour and lustre added that much increases their beauty and acceptability.

Passing from the windows on the northern and eastern sides, I think the greatest interest will be shown to those having a southern and western aspect. I know all houses do not have the front windows facing this way, but where such is the case, and other circumstances favourable, it seems to me there are opportunities of display that certainly should be made the most of.

I should recommend for these windows that boxes be made of a size and shape suitable to the recess. A couple of narrow strips of wood nailed to the bottom of the box to keep it slightly above the window sill, and a few holes burnt in the bottom of the box for the escape of water. The outside should be painted a pleasant yet neutral colour, one that will not detract from the natural freshness of foliage and flowers it is hoped to produce. I do not ordinarily advise the insertion of fancy tiles in the front of the boxes, as they seldom fit in in appearance with houses of moderate dimensions; for mansions, however, where the front and windows are of a very small character, they may at times be used with very great advantage. The object in window gardening should be to make the plants and flowers the most important feature, not the box or vase in which they happen to be grown. Virgin Cork, too, is out of place in many windows, and the space immediately at the back of the pieces where they are fixed to the boxes, &c., is a rare harbour for snails, woodlice, and earwigs; vermin that issue forth at night-time and feast upon the plants it is intended to grow. Fancy railings and gates, representing entrances to a park or garden, seem to me most incongruous also.

Good garden soil, with some well-rotted leaves, and some sand well mixed will be most suitable. Before planting, place some pieces of broken pot or oyster shells over the holes in the boxes, over this a few fronds of the common bracken Fern, or bits of heather or some dry moss, just to assist the drainage and prevent the soil from running and stopping the holes in the bottom.

Boxes and soil now being ready a more difficult task presents itself. What class of plant shall I recommend you to grow? In this matter I would only say individuals likings and choice will, of course, largely predominate. There may be some who have a great fancy for Fuchsias, and of these there are many fine kinds very suitable, and a well-flowered plant of Fuchsia is always an object of admiration. One great advantage of cultivating these is that they are more hardy than the majority of other bedding plants, and this being the case are less likely to be cut down and ruined by the first frosts in autumn. Many, in fact, may remain out all through the winter when planted in the beds and borders, for though a few of the soft-wooded shoots may be injured, these can be cut away and the plants receive no hurt. This will give some idea of the great usefulness of the Fuchsia: another advantage is the long time it will continue flowering, and the singular beauty of the individual flowers. Beside these recommendations there are some kinds that are naturally of a drooping habit, and as the desire in window gardening is display rather than an obstruction of light to the rooms, those of a pendulous growth soon develop that tendency, and falling over the front of the box or vase that portion is quickly hidden and a greater space speedily covered with bright coloured flowers. Those of this class that are more erect in growth can be used as back specimens in a wide box, the front part being used for plants that are dwarfer and perhaps even gayer colours.

THE RAINFALL AT RAASAY.

This meteorological report from the gardens here (Isle of Raasay) may be taken as a criterion of the north-west coast generally. The rainfall for 1894 amounted to 75·58 inches. Rain fell on 261 days, *i.e.*, January, 26 days, 10·31; February, 25 days, 9·79; March, 19 days, 8·35; April, 16 days, 1·61; May, 25 days, 3·92; June, 16 days, 2·81; July 19 days, 5·32; August, 25 days, 5·30; September, 11 days, ·74; October, 16 days, 2·57; November, 27 days, 13·88; December 26 days, 10·48 inches. It will be observed that the driest months were April, May, June, September, and October; and the wettest January, February, March, July, August, November, and December. The greatest rainfall for twenty-four hours was on November 14th 1·66, December 13th 1·67, and 22nd 1·73 inches. The sun appeared on 245 days during the year. November was the dullest month, 8 days only being registered in which sunshine occurred.

The maximum readings on the thermometer were on June 29th, 80°; 30th 86°; July 1st, 84°; 2nd, 86°; 27th, 84°; 28th, 87°; and 29th, 80°. The minimum readings were January 4th, 25°; 7th, 25°; and February 14th, 26°. The most prevalent winds during the early part of the year were from the west. April and May were cold, although comparatively dry months, the wind coming principally from the East. September was a very dry month, with north-easterly winds. The latter part of the year was characterised by heavy rains and strong gales, principally from the south and south-west.

In taking a review of the year's successes and failures, it may be said that garden crops did fairly well, notwithstanding a somewhat erratic season from a weather point of view, always an important factor to the gardener and agriculturists, whose aims are identical. Fruit crops were on the whole good. Apples were rather under the average in quantity, but the quality was excellent. Pears were a much superior crop than formerly, and I think this holds good throughout the country, the trees escaped the frosts which nipped the Apple blossoms, and this no doubt was very much in their favour. Small fruits were good, particularly strawberries, we are almost unique in this respect. The late frosts were slight here, and did the blossoms very little damage. Stone fruits were under the average, more especially Plums, the only satisfactory varieties being Victoria and Transparent Gage. Cherries were fair, but an exception must be taken with Morellos which as usual always crops well here. The trees were simply laden with fruits of excellent size and quality.

Vegetable crops were good. Clubbing in the Brassica family was this year almost nil. Root crops of such things as Carrots, Parsnips, etc., with the exception of Onions, were less troubled with the grubs of their respective flies than they have been for years. The month of May was very ungenial, and consequently less favourable to the quick propagation of these winged enemies of the gardens. Field crops in this district were better than usual. This was more marked amongst cereals, which were of a high order of merit, both in straw and weight of grain; that is from a west coast point of view. We cannot compete with the Lowlands. Soil and climatic conditions are very much against us, the turnip crops where grown (which is the exception) were heavy, and of fine quality, this cannot be said of East Coast, particularly in the Aberdeenshire district, where the root crops are in too many cases almost a failure. Barley crops were got under cover there in fine condition; but oats were damaged very much by continuous rains, when cut. Some farmers only finished harvest about the middle of November, grain is light, particularly where damaged (as was the case on many farms) by the grub in early summer. Potatoes were a good average crop, and very little spoiled by disease.

Sharp frosts and a heavy snowstorm has (Jan. 12th) brought work on garden and farm to a standstill.—*W. Minty, Isle of Raasay, Stromferry.*

SOIL FOR TOMATOS.

A general opinion prevails amongst amateurs and many gardeners also, that a rich soil, or at all events a good loamy one, is essential to grow Tomatos successfully. Some three or four year since I visited a great fruit-growing establishment at Shardlow near Derby, where Tomatos are grown in great quantities, and I remarked to the proprietor that it must be a very costly matter getting new soil for them every year. But I found that he did not do so; he had all the old soil turned out of doors early in the winter, turned over, and in all probability had some manure mixed with it, and it was then used again for Tomatos.

A small leaflet, the copy of a letter from Messrs. Buchanan, of Kippen, near Stirling, is before me, in which they say, "Suspended from a horizontal rod at the recent Chrysanthemum shows in Scotland, were 40lbs. of Tomatos in clusters as cut from the plants, some of which had nine perfect fruits and weighed 3½ lbs. These were cut from plants grown in the same soil for five years in succession. Ten dishes of individual fruits as shown on the same table were from plants grown in soil not changed for three years." Thomson's Vine and Plant Manure is stated to have been the only manure used.

A grower of Tomatos for market told me recently that for his mid-season and general crop he never sows the seed too early, preferring the end of March or beginning of April, keeping the plants growing cooly so as to be stocky, short-jointed plants for planting out, and that he makes his soil firm, not at all rich, and when the fruit is formed, gives a dressing of good artificial manure occasionally, and is careful not to over-water the plants or allow them to become too dry. He certainly gets good crops, and objects to the practice of cutting away so much of the foliage, as many do, or planting thickly.—*Solanum.*

GARDENING MISCELLANY.

SYRINGA PEKINENSIS

Within relatively a few years past a number of species of Lilac have been introduced, differing considerably from the older types with which we were more familiar. They in fact greatly resemble the Privets, but particularly when in bloom, owing to the relatively small size of the white flowers composing the large cymes or bunches of bloom. One of the most recent that has been brought into cultivation from North China is S. pekinensis, one of the white flowered species. The American *Garden and Florist*, Vol. III., Fig. 30, gives a good illustration of it. It is useful in maintaining a succession of bloom with other sorts, inasmuch as it flowers about six days after S. amurensis and about twelve days sooner than S. japonica. After it attains some size and has, so to speak, expended

its vegetative energy, it flowers very freely. Experience with it shows that it is perfectly hardy, and the locality from which it comes would also tend to suggest that property. A moist soil is very conducive to its well-being, and plenty of space in a position fully exposed to light is necessary to favour its best development,

TOMATO CHEMIN.

This is, undoubtedly, one of the finest Tomatos now in cultivation. Having grown it for four seasons, I have found that in point of quality it is unsurpassed. It is of vigorous growth and marvellously productive, producing grand clusters of from ten to fifteen large fruits, which are round and perfectly smooth, extra deep red in colour and very solid. In appearance it is very handsome; it was raised by M. Chemin, the famous French market gardener, from whom it takes its name. Messrs. W. Atlee Burpee & Co., of Philadelphia, Pa., purchased the entire stock from the raiser and sent it out. It was from this firm that I obtained seed direct. During the past season, which has been very unfavourable for the successful cultivation of the Tomato, this variety has produced splendid crops, both under glass and in the open air, while being comparatively free from disease. Seed is now offered by most of our leading seedsmen, and growers who may be desirous of obtaining a really good all-round Tomato. would do well in giving this variety a trial. The flavour is quite distinct from that of any other sort I have grown.—*Jas. Barkham, F.R.H.S., The Gardens, Longford House, Haven Street, Isle of Wight.*

THE PARABLE OF THE FIG TREE.

I could not help being amused at Mr. Stogdon's correcting the Scriptural shortcomings of the most excellent "Z," (page 316) and I could "in my mind's eye, Horatio," fancy the jocose critic penning the lines, ("with a naughty little twinke in his eye,") —"*quotations from the Scriptures should at all times be accurate.*" So, indeed, they should. But is Mr. Stodgon's own quotation accurate? He gives it "Now learn a parable of the Fig tree, when *her* branch is yet tender and putteth forth leaves, ye know that summer is *near.*" The italics are mine. Now, referring to the publican saint, from whose writings Mr. Stogdon quotes, I find in the *Teacher's Edition* of the Bible, that the Fig tree is given as masculine, for it says—"*his* branch," and it also gives "summer is *nigh.*" "Under which king, Bezonian" am I to sit? It is said that a certain gentleman whose initial is "D," can quote Scripture for his own ends. I do not suggest the writer whose well-known initial is familiar to your readers; but one who had a say before the Fig leaves were first used to adorn the first gardener and his wife. Jeremiah writes of "very naughty figs," but perhaps that is a mere figure of speech. I wish Mr. Stogdon would give us some more of his discursive botanical epistles, which I for one, much appreciated.—*Devoniensis.*

BORDER AURICULAS.

These are very easily grown and almost all who see them admire them for their beauty of colour and sweet fragrance. The most common colours are shades of maroon, claret, violet, and blue; and a stock can readily be obtained from seed sown in February, but it ought to be procured from a good strain with large flowers, carried on stiff stems well above the foliage, and the colours should be well defined. The seedlings should be grown in a reserve bed and be flowered once, so that all of inferior merit may be discarded before making permanent plantation. Sow in rows filled with light soil in a cold greenhouse or frame, and plant out in a shady moist spot in April or May. These are so beautiful and flower almost as well as ordinary Primroses, and being so hardy that no ordinary frost will affect them, that it seems strange more care is not taken to get together better and more varied strains than are generally met with.—*W.B G.*

ANDROPOGON SCHOENANTHUS.

This well-known plant is almost unique among the rest of stove subjects, which are grown either for their variegated or coloured foliage, or for their flowering qualities. The strong and yet most agreeable smell that is so characteristic of it, and which is readily emitted when the leaves are cut or bruised, has caused the name of the Lemon Grass to be applied to it. But apart from this fragrant qualification the plant is an exceedingly useful decorative subject, and certainly deserves to be widely grown. It may be propagated easily enongh by division of the roots in the spring. A rich soil, and a brisk heat will be necessary in order that good specimens may be obtained; but above all an abundance of water at all times is very essential. It was introduced from India about the year 1786.

CHILDREN'S GARDENS.

Although to the professional these may and do sometimes become an eyesore, I still think there is much to be said in their favour. Many a patron of the Gardener's art has had his love and enthusiasm for horticulture first kindled in the tiny plots they have loved as children to call their own. Most children are naturally fond of flowers, and their gardens afford them both healthy exercise and amusement, and the attention given to them has its educational advantages, the mcst valuable of which is possibly the art of observing and studying the various processes of Nature among both flowers, insects, birds, rain, dew, wind and sunshine.—*W. B. G.*

HERBACEOUS SPIRAEAS.

In his article on the above shrubs in your last issue, "Experience" omits to mention, in my opinion, one of the best varieties, viz., S. japonica multiflora compacta. This is a splendid acquisition and although of comparatively recent introduction, it is rapidly finding favour with market growers and others for forcing purposes. It forms a handsome plant with pure white flowers in large branching panicles, and compared with the type the individual flowers are much more numerous, and the flower spikes are larger, produced in greater abundance and are more compact.—*C.H., Sandiway.*

A NEW AMERICAN ASPARAGUS.

In reply to Mr. J. Hamilton's inquiry on p. 316, as to the above we think the variety meant is 'Palmetto.' It is a strong grower and of excellent quality. This variety is grown well by an eminent gardener in Fife.—*R. B. Laird & Sons, Edinburgh.*

ANCIENT SOCIETY OF YORK FLORISTS.

The annual general meeting of the Ancient Society of York Florists was held in the Agricultural Club Chambers, York, on January 8th. Mr. A. Simpson presided, and there was a large attendance of members. The minutes of the last annual general meeting were read and confirmed. The Secretary, Mr. J. Lazenby, read the committee's annual report for the year 1894, of which the following is an extract.—"The year has been exceptionally propitious as regards the operations of the society. Through the kind efforts of the society's chaplain, the Rev. H. Vyvyan, their Royal Highnesses the Duke and Duchess of York have graciously done us the honour of becoming patrons, as also the Archbishop of York. There is a considerable increase of subscribing members, the number being 642, as against 600 last year, and about 50 new members for ensuing year. The receipts for the year amounted to £555 7s. 11d., and the expenditure having been £519 5s. 6d., there was a surplus on the year's working of £36 2s. 5d., which, added to last year's balance, made a total balance of £199 2s. 0d., and a total income of £718 7s. 6d. The usual six shows have been held during the year with very encouraging results. The Chrysanthemum show exceeded all previous records in number of exhibitors and in excellence of exhibits, and the total amount paid for admission at the doors was £285 3s. 5d." Mr. Pannett moved, and Mr. T. Abbey seconded, that the report be adopted. The proposition was unanimously carried. Mr. W. R. Robinson, in moving the adoption of the balance sheet, said that the committee had worked most assiduously for the good of the society. The remark was endorsed by Mr. W. Bean, who seconded, and the balance sheet was unanimously adopted. The Chairman moved that Alderman Sir Joseph Terry be re-elected President of the Society. Sir Joseph had been their president for some years, and he was sure that if they searched all Yorkshire they could not find a gentleman more fitted for the position. (Applause.). Mr. J. Key seconded, and the proposition was unanimously carried. The Rev. H. Vyvyan was unanimously re-elected Chaplain. On the proposition of Mr. Lamb, which was seconded by Mr. J. Dawe, the Lord Mayor of York (Alderman W. McKay), the City Sheriff (Dr. Tempest Anderson, J.P.), and Mr. Robinson were elected Vice-Presidents for the year. Mr. J. Pilmoor, Mr. J. Rodwell, and Mr. Councillor Purnell were nominated for the office of Junior Steward. The result of the show of hands was that Mr. Pilmoor was elected. Mr. G. Lamb, Treasurer, and Mr. J. Lazenby, Secretary, were unanimously re-elected to their office. Mr. A. Farnborough and Mr. J. H. Barron were nominated for the office of Junior Auditor. A show of hands was taken, with the result that Mr. Farnborough was elected.

A vote of thanks being proposed to donors of special prizes, who had afforded liberal help, was unanimously carried, the Secretary stating that most of these had renewed their offers, thus evincing their confidence in the Society. Mr. Bean proposed that £70 for prizes be granted to the five minor shows, and Mr. B. Pannett seconded. Mr S. Hardcastle proposed as an amendment, and Mr. W. N. Cruickshanks supported, that the sum be £80, as for the last two years the sum had been £70. Mr. McIntosh said that it was not desirable to increase the grant, one reason being that the minor shows gave no pecuniary return. Mr. Bean's proposition was carried by a large majority. Mr. McIntosh moved that the prize money for the Chrysanthemum show to be held November 20th, 21st, and 22nd next be £150, exclusive of specials. Mr. J. Rodwell seconded, and the grant was unanimously made. The following gentlemen were elected to form the committee for the present year:—Messrs. A. Simpson, R. McIntosh, T. E. Abbey, E. Staines, W. Clues, W. L. Appleton, W. Bean, G. Hudson, J. Key, E. Everard, W. Clarke, W. Todd, G. Cowper, J. Rodwell, J. Dawe, J. C. Milburn, W. C. Milburn, and T. Smith. Mr. Councillor Challenger informed the meeting that the death of Miss Steward, of Bishopthorpe, had recently taken place. Miss Steward was a member of the Society, in which she had taken a great interest, and he was sure the members of the Society would much regret her death. He proposed a vote of condolence to Miss Steward's relatives. Mr. W. C. Milburn seconded, and endorsed Mr. Challenger's remarks. The Chairman also expressed his sorrow, and the vote was unanimously carried. It was also agreed that a number of members should attend the funeral as representing the Society.

SOCIETIES.

Royal Horticultural, *Jan 15th.*—The first meeting of the year, and which took place on Tuesday last, was a small one, notwithstanding the great change to milder weather. The exhibits were neither large nor numerous. Orchids took a prominent place. Chinese Primulas and Cyclamens were also well represented by a group, in which there were several new kinds. Some fruit also occupied one of the side tables. A group of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans. Amongst others they had a fine piece of the hybrid Cymbidium Winnianum with three spikes of bloom, also Laelia anceps Baroness Schroder and other varieties, Cattleya Trianae alba, Maxillaria ochroleuca, Odontoglossum mirandum, Phaio-Calantheanoldiae, very fine and distinct, Cypripedium J. H. Berry, and C. Mrs. Fred Hardy, the two latter being very distinct, but C. Mrs. Fred Hardy was particularly beautiful. Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, also exhibited an interesting group of Orchids, consisting largely of Dendrobiums, including D. Wattianum, D. chrysodiscus, and D. xanthocentrum, Masdevallia Courtaldiana, Phalaenopsis leucorhoda, and P. intermedia Portei were fine, and Epidendrum polybulbon was pretty and interesting. Cattleya Percivaliana alba was exhibited by C. L. N. Ingram, Esq. (gardener, Mr. T. Bond), Elstead House, Godalming. Cypripedium Boxalii Cobbii was shown by Walter Cobb, Esq., Dulcote, Tunbridge Wells. He also had a fine plant of C. nitens superbum.

Cut flowers of Cattleya Pallas superba, Cypripedium Swinburnei magnificum, and pot plants of Odontoglossum nebulosum candidissimum and some Cypripediums were shown by Fred Hardy, Esq., Tyntesfield, Ashton-on-Mersey, Cheshire. Cypri-

pedium insigne montana fuscatum and C. i. sylhetense majus were staged by S. G. Lutwyche, Esq. (gardener, Mr. Paterson), Eden Park, Beckenham. Several Cypripediums, including C. Boissierianum, C. Leeanum aureum, and C. Daviesianum were shown by Thomas Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. Cypripedium Henry Graves, Junr., a distinct hybrid, was exhibited by Henry Graves, Esq., Orange, New Jersey, U.S.A. Cypripedium Norma, C. Aeson, and C. Minosa superbum, three very beautiful hybrids, were exhibited by Messrs. J. Veitch & Sons, Chelsea. A Cultural Commendation was accorded to the Right Hon. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring, for a well-flowered spike of Phalaenopsis F. L. Ames. M. Jules Hye-Leysen, 8, Le Coupure, Ghent, exhibited a fine hybrid named Cypripedium Madame Jules Hye.

Laelia anceps Rosefield var., a very richly-coloured flower, was exhibited by De. B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. Cut flowers of several Cattleyas, Laelias, Zygopetalum, and Cypripediums were exhibited by E. Ashworth, Esq., (gardener Mr. H. Holbrook), Harefield Hall, Wilmslow. De B. Crawshay, Esq., also exhibited Odontoglossum Andersonianum pulvereum, and a magnificent spike of five flowers of Laelia anceps Crawshayana. Mr. J. Prewett, Swiss Nursery, Hammersmith, exhibited a moderate sized but healthy piece of Cymbidium Traceyanum, bearing large flowers of rich colour. Cut flowers of Cattleya maxima, in great variety and considerable quantity, were sent over by L'Horticulture Internationale (Linden), Brussels. Some of the varieties were notable for the richness of the lip.

Messrs. Sutton & Sons, Reading, staged a superb collection of Primulas and Cyclamen, for which a Silver Flora Medal was awarded by the committee. The Cyclamens were represented by a nice little batch of well-flowered plants of a new pink variety, Salmon Queen, which for dwarfness of habit as well as for great floriferousness left little to be desired; also a number of examples of Purple Queen, a new purple-flowered variety in excellent condition. Both single and double flowered Primulas were in fine form. Amongst the former section, several shades were represented comprising the new orange-scarlet flowered variety Grenadier, Giant Pink, and Giant Rosy Queen, two fine sorts, the flowers of which were of large size and good substance, the petals being so prettily fimbriated as to impart a semi-double appearance to them; Pearl a good white of excellent habit, and Brilliant Rose a fine red flowered variety.

Doubles were also of first-class quality, and some splendid sorts were staged; amongst which such varieties as Heliotrope, Double Blue, Double Rosy Queen, and Carnation Flake, the last mentioned being white, beautifully streaked and spotted with rose, were in first-class order.

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited single plants of a number of different varieties of single flowered Primulas, Eynsford White, Kentish Fire, Cannel's Pink, Neatness, and Swanley Yellow being worthy of mention; also a number of specimen blooms of the same and of Cinerarias, together with a fine bunch of blooms of Canna Queen Charlotte.

Chrysanthemum Lord Canning in pots was shown by Mr. Owen Thomas, Frogmore. A very interesting contribution came from Mr. John N. May, Summit, New Jersey, U.S.A., in the shape of half-a-dozen blooms of the new Rose, Mrs. Pierpont Morgan, said to be a sport from Madame Cusin, for which an Award of Merit was given. Although the blooms had been cut twenty days ago, they were in surprisingly good condition, when their long journey was taken into consideration.

Hardy fruit was well to the fore, and for the advanced season the material shown was of excellent quality. Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, exhibited seventy dishes of fruit (Apples principally) in excellent condition. Such Apples as Frogmore Prolific, The Queen, Lord Derby, Cox's Pomona, King of the Pippins, Emperor Alexander, Golden Noble, Blenheim Orange, and Mere de Menage, were excellent samples, a couple of dishes of Pears, Charles Cogne and Catillac being also good (Silver Knightian Medal). Messrs. John Laing & Sons, Forest Hill, S.E., received a Silver Banksian Medal for a meritorious collection of Apples, which contained upwards of forty dishes, such sorts as Lord Derby, Bismarck, Flower of Kent, Beaumann's Red Reinette, Hoary Morning, and Beauty of Kent, appearing to advantage and fully sustaining their reputation. A number of Palms and Ferns in pots helped to render the exhibit more attractive, while some healthy specimens of the pretty and effective Nicotiana affinis variegata were well worthy a note. Vegetables were remarkable by their entire absence from the exhibition tables.

FLOWER SHOW FIXTURES, 1895.

[The Editor will be greatly obliged if Secretaries will kindly forward the dates of their Society's Shows for inclusion in the following list as soon as fixed.]

FEBRUARY.

12.—R.H.S. Annual and Drill Hall Meetings.

MARCH.

12.—R.H.S. Drill Hall Meeting.
15, 16.—Flower Show in Manchester Town Hall.
20.—Exeter Hyacinth and Spring Flower Show.
20.—Royal Botanic Society's Spring Show.
26.—R.H.S. Drill Hall Meeting.

APRIL.

9.—R.H.S. Drill Hall Meeting.
9, 10.—Birmingham Daffodil Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24—Royal Botanic Society's Spring Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
25.—R.H.S. Drill Hall Meeting.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.

JULY.

6.—National Rose Society at Crystal Palace.
9—R.H.S. Drill Hall Meeting and Rose Show.
12.—Royal Botanic Society's Evening Fete.
17.—National Rose Society at Derby.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
24, 25, 26.—Newcastle-on-Tyne Summer Show.

AUGUST.

13.—R.H.S. Drill Hall Meeting.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.

NOVEMBER.

5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
6, 7.—Bromley (Kent) Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

BEDDING ARRANGEMENTS.—*Effective Bedding*: We think you have confused the present diagrams with the last one you sent. Bed No. 1 is evidently the one concerning which we gave you instructions last week, judging from the size and shape of it. The design you must remember was a complicated one which could not be carried out in No. 8. If you adhere to this arrangement and plant No. 1 in the way we recommended last week, then No. 8 may well be planted with yellow Begonias, having a double edging of Robert Fish Pelargonium and blue Lobelias. Then No. 7 may very well be occupied with Begonia sempervirens Vernon's var. with an edging of white Lobelia or Golden Feather. Think this over, and recall the diagram you sent last week. A good sized Agave americana variegata in the centre of No. 3, and planted round with other succulents of smaller size, would afford a change and answer very well. Tall plants should not be brought up too near the walk to interfere with the view of the beds behind. Nos. 4, 5 and 6 will answer admirably unless you reverse the orders of the colours in 5 and 6. This would leave you no bed for your scarlet Begonias, but when you have thought it over, the complicated design might be left out, and the scarlet Begonias placed in No. 1 with a double edging.

NAMES OF PLANTS.—*P. M.*: A remarkably small flower of Laelia anceps, but whether permanently small or not we cannot say.—*G. L.*: 1, Petasites fragrans; 2, Viburnum Tinus; 3, Garrya elliptica; 4, Libonia floribunda.—*A. S.*: 1, Sedum reflexum monstrosum; 2, Gaultheria Shallon; 3, Pernettya mucronata.

HOLES IN OLD TREES.—*Omega*: Clean out all dead material from the holes by means of a chisel or any other instrument you can work in the same. Then paint the surface of the wood thus exposed with tar. Fill up the holes with Portland cement, or with bricks and cement according to the size of the same. The object is simply to cover the exposed surface of the wood against the influence of rain and other atmospheric influences.

CUTTING OFF BRANCHES OF TREES.—*Omega*: If you cut the branches at some distance from the tree leaving a stump, the latter will die and cause decay in the stem, unless there may happen to be buds or smaller shoots on the stump to keep it growing. The best plan therefore would be to cut the branch close to the stem, and paint the scar or cover it over with a good coat of tar to keep out the wet. Under these conditions the wound will soon heal over if the tree is healthy.

COMMUNICATIONS RECEIVED.—J. T.—J. B.—W. S.—W. G.—C. H. (many thanks).—R. L.—W. C.—J. I.—W. M.

TRADE CATALOGUES RECEIVED.

LITTLE & BALLANTYNE, Carlisle.—Garden Seeds, Sundries, etc.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham.—Flower and Vegetable Seeds, Roots, Plants, etc.

HERD BROS., 47, King Street, Penrith.—Flower and Vegetable Seeds, Sundries, &c.

FOTHERINGHAM & KING, Corn Exchange, Dumfries.—Seed Catalogue for 1895.

KELWAY & SONS, Langport.—Seed and Plant Manual for 1895.

LAXTON BROS., Bedford.—Vegetable and Flower Seeds.

FISHER, SON & SIBRAY, Handsworth Nurseries, near Sheffield.—Vegetable and Flower Seeds.

J. CHEAL & SON, Lowfield Nurseries, Crawley, Sussex.—Seed List for 1895.

LONDON SEED TRADE.

January 15th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed market, Mark Lane, report a steady inquiry for Clover seeds at prices current last week. The moderate demand for White Clover is sufficient to maintain present values; the crop is proving very short. Alsike dull. Trefoil steady.

COVENT GARDEN MARKET.

January 16th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Melons .....each	0 0	0 0
Nova Scotia Apples per barrel	12 0	21 0	Peaches & Nectarines, per doz.	0 0	0 0
Cherries, per half sieve	0 0	0 0	Pine apples.—St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	20 0	21 0	Plums .....half Sieve	0 0	0 0
Grapes, per lb.	1 0	2 0	Strawberries, per lb.	0 0	0 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 9	1 3	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistra, per doz	18 0	42 0	Evergreens, Invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
,, gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Azalea.....doz. bchs.	6 0	12 0	Pelargoniums 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pink Roses...per doz.	3 0	6 0
Carnations...per doz.	2 0	3 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums, doz. blooms	2 0	6 0	Primula, double, bun.	0 6	0 9
,, doz. bunches	4 0	12 0	Roses, yellow, dozen	2 0	4 0
Eucharis ...per doz.	3 0	4 0	— Red..... doz. blms.	3 0	6 0
Gardenias 12 blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 6	0 9	Scarlet Geraniums, doz. bchs.	5 0	9 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Tuberoses, per doz	0 6	1 0
Lilac (French) per bch.	5 0	6 0	Violets (French) Parme, per bch.	4 0	5 0
Lilium Harrisii, doz. blooms	6 0	10 0	Violets (French) Czar, per bch.	1 9	2 0
Maidenhair Fern, 12 bns.	4 0	6 0	Violets (French) doz. bch.	2 0	4 0
Marguerites, 12 bun.	1 6	3 0	Violets (English) doz. bch.	1 6	2 6
Narciss (French) doz. bch.	4 0	6 0			

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Cutbush's Grand Novelties for 1895.

NEW CUCUMBER, BLENDWORTH PERFECTION,

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The Journal of Horticulture, Sept. 27th, 1894, p. 303, says:—"Mr. J. Bushy, gardener to Mrs. Long, Blendworth Lodge, Hants, sent Busby's seedling Cucumber, a cross between Lockie's Perfection and Beckett's Victory, fruits of excellent form and quality, and a First-class Certificate was granted."

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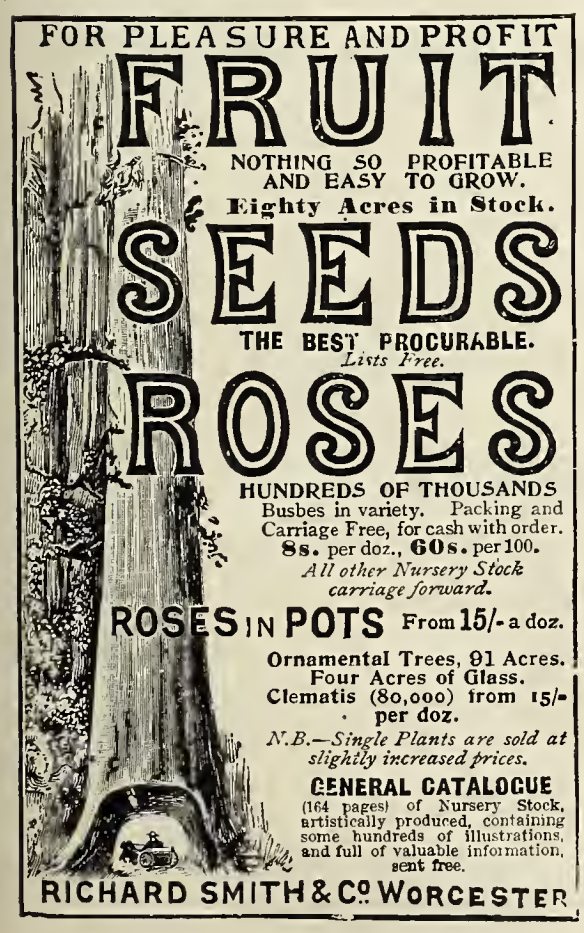

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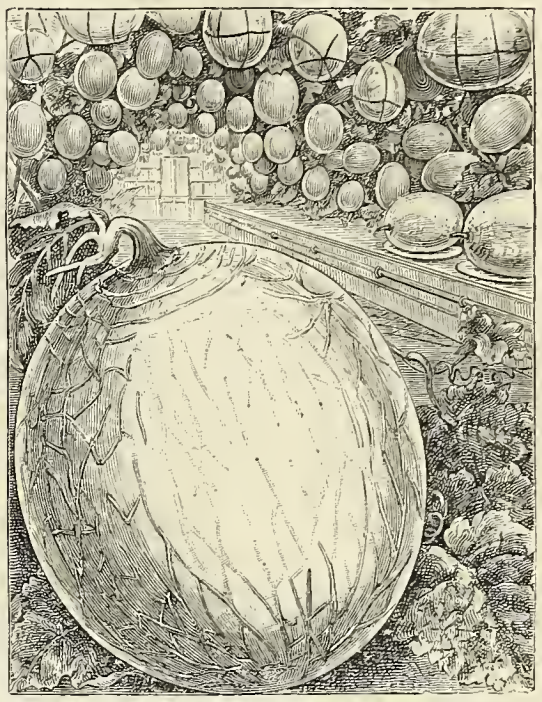

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 28th.—Sale of Hardy Plants, Bulbs, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, Jan. 30th.—Sale of Japanese Lilies at Protheroe & Morris' Rooms.

THURSDAY, Jan. 31st.—Sale of Bulbous and Tuberous Roots at Protheroe & Morris' Rooms.

FRIDAY, Feb. 1st.—Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, JANUARY 26th, 1895.

COLOURS OF FLOWERS.—Everyone, whether gardener or not, who has given some attention to the colours of flowers, cannot but have been perplexed at all attempts to name the hues of any given number of flowers with any degree of accuracy. One seems to get on well enough till notes are compared with any writer, whether learned or otherwise, or with the expressed opinions given from the mouth of a speaker; then the student finds his calculations all wrong and his notions of colour misconceived. The further the study is continued the more intricate the subject becomes, for it will be found that scarcely two individuals will have the same notions of colour, until one

begins to suspect whether or not there has been some defect in our elementary education. Doubtless the subject of colour is left to take chance amidst the many subjects that engross the attention during school hours. This neglect is doubtlessly based upon the assumption that the science of colour is altogether a secondary matter. Nevertheless it is a question affecting the interests of a considerable section of the community, and gardeners amongst the rest. To them it is of very considerable importance to understand their fellows when speaking of, or enquiring about flowers of which it is always important to know the colours. The question is continually cropping up and as constantly causing misapprehension.

In speaking of any given class of flowers how many are there, gardeners, or otherwise, who would coincide in opinion of such colours as blue, purple, crimson, red, pink and salmon? The reply may be that all are not constituted alike, that different eyes or different individuals see the same colours differently. That need not be denied; but whatever impressions the same colours might have on different eyes, if a uniform system of teaching, object lessons and demonstrations were adopted, it follows that the students would all apply the same names to the same hues, whatever the actual appearance presented to their eyes. The impression upon the nerves of the eye would always call up the same sensations, and the same train of ideas with regard to any given colours, that had been impressed upon them in school hours. Those people could hardly fail to understand one another in after life in the matter of colours; or to say the least of it, the chaotic confusion at present prevailing could not then exist.

The great number of colours which prevail in Nature is doubtless the primary cause of all the difficulty. A great authority on the subject has stated that a thousand hues could be distinguished in the solar spectrum under different quantities of light, and that by the addition or detraction of light with the addition of the purple hues, which do not occur in the spectrum, the sum total of hues would mount up to hundreds of thousands! Hue is the term for colour properly, and when we speak of its purity we imply that there is no admixture of white with it. When various proportions of white are mixed with a hue we get different tints, and when mixed with black in varying degrees then we get shades; when varying amounts of gray are added we get broken colours generally termed grays. Brightness, or luminosity is the third constant of colour and implies the total amount of light reflected to the eye. It is clear then that the number of colours which the human eye can detect is very great. At the same time the deficiency of colour-names in our language is notorious, and its inflexibility prevents us from coining new ones. It would seem to be a step in the right direction when such words as lilac, heliotrope, dahlia, auricula, pansy, aster, phlox, pomegranate, and plums are used to indicate colours; but even with such names, both gardeners and amateurs would often be puzzled to conceive what colours they are intended to indicate.

The above flowers might or might not be present, but they would only tend to confuse the student if they were. Turning to an English dictionary would afford but little help. There is no such colour as lilac mentioned, it is merely a plant cultivated for the beauty and fragrance of its flowers, which may be purple or white. But all of the above names are intended to indicate hues belonging to the group of purples, and as many as twenty are given by a maker of colour-names, all lying between the red and blue lines of the spectrum. The hues to be met with amongst the garden varieties of most of the above, are legion, so that the mere names are hardly capable of expressing any definite idea with regard to colour, particularly if the original, or wild form of the plant is seldom or never seen by the student of colour. In certain cases, several hues or shades of purple may be present in the same flower, all ultimately blending with one another.

Should the student resort to the microscope, it will hardly help him, for in many cases, that instrument will show a number of colours in different parts of the same flower, or in contiguous cells, or the hues may be mixed or apparently so in the same or different cells. The question at issue is to apply a name to the combination produced, and as it appears to the naked eye, Yellow, orange and brown, rarely blue, are confined to corpuscles of the protoplasm of greater or less size and density. White, violet, blue and red, (rarely yellow), are dissolved in the cell sap. Physiologists tell us that all colours are originally derived from chlorophyll, that they are green at first and change their hues as the flower expands or the fruit ripens. In the leaves of the purple Beech, Hazel, Plum and Peach, chlorophyll and purple cell sap are both present, and are dissolved colouring matters probably derived from tannin and allied substances, all waste products of the protoplasm; but often of indirect use to the plant. A feasible solution of the question at issue would seem to be a book containing 500 or 1,000 illustrations of the more common hues to be met with in Nature. A small amount of text explanatory of each hue, and references to plants or flowers, in which the colours might be matched would also be essential, so that students might be able to grasp the subject pretty clearly without the aid of a teacher. A book on that principle published at a cost which would bring it within the means of the people at large, ought to find a ready sale, and might tempt some enterprising master or masters of colour and lithography to produce. Surely it would tend to reduce the chaos at present existing with regard to the naming and description of colour.

Royal Gardeners' Orphan Fund.—The annual general meeting of the supporters of this fund will be held at the Cannon Street Hotel, E.C., on Friday, February 8th, at 2 p.m., when an election of six children to the benefits of the fund will also take place.

The Late Dowager Duchess of Montrose's collection of Orchids at Sefton Lodge, Newmarket, has passed into the hands of Messrs. John Cowan & Co., Garston, Liverpool.

Royal Botanic Society.—At a meeting of this society, held recently in the gardens at Regent's Park, a suggestion by Mr. Rubenstein was considered as to the admission of the public to the gardens on payment, and at the conclusion of the proceedings the suggestion was put to the vote, and lost by a large majority.

Messrs. Hurst & Son's Cricket Club.—A meeting of this newly-formed cricket club, of which N. N. Sherwood, Esq., is President, was held at 152, Houndsditch, on Saturday last, fifty members being present. Any London seed trade clubs having open dates for next season are invited to correspond with the Secretary, Mr. W. Riden, or the Captain, Mr. S. N. Sampson, as fixtures for next season are now being arranged.

Royal Botanic Society of Manchester.—The Council of this Society have resolved to hold a great exhibition of Lilies in the gardens at Old Trafford to open on the first Monday in August next (Bank Holiday). This being the first special exhibition devoted to the Lily, it is expected that a very special interest will be excited, and it is requested that all interested in this important floricultural demonstration will communicate at once with Mr. Bruce Findlay, Royal Botanic Gardens, Manchester.

A Millionaire's Modest Garden.—Adjoining the modest home of Mr. Cornelius Vanderbilt, the New York millionaire, just completed and opened at the corner of Fifty-seventh Street and Fifth Avenue, and built at a cost of £1,000,000, is the most expensive garden for its size in the world, for, although it is only the size of an ordinary city lot, the sum of £70,000 was paid for it, and a house which had cost £25,000 to build was torn down to make room for a few flower beds.

Technical Education in Horticulture.—Under the auspices of the Scottish Horticultural Association a series of lectures on "Plant Life" will be given in the Lecture Hall of the Royal Botanic Gardens, Edinburgh, by Dr. Smith, on January 31st, February 7th, 14th, 21st, and 28th, and March 7th. On March 14th and 21st Mr. James Grieve, Pilrig Nurseries, Leith Walk, will discourse on "Hardy Florists' Flowers"; and on March 28th and April 4th Mr. Hugh Fraser, Leith Walk Nurseries, will conclude the series with lectures on "American Plants."

Death of an old Florist.—We have to record the death on the 18th inst., of Mr. John Morris, who for nearly thirty years was the manager of Messrs. Pope & Sons, King's Norton Nurseries, near Birmingham. In his early life he was employed in the old Handsworth Nurseries, which half-a-century since was a famous nursery owned by Messrs. Pope, but about forty years since the ground was wanted for building purposes, and therefore ceased to exist. Mr. Morris was in good health up to a week before his death. He went to see a son, who was very ill during the severe weather, and caught a chill which brought on congestion of the lungs. His death is a source of much grief to a very large number of his old friends, for he was greatly esteemed.

Shirley Gardeners' Improvement Association.—At the monthly meeting held on the 21st inst., Mr. B. Ladhamp presiding. The lecture was supplied by the Hants County Council, the subject being "Hardy Fruit Culture with Special Reference to Diseases," and the lecturer, Mr. C. W. Herbert Greaves. Suitable soils, planting, manuring stocks, fungoid diseases, and destructive insects were all referred to in turn. A discussion followed, especially with reference to the lecturer's remark, that canker is caused by the canker fungus, Nectria ditissima. A hearty vote of thanks was accorded the lecturer on the proposition of Mr. E. Molyneux. Some excellent Orchids were exhibited by Mr. W. Peal, gardener to Miss Todd, Shirley.

Liverpool Horticultural Association.—The annual dinner of this Society was held on the 12th inst., at the Adelphi Hotel, under the able Chairmanship of Mr. Fletcher Rogers, Treasurer of the Society. The muster proved a most interesting one, as 115 sat down to an excellent dinner. After the cloth was cleared, the loyal toasts were given, which were followed by "The Associatisn," "Horticultural Trade," "The Chairman," "Our Entertainers, &c.," in which the Chairman, Mr. R. W. Ker, Mr. T. Foster, Mr. Thos. White, and Mr. A. G. Davies took part. The musical portion of the entertainment was of a most gratifying nature, which made the evening far too short. The Chairman announced that the balance for the year was well on the right side, and gave promise of better things in store.

Von Moltke as a Gardener.—The great delight of the famous Field-Marshal was gardening, and for hours together he was to be seen in an old straw hat and a gardener's holland suit handling the pruning-knife or the gardener's scissors. Once when on a visit to his brother-in-law, Major von Burt, at Blasewity, near Dresden, the news had got about that the great strategist was staying there. A stranger, seeing one who seemed to be an old gardener in the grounds, asked him when would be the best chance of seeing Moltke. "Oh!" said the gardener, "about three o'clock." Whereupon the stranger gratefully gave his informant a mark. What was his surprise when, on returning in the afternoon, he saw the field-marshal—the old gardener of the forenoon—surrounded by his friends. Moltke held up his hand; "Ah! I have got your mark."—*Fortnightly Review.*

Brighton and Sussex New Horticultural and Mutual Improvement Society.—The annual meeting of this flourishing young Society was held on the 17th inst., the president, Mr. J. M. Kidd, being in the chair. From the statement of accounts submitted by the treasurer, Mr. Billing, it appeared that the subscriptions in 1894 amounted to £138 2s., and the members' fees to £75 5s., while the cash taken at the doors on the two days of the Spring Show amounted to £103 9s., on the two days of the Summer Show to £300 13s., and on the two days of the Chrysanthemum Show to £303 7s., tickets to the amount of £64 17s., being sold previously to the last-named show. The most considerable item of expenditure was of course the prize money; a balance of £162 os. 10d. being left in hand. In moving the adoption of the report, the president expressed the opinion that the very handsome balance was due in a great measure to the shows. Friends of his had remarked to him that the shows held last year had been the best which had been seen in the town, and if only the Society would keep up the prestige of the exhibitions, and would offer such prizes as would induce important horticulturists at a distance to compete, he felt quite sure that the towns-people would support the Society. Mr. Kidd was re-elected president; Mr. Balchin, Junr., chairman of committee, Mr. Cheal, vice-chairman, Mr. Billing, treasurer; and Mr. Johnson and Mr. Rupert Miller were unanimously elected hon. secretary and assistant secretary respectively. The following gentlemen were added to the committee: Messrs. Longhurst, Wickham, Thwaites, Meachen, Howse, and Coleman.

FLORIST PYRETHRUMS.

The value of these hardy herbaceous plants can hardly be over estimated either for flower border decoration or for use as cut flowers. Where these are required in quantity, special provision should be made for these plants, which will do well in any light soil, and where soils are heavy and retentive the little extra outlay incurred in rendering them suitable for the growth of these elegant plants will be well repaid. Being thoroughly hardy they need no protection, and from the end of May till late in the summer, they give a supply of flowers beautiful, and well adapted for vase and table decoration, resembling Asters and having a wide range of colours among them, from the purest white through various shades of pink, rose, crimson, scarlet and purplish crimson; there are also shades of yellow. As cut flowers, there is one great point in their favour, we mean their durability, few summer flowers equal them in this respect, and no others give a larger supply considering the space they occupy. Their average height is from twenty to thirty inches; we have seen some exceed this under very high cultivation, but two feet is the general limit. A good plant standing out by itself, with its elegant fern-like foliage in full flower is a beautiful object, and as they do well grown in pots, and come in handy at times for indoor decoration, either in rooms or conservatories, we would commend this course to those having soils of unsuitable character in which to grow them in the open. Plants in any size pot from four inches up to twelve will succeed, and any ordinary potting soil which is free and open, will answer their requirements. Plunge these up to the rim in a bed of ashes, give weak manure water when in active growth and stake out the flower stems neatly. By this means a supply of plants in flower of no mean merit will be available for use at any moment which have entailed a minimum of labour as compared with many certainly not more beautiful.

They are propagated by division of old stools just as growth is recommencing in the spring. They can be either reduced to single growths or moderate sized pieces according to the stock required. The small pieces will do well in large thumb's and others in sizes in proportion, Till these get established, the shelter of a cold frame, where they can be protected against heavy rain and shaded when necessary, ought to be afforded them till fresh roots are formed. April, or early in May is the best time to make new plantations. Those who have to procure a supply from the nurseries should secure plants well established in pots. Having the ground deeply dug or trenched and well manured, mark out the places for them at twenty to twenty-four inches apart; see that the balls of the plants are quite moist, and if at all hard loosen them. This gives the plants a chance of taking hold of the fresh soil quicker than they otherwise would. Frequent stirring of the soil, and watering when required is all the attention necessary during the first season. They will flourish in the same spot for several years if a mulching of short manure is put on to protect them from over dryness during hot weather and then lightly forked in during the autumn or winter; but to maintain them in the highest development, fresh plantations should be made every three or four years.

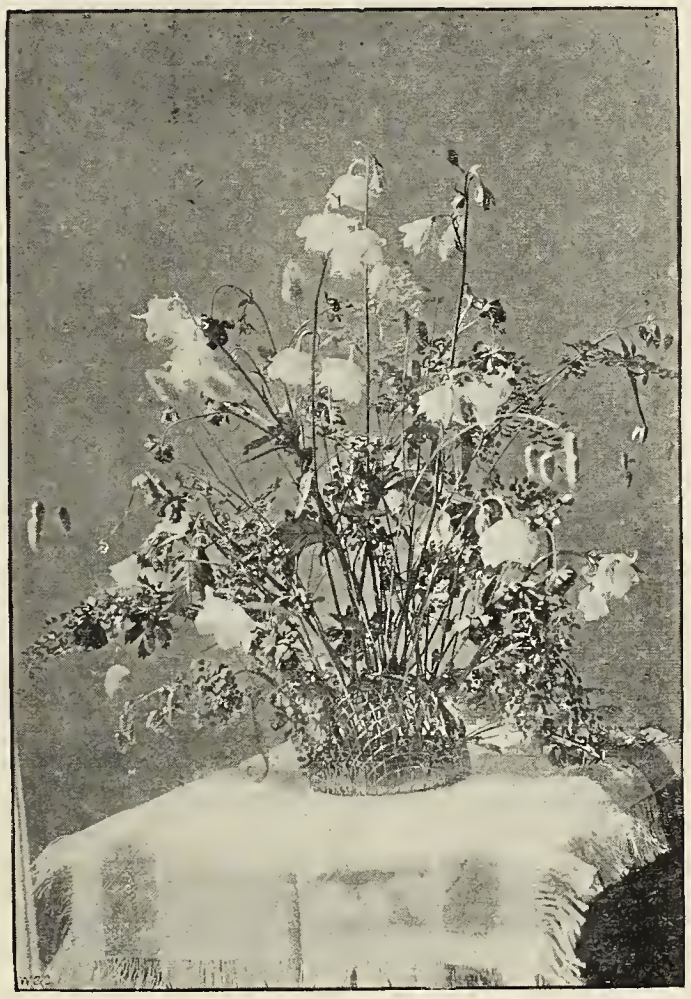
They are readily raised from seed and those who like to have varieties of their own raising, can do so by procuring seeds. These sown in pans in the spring and potted off singly, may be planted out during the early summer or kept in pots till the spring of the following year; but as the named varieties are so moderate in prices and there is so much uncertainty about the quality of seedlings, the purchase of plants is generally the most satisfactory plan. We give names of some of the very best of both single and double for the guidance of those unacquainted with them.

Doubles.

Herman Stenger, rosy-lilac, centre petals finely quilled.
King Oscar, crimson-scarlet, fine formed flower
Aphrodite, pure white, extra good.
Captain Nares, deep purplish, crimson, distinct.
Iturbide, bright purplish carmine, white and rose centre.
Leonard Kelway, rose.
Marquis of Bute, deep rose pink.
Wega, yellowish pink extra.

Singles.

Princess Irene, pure white.
Beatrice Kelway, cherry rose.
Hamlet, rich pink, fine form.
Tasso, bright vermilion, extra.
Duke of Connaught carmine.
Octavia, rosy pink.
Sherlock, vivid crimson scarlet, grand.—*W. B. G.*



Teneflos: a New Flower Holder.

TENEFLOS.

This name, compounded of two Latin words, practically means flower-holder, and as will be seen from the accompanying illustration, the article which has been so named, is simply a device for the easy and quick arrangement of cut flowers that are to be kept in water. The device was designed by Mrs. Felix Jones, of Llanfylling, North Wales, and holds the flowers in position without the cumbrous agency of sand or moss, one or other of which has been used by some people, possibly for generations past. Teneflos is practically a semi-globular wire cage, with a flat disc in the interior, consisting of square meshes of wire, whereas the meshes of the convex dome are lozenge shaped. The structure is intended to be put in a bowl, vase, or other vessel containing water, with the flat face down and the convex surface uppermost to receive the flowers. The convexity enables the flowers to be inserted at all angles which may be desired: and by pushing the stalks through the meshes of the flat disc, they are kept from shifting. The whole arrangement of flowers may be lifted out intact, while fresh water is being supplied. The wire structure may be entirely hidden by flowers, and the accompanying illustration, for which we are indebted to Messrs. Wm. Hutchinson & Co., Trafalgar Buildings, Charing Cross, W.C., is merely intended to show the principle on which the flowers may be arranged. Teneflos is made of two sizes, and the wire is painted green, to prevent it from corroding in the water. The whole is very simple, and very effective.

VEGETABLES FOR WINTER.

It goes without saying that it takes a thoroughly good exponent of the art of vegetable growing to keep up a continual supply of vegetables the year round. Of course, with this delightfully changeable climate of ours occasional failures are not always the entire fault of the cultivator, and a certain proportion of what some people call "luck" enters largely into the question of failure or success in vegetable culture. Wire worms will attack Carrots; the dreaded Peronospera infestans will prey upon Potatos and Tomatos; and the frost will play havoc with green stuff let the gardener take what precautions he may.

During the winter and early spring months, therefore, it often becomes a matter of considerable difficulty to keep the kitchen pot boiling. The kitchen authorities are apt to lose sight of the fact that it is winter, and clamour for variety in vegetables. The careful gardener will have thought about this, and will therefore, have made his preparations as complete as circumstances have permitted to render the supply as efficient as possible. A good stock of various roots must always be a principal feature in any preparations for the supply of winter esculents. These when stacked neatly in the storehouse are always get-at-able, and are, of course, not subject to the vagaries of the weather. But after a few weeks of this fare, a little discontent with its sameness and a consequent desire for something fresh is the natural result.

It is a favourite theme with some old experienced gardeners, that given a good size patch of Brussels Sprouts and another big stretch of Seakale, there will be no lack of vegetables in plenty during winter. There can be no doubt whatever about the important part that these two subjects play in the winter's vegetable supply, as from their splendidly hardy constitution, wintry weather seems to exercise but little effect upon them. After a hard winter, however, the period of the greatest scarcity of available esculents usually comes in the earlier months of

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne, F.R.H.S. Price, 1s; post free, 1s. 1½d., from the Publisher of the Gardening World, 1, Clement's Inn, Strand, W.C.

spring, when, after the winter's run upon the stock of green stock, good material of this kind becomes scarce. Broccoli, although much appreciated as a vegetable, is not exactly the subject to which a gardener can with security trust, although we have now some comparatively hardy varieties, like Sutton's Late Queen, that will pass through an ordinary winter fairly well and yield a good percentage of heads.

Roots, as the year advances, deteriorate considerably in quality as well as being lessened in quantity. Celery that will stand the winter wonderfully well up to a certain point starts to rot off wholesale. Seakale, too, goes out of season, and that, of course, is equivalent to saying that the cook does not want to see any more of it. Kales from which the heads have been taken are exceedingly slow in starting to grow, at least, so the gardener thinks who is at his wits' end to satisfy the call for green stuff that never seems so urgent or so pressing as when there is nothing to supply the demand. Accordingly, the forcing of vegetables is an absolutely necessary operation, and happy is the gardener who is well supplied with suitable conveniences for the same, as small quantities of these help considerably to lighten the burden of worry that is pressing so heavily upon his shoulders.

French Beans.—The forcing of these under glass has become almost as common and matter of course an occurrence as the growing of them outside in the ordinary way. There can be no doubt but that as an early spring vegetable they meet with manifest appreciation to such an extent, indeed, that the cook in continually asking for more is apt to forget that it is not yet summer time. It is, therefore, extremely fortunate for the gardener that the forcing of French Beans in fair quantity is a comparatively easy and simple operation. As good reliable sorts suitable for forcing purposes, Osborne's Forcing and the Ne Plus Ultra will be found to give great satisfaction. Seven-inch pots are a handy size to grow them in, and the soil should consist chiefly of good loam, a little leaf soil being added to take away part of its pasty character. When the plants have reached a sufficient size, they should be roughly staked to prevent their lopping over the sides of the pots. Beyond this, but little trouble will be given—the great thing being to give an abundance of water, as niggardliness in this respect will often lead to an attack of the much dreaded red spider, which evinces such a particularly strong desire to make the acquaintance of the plants. A liberal use of the syringe is needful, as this will also serve to keep the red spider in check—an important consideration where Beans are being grown in the same house along with other subjects, such as Melons, Cucumbers, Strawberries, etc.

Asparagus.—Great as are the quantities of this much sought after esculent which are grown year by year, it is very seldom that we hear of people getting at all tired of it. Accordingly, where the gardener decides on forcing some, it is advisable that he should decide whether he is able to keep up the succession or no, for if not, he will do wisely not to commence at all. As many gardeners are able to state from experience, once Asparagus is sent into the kitchen, it is almost impossible to satiate the demands for it. The crowns must be lifted with great care so that the injury sustained by them may be as little as possible. The quickest and safest way of obtaining good heads is to make up a hot bed, having a temperature of about 65° Fahr., on which may be placed a few inches of leaf soil. Pack the crowns closely together on this and cover them lightly with fine soil. A frame should be placed over the whole and kept close until the growths are showing pretty freely; when a little air may be given to impart a little colour to the young heads.

Mushrooms.—These, while they are greatly appreciated at all times, are especially so during the months of winter and spring, and there is no reason why they should not be obtainable, as nothing is easier to grow, although, like all other plants, they have their little likes and dislikes that must perforce be attended to if success in their treatment is aimed at. Where a plentiful supply of fresh horse droppings can be had the great difficulty is over, and it only remains to manipulate this material in the proper manner. Before making up a bed, the material must be well prepared by several turnings so as to thoroughly incorporate the old material with the new. To catch the right time for spawning the beds when the temperature is at 85° Fahr. and declining, and afterwards to maintain a moist and equable atmospheric temperature in the house of 55° are the keynotes of success in the cultivation of this coveted esculent. It must not be supposed, however, that the lack of a house specially set apart for Mushroom growing is sufficient to debar any one from growing them on a small scale, for we have seen as good Mushrooms picked from a box standing in an old wine cellar as from the beds of the most elaborately constructed of houses.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Amongst Orchids exhibited at the Drill Hall on the 15th inst. the undermentioned received awards according to merit from the Royal Horticultural Society.

Cypripedium Norma, *Nov. hyb.*—This hybrid was derived from C. Spicerianum crossed with the pollen of C. Niobe, itself a hybrid, and the progeny is intermediate between the two as well as partaking of the characters of the parents of the pollen bearer. The upper sepal is remarkably revolute at the sides in the lower half, and white suffused with rose, with darker veins, a dark purple midrib, and green at the very base. The petals are declinate, wavy on both edges (which are yellow), brown on a yellow ground, and yellow at the base, dotted with brown. The lip is large, inflated, squarish, very bold, and deep brownish-purple, edged with yellow. The staminode is flesh coloured with a purple band across it. The upper revolute sepal forcibly recalls that of C. purpurea, and is strikingly beautiful, as is the whole flower. Award of Merit. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Minosa superbum, *Nov. hyb.*—The seed parent of this hybrid was C. Spicerianum, and the pollen bearer C. Arthurianum. The upper sepal is of large size, greenish-yellow densely marked with small brown spots; the apex is white with a cluster of purple spots, and a broad white margin extends down the sides. The drooping petals are strongly undulated on the upper edge, brown and yellow at the base, closely spotted with brown. The lip is of a deep shining brown with a yellow edge and claw. The wavy character of the petals are largely derived from C. Fairieanum through the pollen parent. This in a measure bespeaks its beauty, and the marbled upper sepal and the bright brown of the rest makes the whole flower a gem of the first water. Award of Merit. Exhibited by Messrs. J. Veitch & Sons.

Cypripedium Mrs. Fred Hardy, *Nov. hyb.*—The parents of this hybrid are C. superbiens and C. bellatulum, the former being the seed parent, though the progeny has a strong resemblance to the latter in many respects. The upper sepal is nearly orbicular, white, marbled with purple in lines, and shaded with purple in the centre. The oblong slightly declining petals are white, with a faint tint of green and thickly spotted with blackish-purple. The lip is creamy-white, lined and suffused with purple near the mouth, and spotted on the claw. Altogether it is very distinct and beautiful. Award of Merit. Exhibited by Messrs. F. Sander & Co., St. Albans.

Cypripedium J. H. Berry, *Nov. hyb.*—The seed parent in this case was C. Harrisianum superbum, and the pollen bearer C. concolor. It takes the colour of the former and the form of the latter, and has a massive appearance. The upper sepal is orbicular, and deep brownish-purple with a whitish edge. The petals are broadly spathulate, and of a lighter brownish-purple. The lip is more intensely purple, and greenish at the lower end of the pouch. The leaves are oblong, deep green, and slightly marbled with a darker shade. On the whole it is a large and bold flower. Award of Merit. Exhibited by Messrs. F. Sander & Co.

Cypripedium Madame Georges Truffaut, *Nov. hyb.*—This was derived from C. ciliolare crossed with C. Stonei, after which it takes very largely. The upper sepal is large, ovate, elongated, and of a pale rosy hue with numerous deep purple veins. The drooping petals are 4 in. to 5 in. long, yellowish-green, spotted and warted with black; but towards the apex it deepens to purple with larger spots, almost covering the surface. The large lip is dark purple and shining. The leaves are of the C. Stonei type, and the tall scape bears two or more flowers. It is a handsome Cypripedium. Award of Merit. Exhibited by Messrs. F. Sander & Co.

Dendrobium Bursigerum album, *Nov. var.*—The species was described by Lindley in 1859, and was introduced from the Philippine Islands in 1882. The habit of the plant is similar to that of D. secundum, having stout stems with small flowers arranged in dense horizontal spikes, with the flowers all directed to the upper side, they are white with a yellow lip. Botanical Certificate. Exhibited by Messrs F. Sander & Co.

Laelia anceps Crawshayana, *Nov. var.*—The flowers of this grand variety are of great size, and the vigour of the plant may be guessed at since the scape was 2½ ft. high, and bore five flowers of great size. The sepals are oblong and rosy, while the obovate-elliptic petals are slightly darker. The edge of the tube of the lip is dark purple, and the lateral lobes more intensely so; the large terminal lobe is even richer in hue. The interior of the tube is yellow and lined with dark purple. It is an acquisition to the long list of named varieties of the popular L. anceps. First-class Certificate. Exhibited by De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks.

Maxillaria ochroleuca.—The flowers of this species are moderate in size, with linear pale yellow sepals fading to white at the base. The petals are shorter, but otherwise similar. The basal portion of the lip is white mottled with purple, the side lobes edged with that hue, and the terminal lobe is orange. Botanical Certificate. Exhibited by Messrs. F. Sander & Co.

Dendrobium dicuphum.—The pseudo-bulbs of this pretty Australian species are fusiform, varying from 6 in. to 12 in. high, and leafy at the top where the scapes arise. The latter are drooping, slender, and bear a one-sided raceme of small flowers. The sepals are oblong, acute, and white. The spreading petals are obovate-rhomboid and white. The side lobes of the lip are purple, the rest white. The flowers may be described as small but very pretty. Botanical Certificate. Exhibited by Sir Trevor Lawrence, Bart. (gardener, Mr. W. H. White), Burford Lodge, Dorking.

Dendrobium Wattianum.—This species belongs to the same group as D. eburneum and D. infundibulum, but has slender stems about 18 in. high. The flowers are produced one or two together at the top of the stems. The sepals, petals, and lip are white, but on the latter is a median orange band, with a small blotch on either side of this and united with it in the throat. The terminal lobe of the lip is deeply lacerated, but the side lobes less so. Botanical Certificate. Exhibited by Sir Trevor Lawrence, Bart.

Cypripedium Henry Graves, *Nov. hyb.*—The parentage of this hybrid was C. Lawrenceanum and C. Marshallianum, the latter being the pollen bearer. The upper sepal is ovate and suffused with a rosy shade on a white ground; the central veins are greenish, the rest rose, and the margin white. The oblong horizontal petals are slightly twisted, rosy, thinly dotted with black, and shining as if varnished. The lip is pale purple except at the lower end of the pouch, which is tawny-yellow. The leaves are broad and tessellated with deep green on a lighter ground. The shining petals make this variety very conspicuous. Award of Merit. Exhibited by Henry Graves, Esq., Orange, New Jersey, United States, America.

Cypripedium Madame Jules Hye, *Nov hyb.*—The upper sepal of this hybrid is very large, nearly orbicular, and white, suffused with pale rose, and has a deep vinous midrib. The broad petals are oblong and browish-green, with a purple midrib. The huge lip is inflated; purple, and shaded with green in front, and yellowish at the edge; the claw is paler purple and spotted. The staminode is deep purple with a white edge. The parents of the plant have not been stated, but C. Spicerianum seems to be one of them. It is certainly a bold and striking flower on account of its massive build. Award of Merit. Exhibited by M. Jules Hye-Leysen, 8, Le Coupure, Ghent, Belgium.

Cypripedium nitens superbum, *Nov. var.*—The upper sepal of this pretty variety is broadly ovate, yellow, shining, and richly blotched with brownish-purple, which gives place to clear purple blotches at the top; the apex and sides are white. The petals are spathulate, shining, and brown. The lip is of a clear shining brown with yellow edges. The upper sepal is undoubtedly the finest feature of this attractive variety. Award of Merit. Exhibited by Walter Cobb, Esq. (gardener, Mr. Howse), Dulcote Park, Tunbridge Wells.

Odontoglossum nebulosum candidissimum, *Nov. var.*—The sepals of this variety are white with a few faint tawny blotches at the very base. The petals are even purer with similar spotting. The lip has an orange band across the base of the terminal lobe with a few orange spots on the crest. The spots so characteristic of the type have almost disappeared from this fine variety. Award of Merit. Exhibited by Fred Hardy, Esq., Tyntesfield, Ashton-on-Mersey, Cheshire.

Cypripedium Boissierianum.—This belongs to the Selenipedium group, and has similar long channelled leaves and numerous flowers on a stem. The upper sepal is greenish-yellow with purple lines and a white edge. The petals are greenish-yellow with a rosy-band on each side of the midrib and white edges, they are also much twisted. The lip is green with brown spots on the claw. Botanical Certificate. Exhibited by Thos. Statter, Esq. gardener, Mr. R. Johnson), Stand Hall, Manchester.

THE VEGETABLE GARDEN.

Sowing and Planting.

When the ground is sufficiently dry to work upon, sowing and planting may be commenced. It is, however, far better to keep off the land so long as it is at all sticky. Peas will be one of the first to demand attention. The thoughful cultivator will have made due preparation for sowing these by reserving a piece of ground so that it may be dug and sown at the same time, for if it has been previously turned over, the late frost will have caused it to become pasty on the surface, and not at all in a fit condition to work upon. If dug and sown as the work proceeds much valuable time will be saved, and the soil will be in a more fit condition for the reception of the seed. The varieties most suitable for sowing now are Gradus, Daisy, Duke of York, Sutton's Early Marrow, Chelsea Gem, Exonian, and American Wonder. Where convenient, cover the rows with pieces of glass, as this will prevent the heavy rains from beating down the soil, and will to some extent absorb the heat from the sun's rays, thus causing the seed to germinate more freely. Marrow Peas, as a rule, absorb more moisture than round seeded kinds, therefore, if the rains can be kept off, there is less risk of them becoming soddened or rotting through excess of moisture. Do not sow too deeply, from three quarters to an inch being ample.

On warm borders that have not been dug, a sowing of Carrots, Radishes, and Turnips may be made as digging proceeds. This cannot be too deeply impressed on those who have heavy land to contend with, for if such were dug up in the autumn and allowed to remain so through the winter, it will now be so soppy that it would be with great difficulty worked upon. Much pressing work will soon be at hand, therefore, all that can be done now ought to receive attention. Many seeds may be sown in pans, boxes, or on hot-beds, and such should receive attention when the weather is unfavourable for out-door work. Onions, for an early supply, may be sown in pans or on slight hot-beds, and when large enough to handle should be pricked out. Sowings made in pans do not always receive the attention they require, as they are allowed sometimes to get dry, thus giving the young plants a check which often causes them to go to seed prematurely. When seeds of this class are sown thus early, they need careful attention and constant watchfulness to prevent them either becoming drawn or over crowded. No plants can make satisfactory progress unless they have plenty of room both for the roots and foliage to develop. Onions being gross feeding plants need particular attention in this respect. The ground on which it is intended to finally plant them should be dug the first favourable opportunity (if this work is not already done) in order that the soil may be settled down before the time arrives for planting. A liberal dressing of lime should be given where the soil is at all deficient of this useful element. Soot may also be added, which will be found beneficial to the crop when growing. Some are apt to make mistakes in growing too many summer vegetables, not affording room for those that have to keep up a supply through the winter.

Seakale in some places is thought much of, while in others it is seldom asked for, and when sent in is not used. Where, however, this useful vegetable is in request, the sets can be prepared during bad weather, and if covered with some decayed leaf soil to exclude frost and keep them moist until such times as the ground is in a fit condition for working, much valuable time will be saved, for new buds will have formed on them which will render them more easy to plant. Winter Spinach with some is one of the chief vegetables, therefore it will be necessary to have a good breadth of this to keep up a supply; while with others Asparagus is more sought after than any other. Where this is the case a good sized plot of ground will be necessary to grow sufficient roots for lifting. Asparagus is by no means difficult to manage, but as it takes two years to grow the crowns large enough for forcing, it is not always possible to afford sufficient ground for that purpose. Where, however, the forced Asparagus must be had, some of the summer crops must give place to produce the roots. We sometimes see it recommended to sow Brussels Sprouts in heat; few people, however, care for these so long as Peas, French Beans, and Cauliflower are to be had; it is therefore better to occupy the space that would be taken up with growing the plants with something needed more pressing, as these can be had quite soon enough if sown in the open ground.—*Kitchen Gardener.*

THE FLOWER GARDEN.

When a thaw sets in after a few days sharp frost, especially if the ground was in a wet condition previously, some little time should elapse before working upon the ground is attempted. Gravel paths too are apt to "pick up" rendering it anything but comfortable walking upon them. As soon as the frost is well out of the ground, therefore, the roller must be passed over them several times to keep them in something like condition. Where it is proposed to re-dress walks, the top surface should be first broken up, rolled, the new material placed upon the top and the whole given repeated rollings until the necessary firmness has been attained.

As soon as the soil has dried somewhat the planting of deciduous trees and shrubs may be proceeded with. Where it is intended to make plantations of roses, and with a view to this intent the ground has been prepared during autumn by liberal additions of manure and thorough trenching, planting may be conducted as soon as thought fit, and carried out to a finish, if the weather still continues mild and favourable; whilst established plants may be attended to for pruning. In the southern counties the pruning and nailing of wall subjects may also be commenced, as where there is much of it to do a great deal of time is called for. In the northern districts, however, it is not advisable to commence too early.

Where the autumn planting of Pinks and Carnations is practised in preference to the methods of wintering them in pots in cold-frames, the plants must be looked over, and in the event of their being lifted partly out of the ground should be pressed back into their proper place once more. The planting of anemones also may now be performed, as well as any Narcissi that have hitherto been passed over.

Seeds of the tender Annuals that were collected last autumn must be looked over and cleaned, as it will soon be time to sow them, more especially those which need to be placed in heat to germinate. They should therefore be neatly done up in packets and be correctly labelled so as to be easily found when required, thus saving a good deal of valuable time and perhaps not a little trouble later on.

FRUIT UNDER GLASS.

Vines.—The earliest pot Vines will now be setting their fruit. Thinning should therefore be commenced whilst the berries are in an early stage, when the operation is much more readily performed, for if left until the bunches have become crowded the danger of "pricking" is considerably increased. Such shoots as are sufficiently advanced should be stopped at a couple of joints beyond the bunch so as to throw the vigour of the plant into the work of swelling the berries. Syringings will now, of course, be out of the question, but the requisite moisture must be maintained by the aid of copious dampings down. The night temperature should range between 65° and 70° Fahr., rising to 80° or 85° in the day by sun heat. The other houses in which the buds are just commencing to break evenly may be lifted from their horizontal position before the shoots get long enough to endanger them in the removal, and tied in their permanent positions. The night temperature here should be about 57° Fahr., the usual routine of syringings and dampings being still kept up. Houses that have not yet been started must be aired freely on all possible occasions.

Peaches and Nectarines.—As the flowers continue to expand they should be gone over with the pollenising brush daily, choosing the middle of the day as the best time for operating. As soon as the trees have set for fruit the regular morning and evening syringings must be again commenced. Disbudding must also receive careful attention, but must be gradually performed, first removing the gross growing superfluous shoots. As the foliage expands, it is above all things necessary to see that too hard forcing is not practised, or too stuffy an atmosphere allowed, or the leaves will be weak and thin in texture. Plenty of air, of course, avoiding draughts, is an absolute necessity if clean and healthy foliage is desired.

Figs.—Plants in pots which are swelling their fruit will need careful attention with regard to water, and where the trees are carrying good crops manure water may be given occasionally with great advantage. A sharp look out must be kept for the appearance of bug, which usually infests the plants to a greater or less degree, and usually makes its appearance at this stage of their growth. The temperature here may now range about 65° by night, rising to 75° or 80° by day. a moist and growing atmosphere being always maintained.

Strawberries.—Batches of these which were early introduced into the heat will now be in flower. A little assistance may be given these forward subjects to set their fruit by going over them once or twice with a camel's hair brush. Other plants which are being brought on must have the syringe kept vigorously at work among them to keep the foliage clean and free from the attacks of red spider, which is ever so partial to the Strawberry. The water supply must also receive careful consideration.

Melons and Cucumbers.—The fermenting material which is to be used in making up the beds for these should be turned twice or thrice before using, two or three days being suffered to elapse between each turning. In making up the beds the material used must be trodden as firmly as possible, for as decomposition proceeds the bed is sure to sink more or less—an undesirable proceeding to say the least of it. It is therefore necessary to reduce the probable sinking of the bed as much as possible, and this can best be accomplished by firm making up. The seeds may be sown singly in thumb pots, a bottom heat of from 75° to 80° being essential to quick germination. Pot the seedlings on as soon as they are large enough into 60-sized pots, and keep them near the glass until they are ready for planting out, taking care to afford them support if necessary.

HARDY FRUIT GARDEN.

Continue the pruning and nailing of wall trees, weather, of course, permitting, so as to get the work completed before the swelling of the buds renders the operation somewhat dangerous. Where the ground is in good condition the planting of young trees may take place on a prepared situation. Standard Apple trees, although not in need of anything like a liberal use of the pruning knife will also need a little attention. The pruning of these, however, should be restricted to the removal of cross branches, or of those of too gross growing a character which run away with the strength of the tree that ought to be otherwise utilised in the production of fruit. Branches of this kind should, therefore, be cut clean out; the wounds being subsequently dressed with tar to preserve the tree from the action of the weather. Remove all prunings to the rubbish heap as soon as circumstances permit, as nothing gives a place a more untidy appearance than to leave them lying strewn about in everybody's way.

Strawberries.—Plantations of these may now be given (if they have not already had during the past autumn) a dressing of well rotted stable manure. Fork this in between the rows, but take care not to disturb the roots any more than can possibly be helped. The manuring and trenching of pieces of ground which it is decided to devote to the culture of Strawberries must be taken in hand without delay, or their planting will, as a natural result, be very late.—*A. S. G.*

A RAMBLE THROUGH SNOWDONIA.

In pursuance of a request that I should continue my observations on "A Holiday Trip to North Wales," I venture, with some diffidence, to meet that intimation in the present paper. As, however, Snowdon itself has already been "done," and described more or less particularly in a former issue; I will now merely take up the thread of comment where the silken cord was snapped, and endeavour, as it were, to re-unite it, and to weave together the delicate mesh until, so far as this ramble is concerned, the whole is properly presented.

Well, then, on the morning of Saturday, the 15th September, I bade *au révoir* to the snug little hostelry at Rhyd-ddu, in the vicinity of the great mountain, where I had passed the night somewhat restlessly, after the fatigue of the day before. The cause of this restlessness, however, was due principally to the fact that the soft, sweet, silvery queen of the night was all aglow with splendour; and in consequence thereof small, but noisy parties of admirers kept calling up to an early hour. But neither the "queen of the night," nor the lady of the inn, were the sole objects of these nocturnal visits—it was the prospect of a climb up Snowdon with a view to see the sun rise.

The effect of a moonlight night is always grand, but in the mountains and valleys it is exquisitely fine:

"When not a breath disturbs the deep serene,
And not a cloud o'ercasts the solemn scene."

So these parties who were so full of excitement and clamour at last got away, and by the aid of the "full orbed moon" ascended the mountain in quest of Phoebus and his "watery steeds." After noting the situation of this interesting alpine hamlet and its extensive views, I started off in the direction of Beddgelert, down the beautiful vale of Colwyn. As I proceeded, the morning mists became less and less apparent; the sun shone forth with renewed vigour, the sibilant stream added so largely to its volume that it ceased to produce that peculiar sound like the pronunciation of the letter s; the dewdrops sparkled like pearls, taking on irridescent hues "that blushed and glowed like angel's wings."

In a word, all nature seemed to rejoice, and the "great cathedrals of the earth, with their gates of rock, choirs of stream and stone," invited inspection and produced delight. But to the flora. Here, growing by the roadsides, were Ferns in abundance, and in variety; Mosses also found a place, while flowers were represented by Foxgloves, Yarrows, Hardheads, Scabious, St. John's Worts, Heaths, Gorse, etc., and a thousand others not in bloom.

Here is a bit of wild nature—mountains on either side—and there a picturesque old wall furnished with Ferns, mostly the common Polypody, the Wall-rue, and the Hard Fern. A little further, the gnarled roots of Ash and Beech are likewise clad; while higher up the mountain sides the Heather still glows bright with beauty.

Here one is brought face to face with Nature, which is so wondrous that, if it were transferred to canvas in all its colour and detail, the uninitiated would retort "preposterous."

Now we have come to Beddgelert, *i.e.*, the grave of Gelert, the last of the Welsh kings. We linger on the bridge awhile and let our fancy free; then we go towards the rocky pass of Aberglaslyn, which, for its bold outline and scenic effects, is said to be almost unequalled in Wales.

After this has been appropriated we return to Beddgelert, thence passing along the outskirts of the village we enter the Vale of Gwynant, and thus come into touch with more scenery and more splendour.

Ere we leave the bee-hives of the people, we notice the plants in the windows and the climbers on the walls. Primula obconica, Zonal Pelargoniums, Myrtles, Fuchsias, native Ferns, and such like things seem to thrive and look happy; while here and there the crimson tints of Veitch's Virginian Creeper produce such a glow of colour, that the glamour thereby begotten produces such an effect on the sight that the eyes see other things fairer than they really are.

Although the conditions here are very favourable to gardening, that inevitable source of relaxation and relief from cankerous care, the art does not seem to be very much in vogue, as, doubtless, the majority of the inhabitants are otherwise engaged, and the mines and the quarries absorb an undue share of their time and attention.

A rise in the road now brings one suddenly in view of Llyn Ddinas, a beautiful lake, situated in the midst of the most charming surroundings. Here, upon its placid waters, some fishermen are pursuing the peaceful pastime of the piscatorial art. Peaceful it may be to the man of the rod, but peaceful it can hardly be to the victims at the other end.

Birds, bees, butterflies, etc., disport themselves in the sunshine and the air, while the fish that are not taken, and the waterfowl no less enjoy themselves in the denser element. The Meadow Sweet is still in bloom, and the Ferns do most luxuriate.

Athyrium filix-foemina attains grand proportions, and Blechnum Spicant, with its two distinct fronds, calls forth exclamation. The fertile fronds attain a height of some 3 ft., while the barren ones spread out their drooping arms in admirable array. The size and deep glossy green colour of the male fronds is very noticeable, and the contrast between these specimens and those of 2,000 ft. elevation is very marked. Nature seems to delight to confuse subtle distinctions, for between these two extremes every variation may be found. At this season the reverse of the fronds is also interesting, as they are covered with indusia, which contain the spores, which constitute the fruit, the germ, and future plant. Their russet and golden tints supply the place of flowers, and, judging by the number and freedom with which these spore cases are produced, they are, at least in this neighbourhood, likely long to survive the depredations of their worst enemies—excursionists. These spores or seeds were, in former times, supposed to possess supernatural virtues or powers, and to be capable of rendering persons invisible. It is to this peculiarity that Ben Jonson refers when he makes one of his characters in the *New Inn* say:

"I had
No medicine, sir, to go invisible,
No *Fern seed* in my pocket."

As these spores are microscopical, and therefore invisible to the naked eye, it is only a quaint conceit to push the illusion sufficiently far, so as to embrace the professor himself.

Above, the bright blue dome of the firmament may be compared to a huge Campanula rotundifolia, which canopies over all. The limits of our vision—the horizon—corresponds to the corolla, and although the contents within this charmed circle represent but an infinitesimal area of the earth's magic, yet these things constitute a microcosm—a little world, full of sights and sounds which the eye can only dimly see and the ear can only feebly hear.—*C. B. G., Acton, W.*

(*To be coninued*).

PALMETTO ASPARAGUS.

My attention has been directed to a paragraph in your issue of the 12th inst. regarding a "New American Asparagus," and for the information of Mr. Hamilton and others whom the subject may interest, I beg to state that I had the Palmetto Asparagus sent to me by Messrs. Peter Henderson & Co., Seedsmen, of New York, in both plants and seeds. It is certainly the finest variety I ever saw, growing up to 10 ft. high, and thick in proportion. It has been admired by everyone who has seen it growing here, and I should advise all who require Asparagus to give it a trial, as I am confident it will please them.—*J. Clark, Wemyss Castle Gardens, Fifeshire.*

[Our correspondent sends a specimen of the Palmetto Asparagus, consisting of a portion of the base of the stem, cut apparently during the season or possibly when the stems were cut down in autumn. After being partly dried and shrunk it still measures 1⅛ in. in diameter one way and over ¾ in. the other, being slightly compressed. If the quality of this giant Asparagus is as good as the old varieties we have been cultivating, it must become immensely popular in a few years, because it will give a good return with the smallest amount of trouble in cultivation. Being a vigorous grower, respectably-sized stems will be produced without any special care or treatment. The good cultivator would nevertheless be specially rewarded.—Ed.]

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gadens, Chiswick; Secretary of the Fruit Commitee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, Gardening World, 1, Clements Inn, Strand, W.C.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were exhibited at the meeting of the Royal Horticultural Society on the 15th inst., and received awards according to merit:—

Primula Giant Rosy Queen.—This beautiful variety of the Chinese Primula belongs to the fern-leaved type, but the leaves are shorter and more compact than the usual run of that group. The flowers are of large size, and of a soft rosy-pink with a very large five-angled, orange eye. The variety is very distinct in general character from most of the other giant varieties, and is a decided acquisition to winter flowering plants. Award of Merit. Exhibited by Messrs. Sutton & Sons, Reading.

Cyclamen Salmon Queen.—The flowers of this beautiful new strain are of a bright salmon intensifying to a chocolate or crimson hue at the mouth. The variety is new to cultivation, and, therefore, a great acquisition to the ordinary C. persicum type and to horticulture. The foliage is also beautifully netted and good, and the constitution of the plant is as good as that of any other variety. Award of Merit. Exhibited by Messrs. Sutton & Sons.

Rose Mrs. Pierpont Morgan.—The flowers of this variety when in perfection are very double and measure 4½ in. in diameter. The central petals are arranged in the form of a cone, giving a beautiful bud-like appearance, while the outer petals (which are broad), become beautifully revolute at the edges. This was the case with cut flowers brought directly from America and exhibited in public after having been in full bloom for twenty days. It is a sport from Madame Cusin, and in every respect superior to that variety in vigour and in the beauty of the flowers, which are of an intensely bright cerise. Dean Hole says it is the finest and most perfect Tea Rose he has ever seen. Its form, fragrance, and colour, will recommend it to all rosarians. The foliage is said to be more massive and the plant more prolific than its parent. Certificates have been granted it in America, and on this occasion it received an Award of Merit. Exhibited by Mr. J. N. May, Rose grower, Summit, New Jersey, U.S.A.

Chrysanthemum L Canning.—The strong recommendation which this variety possesses is that the flowers are pure white and useful at least for cut flowers in mid-winter and the early part of the year. It is a Japanese variety with long spreading florets, quilled at the base, broad and flat or revolute at their edges above the middle. The stems are 3 ft. to 3½ ft. high, and bear an abundance of blossom at the top. Award of Merit. Exhibited by Mr. Owen Thomas, The Royal Gardens, Frogmore, Windsor.

Chrysanthemum Jeanette Sheaham.—This is a sport from Princess Blanche, a Japanese variety, and when in its prime is of a bright yellow with more or less interlacing or twisted florets. It is useful for late work, and though it has been in bloom for some time will remain in bloom and in a useful condition for a month yet. The stems are 2½ ft. to 3 ft. high, and bloom freely on the top. Award of Merit. Exhibited by Mr. D. Sheaham, Hartfield Road, Wimbledon.

Lachenalia quadricolor maculata. — Only flowers of this beautiful variety were exhibited by F. W. Moore, Esq., Royal Botanic Gardens, Glasneven; but from the name we should imagine that the stems or foliage, or both, are unusually spotted or blotched with purple. The usual name given to the variety (judging from flowers alone) is Lachenalia tricolor quadricolor. The flowers are greenish-yellow, and the short outer segments are tipped with green, while the much broader and expanded tips of the inner segments are deep purple, and give to the variety a distinctive and characteristic beauty which cannot be overlooked nor mistaken. First-class Certificate.

Rhododendron ponticum foliis purpureis.—As a matter of course the large bush of this variety shown was only in leaf, as might be expected at this season of the year. Whatever the flowers may be like, the leaves are of a dark bronzy-purple above, rather shining and slightly tinted with purple on a pale green ground beneath. This is the characteristic of the plant, at least, in winter. First-class Certificate. Exhibited by Messrs. Paul & Son, Waltham Cross.

SALSAFY AND SCORZONERA.

SALSAFY (Tragopogon porrifolius) and Scorzonera hispanica are pretty generally associated together in the minds of those who cultivate them, and are old vegetables which have been long known and were formerly more extensively grown than at present. Although not much appreciated by some who prefer Parsnips, they both make very good and useful second course vegetables, and there are many who are very partial to them as such, so that all who have to supply large families with a variety of vegetables at all seasons should keep up a supply of these simply-grown things, which will often come in as an extra dish when a choice for that purpose is somewhat limited. It should also be borne in mind that they are available for use from six to nine months in the year. A plant or two of Scorzonera aid in any odd corner will give a supply of its really pretty deep yellow flowers which will often come in handy among other hardy flowers for cutting, and is really a better thing for the purpose than some things grown for a supply of cut flowers.

The same course of culture is suitable for either crop with one exception, this is, that owing to Scorzonera being more prone than Salsafy to run to seed, it should be sown at least two weeks later. Any good garden soil, which is both rich and deep, and has been well worked and pulverised and heavily manured for the previous crop, will, if trenched and thrown into ridges during the winter, yield a better and more succulent crop of roots than if the ground is only dug one spit deep. From the beginning to the middle of April is a good time to sow. Have the ground forked down on a dry day, and the rake passed over it; then draw the drills one foot apart. Salsafy should be sown thinly, and Scorzonera rather thickly. We say this because in our experience the seed of Scorzonera in a general way does not germinate so freely as Salsafy.

When the plants appear above ground, thinning out should commence, the plants being left at from 6 in. to 9 in. apart. This, if taken in hand in time, may be done with one of those handy little hoes known in market gardens as Carrot hoes. With these tools all crops in their seedling stage can be set out in a third of the time it will take to single them out by hand, and it presents the additional advantage of not exposing the young plants left to the drying influences of both sun and wind at the root, which often follows upon the disturbance of the soil when hand-pulling is resorted to. Frequent hoeings and stirring of the soil to keep down weeds and aërate the soil is all the after cultivation required.

Should the ground set apart for this crop require manure in order to secure straight, well-shaped roots, it will be necessary to trench it and bury the manure well down, so that the tap root runs down straight into it, for should the manure be dug in and mixed with the top spit, very few useful roots will be had, as most of the produce resulting from this proceeding will be forked, ill-shaped bunches of roots utterly useless. When they have completed their growth the roots can be lifted and laid in thickly in any spare corner, as being very hardy no frost will harm them. Care should be taken when lifting the roots not to break or bruise them more than can be well avoided, as they bleed so easily, and this occasions loss of flavour.—*W. B. G.*

THE LATE MR. WILLIAM THOMSON.

SPEAKING at the annual friendly dinner of the Gardeners' Royal Benevolent Institution on Thursday of last week, Mr. Harry J. Veitch alluded in sympathetic terms to the losses which the Institution had sustained by death since their previous meeting, and specially referred to the late Mr. William Thomson, who had been a subscriber for forty-seven years, and who throughout that long period of time had ever been one of the Institution's warmest supporters. He bore, said Mr. Veitch, a revered and honoured name in the horticultural world, and was a man whose private life and public work conferred honour on the whole gardening community.

The remains of the great gardener, the world-famed horticulturist, of whom we are enabled this week to give a portrait prepared from a recent photograph, were interred in the afternoon of Wednesday of last week, in the burial ground at Caddonfoot, in the presence of a large number of private friends and representatives of horticulture from various parts of the country, including a deputation from the Royal Caledonian Horticultural Society.

THE LATE MR. WILLIAM THOMSON, OF CLOVENFORDS.

The chief mourners were:—Mr. John Thomson, only surviving son; Messrs. William and Herdman Thomson, grandsons; Mr. David Thomson, nephew; Mr. Herdman, Southside; Mr. William Stirling, Assessor, Galashiels; Mr. Walter Elliot, Hollybush; and Mr. E. Bruce, his only brother, Mr. David Thomson, of Drumlanrig, being unable to be present on account of ill-health.

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

STOKING.

WHILE the majority of gardeners will admit readily enough that it only comes in the right and proper order of things that the youngest hands should have the roughest and most menial jobs to perform, and while they will take upon themselves the task of comforting those younger than themselves in a patronisingly exasperating sort of way, assuring them that they will get to be head gardeners presently, when they will have a fine easy time of it, very many are exceedingly slow to take a dose of their own "grin and bear it" sort of physic when their turn comes to go on stoking for the week or for whatever time the needs of the establishment of which they are a part require. These would-be comforters do not take to the harness any more kindly than those younger members whom they have been so fond of solacing.

Looking all round we question very much if there is anyone operation among the many disagreeable ones that the gardener is called upon to perform that is so universally in disfavour as that of stoking. And, indeed, we do not wonder at it, for it is necessarily a work in which a too great regard for cleanliness of person cannot be entertained successfully for very long. But these conditions are aggravated to a tremendous extent where incompetent or badly set boilers are in use. In the former instance the stoker has to work doubly as hard as he would need to do were the boiler a sufficiently competent one to keep up the requisite heat, in the latter case he has to work just as hard under even greater difficulties.

Many of the stokeholes one meets with, too, are anything but palaces. Badly made in the first instance perhaps, the dust and dirt of years have been suffered to accumulate at its own sweet will until the stokeholes have become *holes* in every sense of the word. Where such a condition of things obtain it is not very wonderful that most young men do not care about disturbing much of this venerable filth, which, if removed from its ancient lodging place by the too inquisitive wielder of the fire shovel, often becomes so at the expense of the latter person's ears, and throat, and nostrils. Then again for six months of the year at any rate the thermometer during the night does some curious things in the way of long journeys. Perhaps at banking-up time it may stand over 40° Fahr. with no suspicion of frost in the air, and by morning register 8 or 10° of frost, to the no small dismay of the fireman who has been trusting to the continued mildness of the weather, and as a result of his too fond dependence finds his temperatures all awry in the morning.

To learn to stoke well is no easy matter, even when the heating apparatus is of the best and is in thorough working order. It usually takes practice to become proficient, for nothing but experience can teach the novice how to work the fires of which he may have charge with the most advantage to the houses they are appointed to heat, and with the greatest ease and comfort to himself. It must be first of all impressed upon the mind of the stoker that cleanliness should be his motto. It is useless to expect a fire to draw well if the flues are filled to overflowing with soot, which may be used to far

greater advantage as a manure, or the ash pit choked full of ashes. Besides, it is not fair to a man's fellow-workmen who have to follow him on duty for them to find the laws of cleanliness so grossly neglected. What can be more provoking to the relief man, who sees a sharp frost imminent, to find his fires slumbering peacefully under the soporific influences of ashes and clinkers. Who could wonder greatly if the language of such a sorely tried individual, towards stoking in general and that exponent of it who had preceded him on duty in particular, was not more expressive than polite. It is just such little circumstances as these that make a naturally unpleasant job still more distasteful, and this in a greater degree than there is any necessity for. If gardeners would insist on the stokeholes being kept clean, a plentiful supply of fuel always maintained, and the flues and ash pit of the boiler kept free from soot and ashes, there would be fewer complaints about the difficulty experienced in keeping up sufficient heat.

Whenever a sharp frost threatens it is very important that the fires should be started away early enough in the afternoon, so as to get the water nicely hot by night-time. It is, moreover, a very great mistake to leave any turning on of heat that may be necessary until banking-up time. A lot of cold water thus turned on when the fire is in a great measure checked cannot fail to be attended with a serious lowering of heat all round, and thus there is generally a hurried scramble in the morning to drive the temperatures up to their required height. This reckless driving of the fires cannot fail to produce that greatest of all evils in our plant houses, a parching uncongenial atmosphere that is extremely deleterious to plant life, and is accountable to a very considerable extent for the weak, sickly looking appearance of the inmates of some plant houses. The importance of judicious stoking, and the bearing it has upon the welfare of the plants themselves, cannot be too strongly impressed upon all young gardeners who have in the course of their professional career to attend to the fires in their turn.—*An Old Stoker.*

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The annual general meeting of the subscribers to this Institution was held at "Simpson's," 101, Strand, on the 17th inst., the Treasurer, Mr. H. J. Veitch, presiding. The minutes of the previous annual meeting having been read and confirmed, the Secretary, Mr. G. J. Ingram, read the following report and statement of accounts for the past year:—

"In submitting the fifty-sixth report of the Gardeners' Royal Benevolent Institution, the committee have the satisfaction of again congratulating the members and subscribers on the continued prosperity of the work which has now been carried on with such signal success for the past fifty-six years, and has been the means of conferring year by year an increasing amount of benefit upon a most worthy class of society, who have been compelled to seek aid from the funds of the charity.

"The committee have much pleasure in stating that the annual festival dinner, held in June last, was most successful. They desire to acknowledge their great indebtedness to Sir Julian Goldsmid, Bart., M.P., who presided on that occasion, and whose able advocacy of the claims of the Institution and personal liberality conduced in a very large measure to the financial result which was attained. The committee also desire to tender their hearty thanks to those gentlemen who acted as stewards, as well as to those friends who, either by gifts of flowers and fruit or in other ways, contributed to make the festival a success.

"During the past year fifteen pensioners have passed away. The committee have therefore decided to recommend an addition of fourteen pensioners to those now on the books, eight of whom they ask the subscribers to place on the fund without the trouble and expense of an election, they having fulfilled the conditions of Rule III. 5, the remaining six to be elected in the usual manner. It is with much regret that the committee feel themselves unable to assist a larger number of candidates, the more so as the list of those seeking election is the largest on record in the history of the Institution. They deeply deplore the fact that there must be at least thirty-six unsuccessful applicants whose claims, urgent though they are, cannot be met. If 'hope deferred maketh the heart sick,' then there must necessarily be a number of heart-sick ones who will be compelled to wait on before that aid which they so much need can be afforded. The committee therefore very earnestly appeal for more support and increased effort on the part of their friends; and they would specially plead with those for whose benefit the Institution was founded to do all they can, not only to help the Institution themselves, but to urge its claims upon all those with whom they come into contact, and who are interested in horticultural pursuits.

"The committee believe that the Institution and its aims are becoming more widely known and better appreciated, and they have noted with much satisfaction that a keener interest appears to be taken in its work than heretofore, as indicated by the recent correspondence in the columns of the horticultural Press. They take this opportunity of thanking their well-wishers, and trust that all who have the well-being of the Institution at heart will redouble their exertions on its behalf.

"With the full sanction of the committee, and in order to increase the resources of the Institution, the trustees decided to sell out the sum of £20,000, forming part of the invested funds of the Institution, and reinvest it in guaranteed securities bearing a higher rate of interest. They have, therefore, taken up the above amount in London and North-Western Railway Three per Cent. Debentures, Midland Railway Three per Cent. Debentures, Great Indian Peninsula Five per Cent. Guaranteed Stock, and Manchester Corporation Three per Cent. Stock. This will give an increased income from dividends of about £50 a year.

"At the last annual meeting the committee had the satisfaction of announcing that an auxiliary had been formed at Bristol for Bristol, Bath, and neighbourhood, with the view of making the objects and claims of the Institution better known. They now have much pleasure in stating that similar auxiliaries have been started at Birmingham, under the presidency of the Right Hon. the Earl of Dudley, and at Wolverhampton under that of C. T. Mander, Esq. (Mayor). At both towns successful inaugural meetings have been held, which were addressed by the treasurer of the Institution and the secretary. Very heartily do the committee thank those gentlemen to whose efforts the formation of these branches are due, and they cordially invite communications from friends in other parts of the country who are willing to help in establishing these local adjuncts to the Institution, which they believe will tend to promote its interests.

"Like other charities, the committee feel the effects of the commercial depression under which the country is passing, and the consequent cessation of many annual subscriptions which had been regularly remitted for many years. Then again, they have to deplore the loss of several warm friends and supporters by death, foremost amongst whom may be mentioned the late Earl Grey, who had been for a long period a contributor to the funds of the Institution. It is difficult to fill the places of these friends, but it is a matter of much congratulation that a number of new annual subscribers have been obtained during the past year, which will in some degree compensate for the financial loss sustained.

"The committee have also to express their deep regret that, in consequence of advancing years, their revered and esteemed Chairman of Committee has been compelled to resign that important office. Mr. John Lee has fittingly been described as the father of the Institution. For upwards of fifty years he has taken the warmest interest in its welfare. He has been indefatigable in his exertions on its behalf, and he has had the satisfaction of witnessing its progress and prosperity year by year.

"At a General Committee held on December 21st last, the following resolution was unanimously adopted:—'That the committee sincerely regret the necessity for Mr. Lee's resignation, and they desire unanimously to place on record their grateful acknowledgment of the very great services rendered by him to the Institution during more than fifty years, but more especially during the long time he has acted as chairman of the committee, and they express the sincere hope that Mr. Lee may yet be spared many years to continue a member of the committee and to give them the benefit of his mature judgment.'

"It was naturally a task of much difficulty to obtain a successor to Mr. Lee. The committee, however, after much consideration decided to approach Sir Alexander Arbuthnot with a request that he would join their body and accept the position vacated by Mr. Lee. They now have the pleasure to announce that Sir Alexander Arbuthnot has very kindly consented to join the committee and occupy the post of chairman.

"The committee would add that the Gardeners' Royal Benevolent Institution is the only charity of its kind in the United Kingdom, and that, though its centre is in London, the benefits it dispenses are not limited merely to the area of the metropolis, but are extended to and embrace all parts—England, Scotland, Ireland, and Wales. They do not, therefore, put forward the claims of a charity the usefulness and importance of which have decreased, but for an Institution which, after a period of fifty-six years' existence, is more than ever regarded as an inestimable boon by those assisted from its funds upon whom old age, sorrow, and misfortune have fallen."

On the motion of Dr. Masters, seconded by Mr. R. Dean, the report and accounts were unanimously adopted, and the best thanks of the meeting were accorded to the committee for their able management of the affairs of the Institution during the past year. On the motion of Mr. B. Wynne, seconded by Mr. G. Wythes, Mr. H. J. Veitch was again unanimously re-elected treasurer, and cordially thanked for his past services on behalf of the Institution. On the motion of Mr. B. Wynne, seconded by Mr. Osborn, Mr. H. J. Cuthush, Mr. H. Williams, Mr. A. Watkins, and Mr. J. J. Sexby, were re-elected members of the

GARDENERS' ROYAL BENEVOLENT INSTITUTION, STATEMENT OF ACCOUNTS FOR THE YEAR, 1894.

Dr.

	£ s. d.	£ s. d.	£ s. d.
To Balance	...		936 16 4
„ Annual Subscriptions	...	1,302 19 4	
„ Donations	753 2 9		
„ „	379 19 5		
„ Income Tax refunded by Commissioners	2 14 5		
„ Collecting Cards	186 2 0		
		1,321 18 7	
„ Advertisements in Annual List	44 19 6		
„ Dividends on Investments and Interest on Deposits	792 11 2		
		837 10 8	
			3,462 8 7
			£4,399 4 11

* Invested Funds:—
2¾ per cent. Consols, £5,000.
India, 3 per cent. stock, £2,664 19s. 10d.
Midland Railway, 3 per cent. Debenture Stock (Silver Wedding Thank-offering Special Fund), £479 10s.
Great Indian Peninsula Railway, 5 per cent. guaranteed (cost £5,062 19s. 9d.), £3,000.
London & North Western Railway, 3 per cent. Debenture, £5,000. (Cost £5,363 8s. 6d. stock.)
Midland Railway, 3 per cent. Debenture Stock, £5,000. (Cost £5,365 4s. 9d.)
Manchester Corporation, 3 per cent. stock, £4,054 12s. 9d. (Cost £4,133 6s.)
On Deposit, £1,400

* In the names of the Trustees.

Cr.

	£ s. d.	£ s. d.	£ s. d.
By Pensions and Gratuities	...	...	2,710 2 5
„ Secretary, Salary and Honorarium for extra services	...	220 0 0	
„ Rent of Offices	...	62 10 0	
„ Office Assistance	...	20 0 0	
„ Expenses of Annual Meeting and Election	...	15 19 0	
„ Collecting Boxes	...	27 18 0	
„ Printing, including Annual Report and List of Subscribers	...	129 4 0	
„ Stationery, &c.	...	21 0 0	
„ Expenses of Annual Dinner	166 1 4		
Less Tickets sold	73 10 0		
		92 11 4	
„ Cost of Appeals	...	19 10 4	
„ Expenses of Transfer of Stock	...	3 7 6	
„ Postages. Deputation Travelling, and incidental Expenses	...	74 2 6	
			686 2 8
„ Placed on deposit at Bankers	...	...	100 0 0
„ Balance, viz.:—			
With Treasurer at Bankers	...	902 10 10	
With Secretary	...	0 9 0	
			902 19 10
			£4,399 4 11

We have audited the accounts for the past year, and are pleased to report that we found the books in perfect order and well kept.

(Signed) Thomas Manning. J. Willard. T. Swift.

committee for the next four years; and Sir Alexander Arbuthnot and Mr. George Norman were elected to take the places of Mr. Arnold Moss and Mr. George Woodgate, who retired. The arbitrators, Messrs. Buck, Crane, Gold, Higgins, and Jack, were re-appointed; and on the motion of Mr. A. Watkins, seconded by Mr. J. Hudson, Mr. G. J. Ingram, was unanimously re-elected secretary. Mr. George Munro then moved, and Mr. A. Watkins seconded, "That, in accordance with Rule III. 5, and upon the recommendation of the committee, who have investigated each case, the following eight candidates, viz., R. Vertegans, of Birmingham, aged 68 years, nurseryman, annual subscriber of £1 1s. for twenty-five years, and a contributor of £7 7s.; J. Lemmon, of Chichester, aged 67, gardener, annual subscriber of £1 1s. for eighteen years, and a contributor of £21; C. H. Fearenside, of Boultham, aged 61, gardener, annual subscriber of £1 1s. for twenty-five years; Charles Harris, of Manchester, aged 68, gardener, life member for fifteen years; H. Parsons, of Foot's Cray, aged 65, gardener, annual subscriber of £1 1s. for eighteen years; M. Reed, of Abbots Langley, aged 69, gardener, annual subscriber of £1 1s. for fifteen years; Susan Ridout, of Reigate, aged 61, widow of John Ridout, gardener, who was an annual subscriber of £1 1s. for twenty-two years, and a contributor of £63; and Eliza Burrell, of Esher, aged 78, widow of Edward Burrell, a gardener, who was an annual subscriber of £1. 1s. for twenty years; be placed on the list of pensioners without election from December 31st last." This was also carried unanimously.

The meeting was then made special for the election of six candidates by ballot, and Messrs. B. Wynne, John A. Laing, G. Monro, and James Webber were elected scrutineers. At the close of the poll the scrutineers declared the result as follows, the first six being elected:—James Clarren, Birkenhead, 2,824; Clara E. Brown, Birmingham, 2,188; Henry Fielder, Surbiton Hill, 2,261; Thomas Thomas, Croydon, 2,735; Robert Petitt, Bury St. Edmunds, 2,024; Emma A. Ivery, Dorking, 2,500; John Collier, 769; Thomas Bundy, 711; David Cornell, 356; Hester Falconer, 1,608; Ambrose Minty, 364; John Pearcy, 1,569; Eliza Webb, 1,033; Thomas Bannister, 1,765; Robert Begbie, 519; Thomas Cawley, 1,463; William Croshier, 1,200; Samuel Hicks, 109; Joseph Monk, 513; Joseph Shearn, 1,130; Charles Smith, 1,213; J. Akehurst, 70; H. C. Allman, 10; George Ashby, 542; W. Bishop, 1,139; S. Chinery, 1,506; W. Dean, 864; F. W. Durrant, 1,006; J. Field, 1,142; George Fletcher, 1,033; Eliza Gardner; 95; Elizabeth Hepburn, 514; Rachel Jefferson, 560; William Lee, 1,022; James Lonsdale, 855; S. Pickstone, 1,004; W. Rose, 369; Annie Smith, 23; John Thomas, 28; Caroline Wood, 492; Henry Wood, 1,560; and W. Wood, 596.

In the evening the usual annual friendly dinner took place under the presidency of Mr. George A. Dickson, of Chester, who, in proposing "Success to the Institution," remarked that while last year's balance sheets, generally, were not of a particularly satisfactory character, it was gratifying to know that those who were responsible for the management of the affairs of the Institution had been able to hold their own. They had been able to pay more in pensions than ever before, and he sincerely hoped they would go on and prosper from year to year. They would all have been glad if more pensioners could have been elected that day, but their resources did not permit of their going further than they had done, much as he felt sure their friend Mr. Veitch would have liked to sign cheques for all whose names appeared on the balloting list. He congratulated the Committee on the re-investments which they had made of a portion of their funds, believing that it was a wise and prudent step in the interest of the Institution, and also on the establishment of branches in various parts of the country. Referring specially to what had been done at Birmingham and Wolverhampton, he expressed the hope that ere long they would have other branches even further north. The retirement of Mr. John Lee from the office of Chairman of the Committee, which he had held for over half a century, was an event they could not pass over without feelings of deep regret, and they would all sincerely sympathise with him in the severe domestic affliction which prevented him from being present among them that evening to receive the handsome address on vellum which had been prepared for his acceptance, and which he, the Chairman, felt assured would be a source of gratification to him for the remainder of his days. The beneficial operations of their old Institution extended over a wide area, and deserved wide support, and it especially behoved those for whom the Institution was specially destined to benefit to do all they could in its behalf by subscribing themselves, and by inducing their employers to do so also. No man could tell what misfortune might befall him before the end came, and it behoved all to do what they could in making provision for the proverbial rainy day.

In responding to the toast, Mr. Veitch paid a warm eulogium to the services rendered to the Institution by Mr. John Lee, whose great age rendered it impossible for him to carry on the onerous duties of Chairman any longer. He had seen the Institution grow from very small beginnings into its present splendid position, and had really been the father of the Institution for more years than any of them could remember. In their new Chairman, Sir Alexander Arbuthnot, they would have the advantage of the abilities of a gentleman who had gained a wide experience in India, who was now a a member of the Indian Council in London, and who from his love of gardening would be a sympathetic friend of the Institution.

Other toasts followed, including "The Chairman," "The Officers and Committee," and "The Secretary," and the pleasures of the evening were greatly accentuated by an excellent musical and vocal programme.

NOTICES OF BOOKS.

THE CHRYSANTHEMUM YEAR BOOK FOR 1895.—Issued by the National Chrysanthemum Society. London: E. W. Allen, 4, Ave Maria Lane, E.C.

This little book of 88 pages has been prepared at the request of members and friends of the National Chrysanthemum Society, and contains a large and varied amount of information relating to the Chrysanthemum and its cultivation in different parts of the world. The writers of the various articles are residents, or have been for some time, in the several countries, to which they refer when writing of the Chrysanthemum. A great deal of it refers to various aspects of the Chrysanthemum in this country, including Scotland; but America, Japan, Australia, and Italy are also taken into account, and some of the subjects dealt with are illustrated. A monthly calendar of operations for amateurs who undertake the cultivation of incurved varieties may prove serviceable to those who have not yet undertaken or succeeded with this rather troublesome class.

The information from different parts of the world will, however, be acceptable to the bulk of the Chrysanthemum growing fraternity. The methods of cultivation, and the peculiar customs of the Japanese in relation to their favourite flower must excite the interest of many. Public competitive shows are almost unknown in Japan, showing that the Japanese must naturally be very enthusiastic, otherwise the culture of the Chrysanthemum could hardly be carried on to such an extent as it is. The fact of the Imperial Crest having been modeled from a Chrysanthemum may have something to do with it. Strange to say, Avalanche, Stanstead White, and other popular varieties here do not succeed in Australia. Mrs. Alpheus Hardy is a failure there as well as elsewhere, except in the more inland and colder parts of Australia, where it grows 8 ft. high and bears fine blooms. Though not a new fact, yet it is interesting to remember that Mrs. Alpheus Hardy was the variety which really kindled the enthusiasm of our American cousins towards the flower, concerning which so much had been said, written and done in this country for close upon half a century. That variety, as well as Golden Wedding, has brought as much disappointment to the exhibitor in America as here.

A list of the Chrysanthemums exhibited at the November show of the National Chrysanthemum Society, as well as the number of times each variety appeared in the exhibits will give a good idea of the relative popularity of the respective varieties, and would prove of immense interest in after years, especially if the record is kept up annually. It will show how certain sorts become popular for a time and ultimately disappear from the boards. The number of books or treatises that have recently dealt with the Chrysanthemum in different parts of the world is eight. Most of them were publications of 1894.

THE CULTURE OF VEGETABLES AND FLOWERS FROM SEEDS AND ROOTS, by Sutton & Sons, Reading. Sixth Edition. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1895.

The fifth edition of this useful book was published in 1892, and the fact of the necessity for a new edition now shows that there is a steady demand for it. There is no vehement outcry for it as in the case of a work of fiction that suddenly becomes popular, or for a new book by some great author, but the relatively small constituency of the gardening community testify to its absolute utility as if it were an annual want like a fresh harvest of food crops. The present edition is about the same size as the previous one (about three pages larger), but it has been revised, brought up to date, a chapter on herbs added, and entirely reprinted. The vegetables and flowers dealt with in the volume are arranged alphabetically, but there are some departures from t which might be altered. For instance, there is such a sequence as Broad Bean, Dwarf Bean, Runner Bean, Garden Beet, and Borecole all under headings in similarly bold type. The Beans have been grouped together, doubtlessly on account of their affinity, and the sequence has also been seemingly altered by inserting the word garden. Instead of this we would have made such a sequence as Beans, Beet, and Borecole, with headings in smaller type for the different kinds of Beans, otherwise we should have fearlessly inserted the names given in proper sequence, as has been done in the case of the bulk of the Cabbage tribe.

However, these are all secondary matters of importance, seeing that a good index enables the reader to find everything mentioned. The subject matter, on the contrary, has been dealt with in the plainest and most systematic manner that could have been framed by the experienced and skilled professional while laying down rules for the guidance of the unskilled and the amateur. The following quotation taken from the introductory remarks is practically a motto which has been kept in mind throughout the book while working out the cultural details:—"In practical work there is nothing like system. Crop the ground systematically, as if an account of the procedure had to be laid before a committee of severe critics. Constantly forecast the next work and the disposition of the ground for the various crops, keeping in mind the proportions they should bear to each other."

The instructions for the production of an early crop of Potatos without the aid of artificial heat in any way might well be followed by many gardeners, especially those who still labour under the mistaken notion that anything can be gained by planting in the open ground during November or at other times in the latter part of the year. Though preparations are begun in January, yet the Potatos are not committed to the ground before the first week in March. The operation and method is so simple that amateurs with the requisite garden ground can follow out the instructions with as much facility, almost, as those who possess "all appliances and means to boot." The chapter on herbs should be of the greatest assistance to those who intend or are compelled through force of circumstances to resuscitate this neglected department of the kitchen garden. Cultural instructions are given for the raising of a large number of the most useful herbs. Deep digging or trenching and manuring are constantly advocated as a *sine qua non* in a well-ordered and well-tilled garden. Experience proves it everywhere. When in connection with this, good heed is given to proper rotations of crops, as here set forth, the kitchen gardener, whether professional or amateur, has little to fear. The article on the rotation of crops, and that on the chemistry of garden crops, set forth in the clearest manner possible what the reason and necessity are for shifting about the location of the crops in question.

The second half of the book deals with the cultivation of all the popular garden flowers raised from seeds, and also gives a useful chapter on insects, and other pests of the garden. The cultivation of flowers appeals to the many, so that there is less necessity for us to enter into any details concerning them. For one amateur who can grow vegetables well there are probably ten who can grow flowers even

better; so that we urge the necessity and desirability for working up the vegetable department in view of the importance of vegetables as human food, particularly in suburban districts. On the other hand, there are those whose taste lies entirely in the direction of flowers, as well as those whose gardens are small and ill-adapted for vegetable culture, owing to unfavourable surroundings, so that to such people the second half of the book will prove invaluable.

It will doubtless surprise many who have not hitherto studied the subject, to learn how closely connected with good cultivation is the freedom from insect pests and the fungoid diseases of plants. The methods pursued by successful market gardeners will amply substantiate this. Alluvial soils in the Thames valley, constantly cropped for the last thousand years, perhaps, have neither become deteriorated nor infertile, nor are they so liable to insect attacks as are many neglected private gardens.

WINDOW GARDENING.

(*Continued from p.* 330.)

Amongst those plants that are comparatively new to this class of service, I am anxious to call your attention to the tuberous rooted Begonias. It is not necessary that I should give you the history of the first introductions from S. America, and the many advances that have taken place in regard to their dwarf habit of growth and flowering capacity. The florist truly has been at work, and instead of tall plants producing flowers with long narrow petals, and blooms that scarcely seemed half expanded, we now have flowers of grand form and compactness, colours of many hues, stout and healthy foliage, with dwarf and sturdy habit of growth; at the same time they are very easy of culture. A window, say, facing the west filled with Begonias would be a joy and sure to be much admired. Just one colour, say pink or crimson, might easily be obtained, or if preferred, a mixed collection would pleasantly harmonise. A packet of seed bought at any florist's sown in a warm Cucumber frame early in the season, would without any difficulty quickly spring up and bring bulbs sufficient to fill several boxes. One great advantage of growing these Begonias is, that the tubers will last for several years; and if at the close of one season they are taken out of the boxes and put in some sand or light soil and stood away in a cellar or hothouse where frost cannot touch them, they will be perfectly sound in the spring, and will soon start again into growth with increasing vigour, and blossom with even greater freeness. Of course, the bulbs must not be kept dust dry through the winter, if just a trifle moist so that they do not shrivel it is much better.

Beside those already mentioned there are a large number of useful flowering plants, and foremost, as it is almost everybody's flower, I place the Pelargonium, whose representative at the Fall River could develope no foliage, and certainly could not bring any blossom. Now, amongst Pelargoniums the sorts are so numerous that it would be impossible to interest you by an enumeration of them, the groups, sections, classes, and lists, into which they are divided would puzzle you. Still, as a free grower and abundant bloomer is what is most required, perhaps the most useful will be those termed Zonals, the old horse-shoe type, producing fine clusters of crimson, scarlet, and pink flowers most freely and with a compact habit of growth that causes these at all times to be most acceptable. Another class invaluable for overhanging purposes is the Ivy-leaved varieties. I consider these some of the best things that can be used, they quickly assume a pendulous habit, the foliage is of a rich and shiny green, the clusters of flowers of large size and substance and produced in considerable quantities, combine to make this section one of the most desirable as well as most attractive. At the close of the season these may be taken from the box, cut back, so that the shoots are only left 3 or 4 in. long, and then with very little protection they can be safely kept through the winter and used again in the following spring.

I might also call your attention to such things as the dark-leaved Coleus and Iresine, the yellow or silver variegated Pelargonium, the Heliotrope, Ageratum, and the ever welcome Lobelia. By all means use some of this latter, as it produces a mass of bright blue that otherwise can scarcely ever be obtained.

Another very useful plant, more especially for large windows, is the Marguerite Daisy, its bright eyed blooms with clean white florets are much prized, and generally the plant is easy to manage. If this is used it should be in conjunction with some other class of plant, as its blooming period is sometimes late in the season, or it may have received some check which will cause it to cease flowering in the autumn socner than would be desirable. Of our mutual friend the common Musk grow by all means if nothing else can be obtained; probably more labour has been expended on this favourite of the cottager in days gone by than any other class of window plant.

I have taken up considerable time in treating, chiefly on boxes, vases, etc., containing plants grown especially for summer display, and this phase is, perhaps, that which will mostly engage your attention, but not only may windows be bright and cheerful during that period, as soon as this time is past the same boxes, etc., can be filled with neat and compact plants of Aucubas, Cupressus, various Coniferae, Rhododendrons, and many other dwarf growing evergreen shrubs; if with these a few roots of Primrose or Polyanthus, or, my early pets, the Auriculas, and a few tufts of Forget-me-Nots, a most pleasing display can be secured in the early spring at very little cost. A few bulbs of Snowdrops or Crocus, Hyacinths or Tulips, would add considerably to the pleasure.

Hyacinths, too, are very useful when grown in glasses and stood in prominent places in the window. For this purpose the bulbs should be obtained early in October, choosing sound and hard bulbs rather than large ones. The glass should be nearly filled with water, a piece of charcoal put in, and the bulb placed so that the base of it is just above the water, place them then in a dark cellar till some roots have pushed downwards into the water, gradually bring them into the light, and by the time the leaves are well up they will bear all the light secured at a window.—*W. Swan.*

(*To be Continued.*)

GARDENING MISCELLANY.

SCUTELLARIA FORMOSANA.

Several species of Scutellaria have been introduced to cultivation and prove useful under glass or in the open, according to their degree of hardiness. That under notice is a native of the Island of Formosa, and has been obtained by Messrs. Veitch & Sons, Chelsea, from the Botanic Garden, Hong Kong. It is a bushy plant about a foot in height, and the branches terminate in racemes of large blue and white flowers, or, to be more exact, the latter are blue shaded with violet, and the tube and lower lip are white. The leaves are shortly stalked, oval, blunt, obscurely toothed, and the lower surface is often washed with purple. The plant should prove useful for conservatory and greenhouse decoration.

THE PARABLE OF THE FIG TREE.

The verse I quoted is correct, though, through a slip, I attributed it to St. Matthew instead of St. Mark. The verse in St. Matthew is almost identical, the translators substituting "her" for "his," possibly under the mistaken idea that the Fig tree was diœcious, and "nigh" for "near," though the word in the original is the same. So "Devoniensis" is free to make his choice of seat. I should have mentioned that Shakespeare too should always be correctly quoted. The Devil can "cite" Scripture for his purpose, is what he says, though "Devoniensis" is quite within his rights in paraphrasing Shakespeare. By the way, the word "devil" is bad throughout. Beheaded it is "evil"; again, "vil(e)"; take away the v—"il(l)"—and what is left? I thank "Devoniensis" for his kind appreciation of my letters of last year, and hope when "the flowers appear on the earth, the time of the singing of birds is come," then to take up my pen again.—*J. C. Stogdon.*

PRIMULA VERTICILLATA.

A batch of this pretty and distinct little Primula is at the present a very conspicuous feature in the greenhouse at Kew. The plants, which are sturdy little specimens of their class, have evidently been obtained by division of the roots. The flowers are yellow in colour, the corolla salver-shaped, and the tube remarkably long. They are produced upon erect growing scapes, bearing several whorls of flowers, the long leafy bracts with which these whorls are provided being very noticeable from their large size. Apart from the beauty of their flowers, the foliage possess a peculiar charm from its shining silvery appearance. The leaves are densely downy on both surfaces and a white mealy powder is profusely sprinkled over the leaves when they are in a young state. This powder, however, disappears in a great measure as the leaves become mature. Such a plant as this is well worthy a place in every collection of greenhouse subjects, no matter however limited, as besides being of distinctly ornamental character it offers no great difficulties in the way of cultivation.

SENECIO MACROGLOSSUS.

Although this beautiful climber is usually classed as a summer flowering subject, it seems to bloom away with a total disregard of what the outside weather is, a quality that is all too rare a commodity among so many of our floral favourites. From its peculiar ivy-like foliage, which contrasts so strikingly with the large yellow flowers, it has been called the Cape Ivy. Its fine trailing habit renders it very suitable for the covering of pillars or trellises in the greenhouse, and it forms an exceedingly pretty picture when hanging from the roof almost to the ground, as it will readily do. It should be planted out in a specially prepared border, plenty of good loam being used in the compost, whilst occasional stimulant in the way of liquid manure will help considerably the natural floriferousness of the plant.

TALAUMA CANDOLLII.

From its straggling habit it is very questionable whether this plant will ever attain anything like a widespread degree of popularity; still no one who has ever inhaled the delicious perfume of its flowers could fail to be favourably struck by it. These are large, of a light yellow colour, and singly produced upon rather long peduncles. They last in condition for a wonderfully short period, however, opening in the morning, closing the same day before nightfall, and dropping from the plants a few hours after. The beautiful perfume they exhale is strongest when the flowers are first expanding, but gradually decreases in strength as the day wears on, until it is so faint as scarce to be detected. The plant may be grown in a compost of two-thirds of good loam and one-third leaf soil or peat with a little sharp sand. Propagation is, however, a somewhat more difficult matter, as it is rather a hard job to induce cuttings to strike, and thus layering or inarching upon some of the Magnolias, to which it is closely allied, is usually resorted to as the best means of obtaining the required stock.

RIVINA HUMILIS.

This certainly is one of the most beautiful berried plants we have, and when well grown, one of the most admired. In private places, where it has not to be carried very far, it is one of the most useful plants grown. The bright shining scarlet berries, borne on racemes of from 4 in. to 6 in. in length, make a useful and beautiful addition to light arrangements of cut flowers, and well grown plants are very attractive for either table or drawing-room decoration. Those having stove heat at command will find few things more useful than this old-fashioned plant, so easily grown and much admired whenever seen at its best. Seed may be sown in March, and the plants potted off and grown on into 5 in. and 6 in. pots, using rich soil; stop several times during the summer, keep in a damp atmosphere, and syringe well, or they soon get infested with thrips. A stock once obtained is easily kept up, for seedlings come up freely all over the house or pit in which it is grown.—*W. B. G.*

PEAR JULES DEMARET.

On the 10th October last M. Jules Havaux, gardener at Hennuyères, sent specimens of an unpublished Pear to be submitted to the committee of the Cercle d'Arboriculture, Belgium, for their opinion of it. The committee found it of excellent flavour, and decided that it was worthy of propagation, and should be figured amongst their illustrations of pomology. A coloured plate is given in the *Bulletin d Arboriculture* for January. The fruit is pear-shaped, elongated, with a very shallow eye; the skin is clear yellow, but pervaded throughout with small brownish

grey points, slightly larger and redder towards the eye. The flesh is greenish-white, very melting, juicy, without grit, and deliciously perfumed. The juice is very sugary and relieved with a slightly acidulated flavour. The tree adds to its other recommendations good vigour and great fertility. The variety was obtained by M. Paul Demaret, merchant at Hennuyères, of the province of Hainaut, from a sowing of the pips Durondeau, made in 1886. The tree fruited for the first time in 1892, and during the two succeeding years has fruited well.

APPLE REINETTE DESCARDRE.

This excellent Apple, well known by name, says the *Bulletin d'Arboriculture*, has remained for a long time in the country of Liège where it originated. It is an acquisition of M. Benoit Descardre, father of M. Charles Descardre, nurseryman at Chênée, so favourably known in Belgium and elsewhere. It was in the spring of 1834, about half-a-century ago, that it was put into commerce, but Reinette Descardre is yet a novelty if the province of Liége is excepted, where it is widely spread and highly appreciated by amateurs as well as fruiterers. Likewise, in that province, the orchards are rare in which there are not several trees, and it is not extraordinary to meet with some of them which give 225 to 1,125 lbs. of Apples at a harvest. The fruit is of good size and nearly globular, bronzy-green, and of a deep brick-red on the exposed surface. The flesh is yellow, quite firm, aromatic, and slightly acidulated; it is ready for use from the month of October and keeps till December. The tree is very fertile and of good growth. Grafted on the paradise or doucin, it will figure very worthily in the fruit garden. A coloured plate of it is given in the *Bulletin d'Arboriculture* for November, which speaks of its great superiority over many varieties in cultivation.

HIBBERTIA DENTATA.

This is one of the prettiest and most effective greenhouse climbers known to us, and yet with very few exceptions it is a comparative stranger to private gardens, although now and again we do come across stray plants of it in places where not even its name is known. The genus to which it belongs contains some seventy species or thereabouts, shrubs or subshrubs usually. H. dentata is, however, at once the most useful and the best known of the group, and is certainly well worthy of recognition. The flowers are a rich deep yellow, and from 1½ in. to 2 in. in diameter when borne upon healthy plants, although they decrease considerably in size if the health of the plant is allowed to suffer from the continuous attacks of insect pests, which seem to manifest a decided partiality for it. The leaves are a dark green in colour, oblong in shape, acuminate, and the margins serrate. The plants are not very particular as to soil, as they will grow in either peat or loam, or in a mixture of the two. Whatever soil is used, however, the addition to it of plenty of sharp sand is an essential, and the drainage must be of as an efficient a character as possible, otherwise the soil will become close and sour, a state of things which the plant detests, and which it invariably resents by putting on a very shabby appearance. Cuttings inserted in sandy peat and placed beneath a bell-glass and kept close will root easily enough, and plenty of good plants may in this way soon be obtained.

JADOO FIBRE.

I have only just seen the article in your issue of January 12th on this subject. The reason why no mention of Ferns was made as growing well in Jadoo was simply that at the time the list of plants tried was published, Ferns had not been thoroughly tried in it, and I did not wish to recommend anything I was not *absolutely* sure about. Since then Ferns have been proved and grown luxuriantly, and so have some sorts of Orchids, in fact, so far, no plant has been found that has not flourished in it. With reference to what you say about the word "Jadoo," your Indian readers will guess at its origin if they look at the truly marvellous way in which plants root in Jadoo even under such adverse circumstances as being transplanted into it in full bloom.—*C. Halford Thompson, F.R.H.S., Eastcliff, Teignmouth, January 22nd*, 1895.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Examinations in Horticulture.—*Gang Warily*: With regard to a syllabus of previous examination papers, we advise you to apply to the Rev. W. Wilks, Secretary of the Royal Horticultural Society, 117, Victoria Street, London, S.W., sending a stamped envelope for reply. In the meantime, you have no time to lose, but must diligently set yourself to study such subjects as the elements of plant physiology, as well as a good knowledge of digging, trenching, sowing, staking, propagation by cuttings, layers, seeds, budding, grafting, pruning, training, and all that relates to vegetable culture. Take advantage of any course of lectures that may be delivered in your district, and in the absence of such means of instruction, you should get some books on the subject and apply yourself with great earnestness to grasp the information therein contained. We could further assist you to the names of useful books on the subject and other information if required.

Mutual Improvement Societies and Education.—*Lover of Nature*: The aim and objects of such societies as you mention is to diffuse a knowledge of horticulture amongst gardeners and amateurs generally. Their programme of papers does not as a rule, however, embrace in any one session all that is necessary to cover the subject of an examination in horticulture. Plant physiology as a basis of horticultural knowledge is generally looked upon as a dry and difficult scientific subject, and is accordingly discouraged. It is, nevertheless, a mistake and ought to be remedied. There is no reason why mutual improvement societies should not arrange to have a competent lecturer (who may be a gardener) to occupy every evening upon one or other of the subjects that bear upon the syllabus of subjects necessary to pass an examination in horticulture. In the absence of such lectures we should advise you to study books on the subjects in question. See the question on "Examinations in Horticulture." The examinations are divided into higher and lower grades, that is, two classes, for gardeners and amateurs alike.

Cultural Treatment.—*P. obconica*: Seeds may be sown at various times, or, in fact, at any time, according to convenience and requirements. The seedlings will come into bloom about the same time as P. sinensis under similar treatment. The compost should consist of two parts good, fibrous loam, one part of leaf soil and one of well-decayed cow manure with sufficient sand to make the whole porous and open. This will suffice for the final potting, but somewhat lighter material should be used for the seedling stages. Repot as the plant grows and before the roots become matted and pot bound. Weak liquid manure may be supplied twice a week when the plants commence to flower. During summer keep the plants rather cool, and in winter 40° to 45 degrees will suffice, though you may raise it to 50° to keep the plants more actively growing and flowering. The flowers cannot be compared to those of P. sinensis for size or colour, but amends are made for that by the quantity and continuity of flowering. Besides white there are various shades of lilac or pale rose. You might use brewer's decayed hops in the same way as leaf soil, but we do not know that they possess any special advantage.

Flower Garden.—*Effective Bedding*: We are much obliged for the photographs which explained the matter fully and showed us where the mistake came in. We thought that the bed marked O in the photograph was the same one as you marked I in the diagram accompanying your second communication. That was where the confusion arose. But you must remember that in your second communication you said that No. 8 was the bed concerning which we gave you advice on the 12th of January. Possibly this was a mistake, but we could not rectify it owing to the first diagram having been inadvertently destroyed. Scarlet flowered tuberous Begonias with a double edging will answer very well for No. 1, as mentioned last week. In the case of the bed marked O in the seond photograph, we should prefer a green ground work to the white Cerastium tomentosum. This might consist of Herniaria glabra or Mentha gibraltarica; but the Cerastium would not come into conflict with the original plan. We are pleased to note the pieces of rockwork, and were unaware that you went in for herbaceous and Alpine plants at all. The tall trees not only afford shelter, but they constitute a pleasing environment to a flower garden. The whole must look beautiful when trees and everything else are in full dress during the summer months.

Bloom of Laelia anceps.—*Gracemount*: The flower you sent is beautiful and good, but it is not Laelia anceps alba, because it has too much colour about it. That variety should be pure white with exception of a yellow ridge along the middle of the lip. It comes nearest to L. anceps Sanderiana or L. a. Sander's var., and you may safely name it such. The only difference is that the terminal lobe of the lip has less purple on it than the typical L. a. Sanderiana. Your variety has only two small purple spots and a blush tint upon the terminal lobe, whereas there should be one large blotch on that part of the lip; but many plants are named L. a. Sanderiana that differ more or less, though only to a small extent, from that variety. Though not L. a. alba, you still have got a good thing, and well worthy of all attention.

Fruiting of Pears.—*Quince*: The figures you mention must have been a printer's error overlooked at the time. Seeing that the return from the 2,000 young trees was put down at 25,000 dozens, the return from the older trees should have read 35,000 dozens. A cypher must have been omitted from the figures, making the mistake of which you speak. When bought in quantity, Quince and Paradise stocks are very cheap, but in smaller numbers they would be relatively dearer. There should be no difficulty, we think, in procuring what you want from any good nurseryman who deals largely in fruit trees.

Communications Received.—S. & S.—W. C.—S. N. S.—W. D.—B. F.—H. J. H.—R. G. W.—J. G. P.—J. A. L.—J. M.—E. S.—J. L. P.—Next week. Many thanks.

TRADE CATALOGUES RECEIVED.

H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.—Chrysanthemum Guide for 1895.

Alex Finlayson, 42, Above Bar, Southampton.—Descriptive Seed List.

Louis Paillet, Vallée de Chatenay (Seine), near Paris.—Plants, Trees, and Shrubs.

W. Fromow & Sons, Sutton Court Nurseries, Chiswick, W.—Vegetable and Flower Seeds.

Maurice, Young & Son, Milford Nurseries, near Godalming.—Conifers, Hardy Ornamental Trees and Shrubs, Fruit trees, etc.

Robert Sydenham, Tenby Street, Birmingham. Vegetable and Flower Seeds.

LONDON SEED TRADE.

January 22nd, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed market, Mark Lane, report an improved demand for agricultural seeds. White Clover realises higher figures, Red Clover and Cowgrass steady. Alsike easier. Trefoil unchanged. Ryegrasses neglected.

COVENT GARDEN MARKET.

January 23rd, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	3 0	9 0	Grapes, per lb.	1 0	2 0
Nova Scotia Apples per barrel	12 0	21 0	Pine apples. —St. Michael's, each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	20 0	21 0			

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 9	1 3	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Aspidistras, per doz	18 0	42 0	Evergreens, Invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
, gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0	Narciss (French) doz. bch.	4 0	6 0
Azalea.....doz. bchs.	6 0	12 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums 12 sps.	0 6	0 9
Carnations...per doz.	2 0	3 0	Pink Roses...per doz.	3 0	6 0
Chrysanthemums, doz. blooms	2 0	6 0	Pyrethrum doz. bun.	2 0	4 0
,, doz. bunches	4 0	12 0	Primula, double, bun.	0 6	0 9
Double Daffodils, doz. bchs.	16 0	18 0	Roses, yellow, dozen	2 0	4 0
Single Daffodils, doz. bchs.	24 0	30 0	— Red..... doz. blms.	3 0	6 0
Eucharis ...per doz.	4 0	6 0	— Tea ..... per dozen	0 6	2 0
Gardenias 12 blooms	2 0	4 0	Scarlet Geraniums, doz. bchs.	5 0	9 0
Heliotropes, 12 sprays	0 6	0 9	Tuberoses, per doz	0 6	1 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Violets (French) Parma, per bch.	4 0	5 0
Lilac (French) per bch.	5 0	6 0	Violets (French) Czar, per bch.	1 9	2 0
Lilium Harrisii, doz. blooms	6 0	10 0	Violets (French) doz. bch.	2 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (English) doz. bch.	1 6	2 6
Marguerites. 12 bun.	1 6	3 0			

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For Index to Contents see page 365.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Feb. 4th.—Sale of Hardy Plants, &c., at Protheroe & Morris' Rooms.
TUESDAY, Feb. 5th.—Sales of Bulbs and Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, Feb. 6th.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.
FRIDAY, Feb. 8th.—Annual Meeting of the Royal Gardeners' Orphan Fund at the Cannon Street Hotel.
Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, FEBRUARY 2nd, 1895.

WHAT IS A FLORIST'S FLOWER?—At first sight this may seem an easy question to answer, but upon further thought and consideration it becomes more difficult, until, indeed, the line of demarkation fades into the dim obscurity, and the florist can hardly be said to have so far subdued wild nature as to enlist her sympathies in his cause, or direct her energies to the production of flowers which he would consider more surpassingly beautiful than the wild ones. Such flowers as the Pansy, Antirrhinum, Gladiolus and Pentstemon are highly specialised in the eyes of nature, as may be judged by their irregularity and peculiar form; but the aim of the florist

is to enlarge them as well as the several parts so as to make them regular and circular, or as nearly so as possible. This has most nearly been accomplished in the Pansy; but where the fundamental structure of the flower is irregular, the florist has, in most cases, to submit to the inevitable, and direct the energies of nature to the enlargement of the flowers and to the production of variations and improvements in colour.

The old florists, to whom various epithets have been applied, and whose name, we ought by way of courtesy, to write with a capital F, marked out for themselves, a narrow groove in which to work and model their flowers to a certain standard of perfection that did not commend itself to the great mass of flower lovers. The very fact that close in-breeding was necessary to obtain the desired arrangement of colours, debilitated the vigour of many of the best and most highly valued varieties; and this, doubtless, militated against such flowers from ever becoming widely cultivated owing to the difficulty of cultivating, and increasing them with any degree of success. Amongst single flowers enjoying the special care of the florist in the special sense, are the Auricula, Pansy, Tulip, Gold-laced Polyanthus and Antirrhinum, though the rules applicable to the latter were not so stringent as in the other cases. The striped varieties of Antirrhinum were more particularly the object of special attention, notwithstanding their inconstant nature. We have known a case of two varieties in a winning stand at an exhibition, having been taken from the same plant.

Smoothness and breadth of petal are leading features in the standard by which the older florists judged their flowers; but some of the modern strains of Pansies that are much esteemed in various parts of the world, may be, and are anything but smooth. The race of bedding Violas has been brought to a state of great perfection, practically independently of the taste and rules which fostered the development of show Pansies. Violas, if well proportioned and intrinsically beautiful, may be of other shapes than circular, and herein is the secret of much of their popularity. In like manner we behold the surpassingly beautiful modern races of Primroses and Polyanthus appealing to the taste of thousands who neglect or even utterly ignore the Gold-laced Polyanthus. The Gladiolus, Aquilegia, Pentstemon, and Phlox are other instances of flowers claimed by the florist, but whose hand can only be recognised by improvements effected in size and colour. Where irregularity existed in the wild originals, it has remained in evidence to-day, and the properties of a good flower are tacitly understood by the discerning public, rather than defined, hampered and cramped by a written code of rules.

Curiously enough, doubling in any of the above flowers would be sufficient to disqualify them in the eyes of the florists to all further consideration, so that they would have to take their place in the garden amongst decorative sorts, or consigned to the limbo of botanical curiosities, "As far from help as limbo is from bliss." On the other hand the florist has tacked his fancy strictly to the double forms of Carnations, Picotees, Pinks, Chrysanthemums, Dahlias, Hollyhocks, Ranunculus, French and African Marigolds. One of the properties of a good Carnation, we read, is that the flower stems should not be less than $2\frac{1}{2}$ ft. high, nor more than $3\frac{3}{4}$ ft. What good purpose such a rule could serve, we are unable to conceive. Hardy varieties of some decided and comparatively uniform colour, such as any one may hope to grow, are more popular to-day than the flakes and bizarres formerly held in so great repute. Similarly the Chrysanthemum has attained a world-wide popularity since the unfettered Japanese race displaced the formal incurved varieties which were the object of the florist's peculiar care. Single varieties of Chrysanthemums, Dahlias, and various other flowers have only comparatively recently been rescued from undeserved neglect, and the same advantages may be extended to others. If the Ranunculus is to be admitted amongst florists' flowers, then may the numerous Anemones raised from A. coronaria; if the Chrysanthemum, so the universally popular Roses, the improvements of man, must be regarded as *par excellence* florists' flowers. Single and double Pyrethrums are admitted, so that single and double Paeonies and Daffodils, Sweet Peas, Primula Sieboldi, Delphiniums, and other hardy subjects can hardly be excluded, seeing that they have been so much improved and rendered so variable under the fostering care of man.

The title of florists' flower must be equally extended to those subjects that have been improved, but require varying degrees of protection from our ungenial climate. How can any one deny the title to such as Chinese Primulas, Cyclamens (C. persicum), Hippeastrums, Clivias, Cinerarias, Calceolarias, Gloxinias, Balsams, Camellias, and others. Intrinsic beauty rather than any hard and fast rules have been the guiding factors in the development of the above flowers; yet which of them can be strictly excluded from the list of florists' flowers. Man has done as much if not more for them, than in the case of Aquilgeias, and the Asiatic Ranunculus, notwithstanding the double flowers of both kinds. If Sweet Peas are to be excluded because annuals, it must not be forgotten that the wild Pansy is not of longer duration.

In the wider sense, then, we should regard as a florist's flower, "whatever has been taken in hand by florists generally, and developed into a great variety of attractive colours, or even shapes." As to a standard or model of perfection, ideal or otherwise, anything that is really and intrinsically beautiful, will recommend itself to people of refined or cultured taste.

Mr. William Norman, foreman at Galloway House, Garlieston, has been engaged as gardener to Sir J. H. Amory, Bart., Knightshayes Court, Tiverton, Devon.

Mr. Stephen Sherlock, for the past ten years with Mr. Bailey at the Briars Gardens, Reigate, has been engaged as gardener to G. W. Tyer, Esq., Oakwood, Mortimer, Berks.

Herr Julius Finger a famous German horticulturist and the raiser of those four fine roses Julius Finger, H.P., Jules Finger, Tea, Mme. Marie Finger, H.P., and Mme. Jules Finger, hybird Tea, died on December 19th last, at Millstatt, Kärthen.

Proposed Chrysanthemum Show at Coventry.—At a meeting recently held at the Craven Arms Hotel it was unanimously resolved to hold a Chrysanthemum, Fruit and Flower Show in the Corn Exchange, Coventry, in November next, and a committee was appointed to solicit subscriptions to start the show upon a firm basis. It was pointed out that similar shows were held at many towns of far less population than Coventry, and it was hoped that, considering the number of gentlemen in the neighbourhood who are large growers of this popular flower, that a show would be a great attraction, and bring many visitors into the town. Mr. F. Curtis, of 9, Cross-cheaping, was appointed Secretary.

Plants: Perfume and Colour.—About 4,200 species of plants are utilised for various purposes in Europe. Of these only about one-tenth have an agreeable perfume, the others being either inodorous or having an unpleasant smell. White flowers are the most numerous; 1,124 species out of 4,200 are white, and 187 of these have a scent; 931 (77 perfumed) are yellow; next in order comes red, with 823, of which 84 give forth a perfume; then blue, 594 (34 scented); and violet, 308, only 13 of which have any perfume. The remaining 400 kinds are of various shades of colour, and only 28 of them have a pleasant smell.

Royal Gardeners' Orphan Fund.—At the monthly meeting of the committee held on the 25th ult., special receipts since the previous meeting were announced as follows: Mr. Matthew Todd, Edinburgh, by sale of flowers at the Chrysanthemum Show, £3 10s.; Mr. H. J. Jones, Lewisham, £9 10s.; Midland Carnation Society, per Mr. R. Sydenham, £5; Mr. J. Kipling, Knebworth, Herts (Skating on Knebworth Lake), £2; Mr. H. Herbot, Stanmore, Richmond, New Year's Gift, £1 1s.; Mr. W. H. Divers, Belvoir Castle, 8s. 4d. Collecting boxes: Mr. W. Marshall, Anchinraith, £1 7s. 10d.; Mr. J. Hughes, Birmingham, £1 3s. 3d.; Mr. G. Fry, Lewisham, £1 1s. 10d.; Mr. H. Perkins, Park Place, Henley-on-Thames. The annual dinner was fixed to take place at the Hotel Metropole on Friday, April 5th, when Mr. Harry J. Veitch will preside. At the annual general meeting to be held on the 8th inst., Mr. John Harrison, of Leiecster, has kindly consented to preside.

Presentation to a Gardener.—On Saturday evening, the members of the Preston and Fulwood Horticultural Society met in the Mayor's Parlour at the Town Hall, with the object of presenting a silver-mounted ebony walking stick, and tobacco pipe and pouch to Mr. R. Frisby, gardener at Worden Hall, Leyland, who is about to leave the neighbourhood owing to the death of his employer. There was a good attendance, and the Mayor (Councillor W. H. Woods) in making the presentation said Mr. Frisby had done much to bring about the success of the Society, and no doubt he would be very sorry to leave them. Mr. Frisby's papers before the Society had always commanded attention, and he had been a very useful member whom all would be sorry to lose. He had great pleasure in presenting Mr. Frisby with the tribute of his friends, and hoped it would be a memento of his connection with the Society. Mr. Frisby briefly responded, and wished the Society every success.

The I. R. Agricultural Society in Vienna, which stands under the patronage of His I. & R. Highness the Archduke Charles Louis, will hold an International Mart of Agricultural Machines of all kinds from the 4th to 7th May next. The prospectus includes not only agricultural machines in the strict sense of the word, but appliances used in all branches of industry connected with agriculture, such as breweries, distilleries, yeast, sugar, vinegar, and starch factories. The Mart will also extend to tools and engines used in forestry, sawmills, celluloid factories, orchards, vineyards, in the feeding and breeding of cattle, horses, fish, etc. It will also comprise electrical machines in the service of these industries, seeds, and manure. The Austro-Hungarian Consul-General, 11, Queen Victoria Street, E.C., will be glad to give all further information possible to anyone interested in the matter.

Willow Roots for Orchid Growing.—Mr. A. Annandale, Bielside, Dunbar, N.B., writes in the *Orchid Review*:—"I am not aware this material has been used previously, and it was only by chance that I discovered it. I have a number of Willow trees whose roots find their way through the banks into a small stream, and for a number of years these roots have been regularly cut to prevent them choking the flow of the water. As my gardener was not satisfied with the peat he was able to obtain in the district, owing to its deficiency in fibre, I suggested he should try the Willow roots, and now, after two years' trial, he is satisfied that no better substance could be obtained, as the Orchids have thriven in a way they never did previously. The advantages appear to be that perfect drainage is secured, that the fibre does not become sour or rotten, and that the roots of Orchids take to it most kindly, penetrate it, and grow freely, and show no symptoms of decay, although potted for a long time. It also seems to retain a sufficiency of moisture, in conjunction with the sphagnum, longer than other substances." Carefully conducted experiments with Orchids grown under similar conditions, but each potted in one of the

different materials now advocated for the purpose, would be of great interest were the correct results reported and published.

Fallacies Respecting the Weather.—Mr. Richard Forwards, the President of the Meteorological Society, in a recent address, said that among weather fallacies were those connected with saints' days, sun and moon changes, days and certain periods of the year, and almanack prophets. These were remembered when the forecast happened, but forgotten when it failed. There were forty weather saints, the most eminent being St. Swithin, and how often the sign was broken was well known to weather students. He referred to a vast number of theories that were published—as, for instance, the new moon theory, Herschell's, and others. The lunar cycle theories had all broken down. The change of the moon, he remarked, did not change the weather. There was a long array of fallacies as to animals and plants which Mr. Lowe had investigated. His own impression was that their feelings were some indication. The dampness made them uneasy when there was no sign of rain. The flowers shut their petals for the same reason, and the swallows did not fly so high. Another fallacy was that the hips and haws and holly berries were a sign of a hard winter, and that these were a provision for the birds. With regard to weather warnings eight out of ten did not fail, but all great meteorologists agree that weather cannot be predicted.

The Fruit Trade of Glasgow.—At the first annual soiree of the Glasgow and District Fruit Merchants' Association, held recently in the City Hall, the Chairman, Bailie James Ferguson, remarked that the fruit trade of the city has been one of tremendous growth. Not so many years ago the quantity of Grapes brought into the city consisted of some 500 barrels, which supplied the city and surrounding districts. Last year one broker sold alone 104,000 barrels. This growth in Grapes also applies to every other kind of fruit. The trade has grown to such an extent that the bulk of the business is conducted outside the bazaar altogether, and he thought the time had now come when the Council should increase the accommodation they required. As regards the brokers they were a smart class of men; but he considered that the conduct of the business was in many respects more favourable to them than to the merchants. Their conditions of sale are altogether one-sided, and do not give purchasers their legal rights when the fruit purchased does not in bulk come up to the sample shown. There is also a common cry with the brokers that this is the "last cargo" of the season; but, strange to say, cargo after cargo succeed one another.

HOYAS.

Wherever these beautiful plants have been cultivated they have won golden opinions for themselves, and are everywhere held in high estimation for the beautiful umbels of wax-like flowers they carry. The genus comprises some fifty species, most of which, however, do not enter into English horticulture. The one that is most frequently met with is H. carnosa, which hails from Queensland, from whence it was brought about the year 1802. Like the rest of its congeners, this fine species really requires an intermediate stove temperature to grow in, for although in some instances it has been grown fairly satisfactorily in a cool house, better results are always obtained where the warmer temperature is accorded it. It may if desired be grown in pots and trained to rafters or wires in the stove with very good results.

In such a position, however, the likes of the plant are scarcely so well looked after as they ought to be. What it really likes is a nice damp wall to which it can cling, and from which the aerial roots that are freely emitted from the nodes of the stem can obtain the necessary moisture. We have seen plants clinging to a wall of this kind which were growing away with the utmost luxuriance and flowering regularly each year, and this after the roots, which fixed to the ground, and which originally sufficed to draw sustenance for the entire plant, had long since become inadequate as a means of supply. Indeed, once a plant gets well established after this fashion, it does not seem to matter much whether it has any roots in the ground or no, as the aerial roots seem to be capable of supplying all the nourishment needed for its support. In cases of this kind, however, it is very important that the surface of the wall should be kept sufficiently damp by dint of the regular and frequent use of the syringe. Liquid manure should be used occasionally instead of clear water, but when using this, care should be taken that it is obtained as free from sediment as possible.

The flowers of H. carnosa as well as of H. bella and H. Pastoni are well adapted for the making of button-holes or sprays, and are usually much sought after for this purpose. The thick leathery leaves also are distinctly ornamental as they are unique in character. H. c. variegata is a variegated form of the first-mentioned species. The propagation of both may be readily conducted by means of cuttings which should consist of nice firm growths of the previous summer's formation. These should be taken in spring, a compost of peat and sand, and kept close in a propagating frame, or other place where a brisk bottom heat is obtainable. Potting on must subsequently be performed as occasion requires, the compost used being composed largely of peat, although a little good loam and charcoal may be introduced with advantage.

H. bella.—A great deal of difference will be noted between the habit of this plant and that of the preceding species. Both H. bella and the closely-allied relative, H. Pastoni, are of weakly-growing habit; they are both much dwarfer and inclined to be almost shrubby in habit. They may be cultivated in a very pretty and effective manner by fixing some pieces of the trunk of dead tree Fern or virgin cork in the pots or pans in which they are growing, and allowing them to ramble over these as they will. They may also be grown exceedingly well in hanging baskets. As a rule, a warmer temperature than that required by H. carnosa is necessary to ensure their well-being. Like H. carnosa, however, they may be easily multiplied by cuttings, although H. bella, from its weakly habit, is frequently grafted upon some of its more robust and stronger growing congeners—a proceeding that is usually attended with great success. As has already been stated, H. bella and H. Pastoni are very closely allied to each other, although they may easily be distinguished the one from the other by the difference in the leaves, those of the latter being more acuminate in shape, lighter green in colour and less fleshy than those of the former.

H. imperialis.—This fine species is not often met with outside the bounds of botanic gardens, but it is a truly noble plant notwithstanding, and has much that should recommend it to the notice of the gardener. Special interest attaches to it from the fact that it is the largest flowered member of the genus, and that it is worthy of any praise that could be bestowed upon it would be readily conceded by any person who had once seen an umbel of its beautiful reddish brown flowers, each individual bloom of which is, as a rule, between 2 and 3 in. in diameter. It is by no means difficult of culture and may be grown in a mixed plant stove among an ordinary collection of the subjects usually to be found there with the greatest ease. We have seen it thrive remarkably well when grown in pots, and the growths simply tied to wires in the ordinary way. Treated in this manner it is easier to withhold the water from its roots, and thus give it the necessary rest during the dull part of the year, than when it is planted out in a border; for borders, as every gardener is aware from practical experience, have an awkward trick of catching and absorbing a lot of the drip from the roof of the house—the natural consequence being that they lie in a sour and sodden state the whole of the winter through.

While the Hoyas are extremely impatient of a water-logged heavy soil about their roots during the winter; care must be taken that they are not allowed to get too dry, or the leaves will commence to shrivel and this, of course, is dangerous to the well-being of the plant. None of them, moreover, require much shade, as will be clearly evidenced by the leather-like consistency of their leaves. They should, therefore, be grown in a position where they will receive an abundance of light. Much of the disappointment that is caused by the reluctance of many plants to flower is the direct result of the want of the great essential "light." How often do we see plants grown in the darkest and most out-of-the-way corner of the house instead of the lightest. This and the other mistake—a too free use of the watering can, are principally accountable for the remark that is so often heard, "My Hoya never flowers."—*G.*

FORCING ROSES.

How often our amateur friends make a mistake with these. I think the most common error is impatience at first, and this also applies to the bulk of our hardy shrubs when introduced for early blooms. We are far too apt to forget that in very few cases indeed does Nature work in the same hasty manner we attempt with our forced Roses and other plants. Not only do we fail to get the blooms any sooner by this, but we also lose a large number as well as much quality in those obtained. Start slowly, merely keeping away the unkind influences of our climate during January and February. After this time the sun power, with a very slight rise of temperature, will be far more effective and rational. One of the chief items needed in forced Roses is well finished wood of the previous season; without this we cannot hope for satisfactory results. Why should we imagine that badly or insufficiently ripened wood will succeed under glass and with totally artificial treatment, and yet not be surprised at failures with the same wood in the open?

Then the class of soil used is often much richer than is necessary, and we should find the plants doing better in one of more loam and less concentrated manure. Firmer potting is also essential, and although we advise good drainage, there is no necessity for this to be so complete as with plants that need little water and a quick outlet for same. So long as the hole is not stopped up, and surplus or stagnating water can escape, the end is gained. Too porous a soil, and too quick a drainage, means considerable risk of drought; at all events we get extremes that are far from favourable to Roses. The temperature, particularly at first, is generally much too high. If you want early Roses you must perforce start early, or else run risk of keen disappointments in the way of blind growths. Forty degrees is ample for the first month, and with a rise up to fifty during the second month we are likely to get better results. After this another ten or fifteen degrees will not matter. When we consider the matter, this is really what our Roses enjoy in the open; only we, by the aid of glass, give them protection from the unkind changes of weather, and with a little fire heat, get what is practically June and July weather in March and April. No matter what plant or flower we may take in hand, we seldom succeed to any extent unless we follow the conditions they have chosen in their natural habitat, and which must surely be the one most suitable. Follow this, and then with the help we can give them of freedom from sudden climatic changes, we can get better blooms than in a natural state.

Forced Roses must be clean, free from insect foes and such disastrous diseases as mildew. Here, again, we have a great advantage over plants in the open ground. Sunshine and wind are not under our control, but we can regulate the heat, and also give weak fumigations and artificial showers of insecticides with the syringe, so keeping down insects and avoiding the main causes of mildew. Atmospheric changes first, and the extremes in water supply are undoubtedly the main cause of mildew and all other ills to Roses with the exception of insect pests. I even think, at times, that they have considerable bearing upon the presence and destructiveness of insects also, and no doubt the fact of our plants being out of health renders them less able to battle against attack from enemies, let them be what they may. We notice it the more because, growth being checked, the insects so soon affect that remaining. A freer use of clear tepid water through the syringe and a moister atmosphere than a large number of my amateur friends affect would undoubtedly be a great help to forced Roses. Nor do they feed atmospherically so much as I practice.

We all know how much benefit plants derive from a little moisture in the air after a dry and parching time. This is plainly visible both in the open during a summer shower and under glass when perchance we have let the plants get drier than should have been the case. I believe we can help them much by atmospheric feeding. We do so with Melons, Cucumbers, Grapes, etc., then why not with our forced Roses. A healthy, glossy, and more natural appearance is imparted to the leafage of Roses when a little manure water has been allowed to evaporate from dry walls and walks, and so long as we keep the pores of the leaves clear and open, I have great faith in the ammonia rising from manure water used in the manner described.—*Experience.*

NOTICES OF BOOKS.

Hand-list of Trees and Shrubs Grown in Arboretum. Part I.: Polypetalae. London: Printed for Her Majesty's Stationery Office, by Eyre & Spottiswoode, 1894.

As stated in the preface, this is the first of a series of hand-lists in which the names of all the living plants grown in the Royal Gardens, at Kew, will in the course of time be enumerated. The arrangement of the names is on the natural system of classification, so that the present book of 297 pages gives only those trees and shrubs which have free petals, and corresponds in fact to the first volume of the "Genera Plantarum." Amongst the purposes which it will serve, is an aid in "establishing an approximate standard of nomenclature." This, indeed, would be a great gain to horticulture and arboriculture generally, for nothing is more conflicting and aggravating, even if not confusing, than the heterodox system of nomenclature which prevails even in the best and oldest established nurseries, both at home and abroad. In each case the names are retained which were first known or under which they were received, notwithstanding the fact that in the next garden or nursery, perhaps only a few hundred yards off, the plants may be the same, but the names different. The first catalogue of the plants at Kew was published in 1768, and contained the names of some 3,389 species, of which 488 were hardy trees and shrubs. A rough census of the distinct forms now in cultivation brings the number up to 20,000, including 3,000 trees and shrubs. Previous to this there has been no complete catalogue published since 1814. Visitors who are in any way interested in the living specimens must be thankful for the present instalment and hope that the other lists may not long be delayed.

Besides species and well-marked botanical varieties, less important garden varieties and hybrids are given in the list together with the synonyms that vex the soul of many a practical gardener, but which afford the only means of sifting out the true names from the erroneously applied mass that often masks the identity of the same plant in different gardens. Garden hybrids of Magnolias are classed as varieties under the parent to which they are evidently most closely allied, and at other time separately when clearly distinct from both parents. The Rosaceae has always given a great amount of trouble to botanists on account of the difficulty of defining the limits of genera, but particularly in the tribes Pruneae and Pomeae. All the stone fruits are classed under Prunus, while the old generic terms are reserved as headings into which the genus is divided with a separate alphabetical arrangement to each section. As an indication of the divided state of opinion amongst botanists with regard to the stone fruits, we may state that the recently imported Abbé David's Almond (Prunus davidiana) has been classed amongst the Plums by one author, as a Peach by another, as an Almond by a third, and as an Apricot by a fourth. We mean that they have used as many as four distinct generic names for this one tree. Where it is so difficult to see a clear line of demarkation between two or more assumed genera, the better plan is to merge them into one. The sections into which Prunus is divided are Amygdalus (Almond, Peach), Armeniaca (Apricot), Prunus (Plum), Cerasus (Cherry), Padus (the Bird Cherry), and Laurocerasus (the Evergreen Cherries or Cherry Laurels). All this is quite clear, but difficulties still exist with regard to some of the species of Prunus, as the hosts of synonyms clearly testify.

The ink and brains that have been spilt and spent (we shall not say wasted) over such species as Prunus pseudo-cerasus and P. serrulata are something marvellous, and we doubt not will continue. Gardeners and botanists have vied with each other in the bestowal of names upon them, and in some cases it is doubtful to which species the garden name refers. When they have had their brief day of popularity these Cherries will sink into obscurity or oblivion till some gardener, perhaps, in the course of the next hundred years will accidentally discover their merits and rescue them from some outlandish corner of the land and re-christen them. Then the botanist will come to the rescue and the old battle will be renewed along the whole line. The names as they now stand in the "Hand-list," with their numerous synonyms, have been identified with the originally described and therefore type specimens, and should be written with indelible ink on imperishable labels.

Other instances of disparity of opinion might be given in the genus Prunus, but we now turn to Pyrus, which has also had a conflicting history. In the "Hand-list" it is divided into seven sections, and consistently with the "Genera Plantarum" includes the species formerly classed under Cydonia (Quince) and Mespilus (Medlar). We could have wished Mespilus to be retained as a distinct genus on account of the bony endocarp, which seems to show more affinity with Crataegus than Pyrus. Contrary to the opinion of the "Genera Plantarum," Eriobotrya japonica has been separated from Photinia. As there was a species of Pyrus named P. sinensis and P. chinensis, and another named P. sinaica, it has been necessary to make a new name for Cydonia sinensis, and to obviate the confusion it has been named Pyrus cathayensis. P. spuria, a tree of hybrid origin has had no less than six generic and five specific names bestowed upon it, so that we cannot be too thankful for an authoritative and reliable list like the present.

Amongst the general features of the book to be noticed is that the names are printed entirely on the right hand page, and the left hand one left blank, so that any gardener or other who may use the list can mark the species in his collection, and write any additions he may make upon the blank page. In the naming of species capital letters are used in the case of old generic names, native names, and proper names in the genitive case. Prunus Amygdalus (the Almond), Prunus Mume and P. Simonii (Simon's Peach) are instances of all three respectively. But when an adjective is formed from the name of a place or even a proper name, small letters are used such as P. japonica (the Japan Cherry) and P. grayana (the Grayian Cherry). We had hoped that the "Hand-list" had followed the reformed method of uncoupling the letters of diphthongs, such as ae instead of æ. Prunus graeca, P. Chamaecerasus, Paeonia, Holboelia, Rubus Idaeus, Hedera Helix Roegneriana, and Spiraea are set free, why not Ægle, Ilicineæ, Æsculus, Euonymus europæus, E. europæus aucubæfolius, and others? The cases are so equally divided that we can hardly exculpate the printer except in the terminations of the names of the orders.

LISIANTHUS RUSSELIANUS.

This must, I think, be an almost forgotten plant in most gardens, though quite as beautiful, to say the least, as Pleroma elegans, which is better known, and the introduction of which may have had some influence upon the fortunes of the Lisianthus. Being easily managed and having flowers of a similar colour, the Pleroma rapidly became a general favourite with growers, whether exhibitors or not, and since then the Lisianthus has rarely been seen so well done as it can be. My first acquaintance with it dates back a long way, when I had the pleasure of seeing a plant in full flower fit to grace any exhibition table, and if a similar one should by any chance again find its way to any of our great flower shows, I believe it would be among the most admired things exhibited.

One very general mistake has been in regarding it as an annual, for it cannot be grown to full perfection as such. Sow in April or May in a temperature of 70°, by the end of June pot singly into thumbs, still keeping them close and warm. During August shift them into large sixties, and when established in these, give plenty of air to harden them off so that they will go through the winter better. From October to January keep them on an airy shelf in the greenhouse; then select some of the strongest plants and put them into a moderately warm house or pit, and when growth is fairly commenced, shift into 48's, using a compost of one half of fibrous yellow loam, a fourth of peat and equal parts of leaf soil and sharp sand. Early in March they should be ready for another shift, and by the end of April another to 24-sized pots. Never give too large a shift; small shifts, so that the roots get well interwoven in the soil, are better for this subject than large ones, because the fibres run so quickly to the sides of the pot. I have called attention to old favourites, hoping that someone will be led to deliver a worthy plant from the neglect into which it has fallen owing to the multiplicity of aspirants to popular favour.—*W. B. G.*

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne, F.R.H.S. Price, 1s. post free, 1s. 1½d., from the Publisher of the Gardening World, 1, Clement's Inn, Strand, W.C.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Odontoglossum cordatum aureum.—The typical form of this species has reddish-brown sepals tinted with yellow at the base and apex and a few transverse lines of the same hue. The petals, on the contrary, are yellow and enlivened with reddish-brown spots, while the lip is white or pale yellow frequently marked with brown at the base and tip. The variety under notice is much paler owing to the brown having been washed out, so to speak, leaving a pale sulphur ground, and in the cases of the petals spotted with pale olive. The lip is mostly white. Similar cases occur in O. Insleayi Imschootianum, O. Schlieperianum xanthinum, O. triumphans var., and O. luteo-purpureum Vuylstekeanum. O. cordatum aureum is represented by a coloured plate in the *Lindenia Pl.* 430. It becomes more interesting by contrast with the type. Both should be grown in a somewhat higher temperature than the allied O. maculatum, owing to the different degrees of warmth of the countries from which the two species come.

Odontoglossum crispum ocellatum.—This beautiful variety of O. crispum appeared in the collection of W. Thompson, Esq., Walton Grange, Stone, Staffs, about the end of 1893. Novelties are still looked for amongst importations of this popular and remarkable species. That under notice departs from the usual run of varieties in the matter of markings. Instead of large blotches mostly arranged one way or another in the central portion of the segments, there are small and very numerous spots crowded towards the margin on each side, but within the white margin. The rosy ground colour of the same region recalls O. c. Ruckerianum, but the variety differs from that in the broader and more or less overlapping segments. There is a figure of it in the *Lindenia Pl.* 429.

Aerides quinquevulnerum.—The flowers of this species are similar in size and form to those of the well known A. odoratum. The specific name refers to a blotch on the tip of each sepal and petal, making five in number, so that the name means five wounds. These blotches are purple, but vary greatly in depth of colour according to the variety. In fine forms the white sepals and petals are more or less spotted all over with fine purple markings. The lip is similar, but the middle lobe is purple. The species is a native of the Island of Luzon, and in this country flowers, as a rule, during July and August, lasting in perfection for a considerable time. It may be relied upon to flower freely every year provided it is kept in a moist, warm atmosphere while making its growth. There is a closely allied species, whose flowers have similar blotches, namely A. Lawrenceanum, and the blooms being larger, it is looked upon with more favour than the older A. quinquevulnerum, but it flowers less freely as a rule, probably owing to the small pieces in cultivation. There is a plate of the species under notice in the *Orchid Album, Pl.* 495

Dendrobium Dalhousieanum at Hernewood, Sevenoaks.—This fine old Orchid is doing wonderfully well in the stove house at the above place, under the able management of Mr. Talmage, the gardener. One plant in an 8-in. pot has six new growths ranging from 2 ft. up to over 3 ft. in height, whilst others in smaller pots are doing equally well, and will at the proper season, produce plenty of its beautiful flowers, as the old bulbs look very promising for bloom. It flowers in April and lasts in good condition about a week.—*S.*

THE PLANT HOUSES.

The Stove.

The turn of the year has at last arrived, and the days are beginning to lengthen perceptibly. While it was neither safe nor advisable to excite the plants any more than could be helped during the season when the great stimulator of plant life, "light," only condescended to stay with us for a very brief space, now that the season has advanced so far this fear need not be entertained to any extent. In the warmest stove the usual temperature during the night has been about 60° Fahr. This may now be kept slightly on the increase, the atmosphere being moister in proportion to the increase in heat. In all

cases the temperature must be governed by the weather, as no hard or fast rule can be laid down regarding it, no absolute standard can be kept up, as to do so means waste of fuel and direct injury to the plants.

ALLAMANDAS.—These beautiful stove plants are among the most freely growing, stove flowering subjects we have, and when they are in anything like health make a lot of wood during the season. If they have not already been pruned, no time must be lost in attending to them. They should be cut back to within one or two joints of the previous season's wood. If young plants are desired, the tops of the prunings, comprising three or four joints, may be put in as cuttings. Insert them singly in thumb-pots, pressing the compost, which should be very light in character, as firmly round them as possible. The pots may be plunged in a brisk bottom heat of from 75° to 80° Fahr., a few weeks' time being sufficient to cause them to send out roots, the tops bursting into growth at the same time. Allamandas need to be kept well on the dry side during the winter months, and no water should be given plants which have been pruned until growth commences, when it must be cautiously applied.

POINSETTIAS.—Old plants of these which are past their beauty should be cut down without delay, and removed to a cooler house to rest awhile. Other plants which were cut down earlier may be given water and induced to break into growths which will be required for cuttings later on.

POTTING.—This may be commenced now as soon as thought fit, supposing a plentiful supply of suitable soil, clean pots, etc., to be in readiness. The larger specimens may be operated on first of all, whilst any plants which have been pruned or headed back should remain until they commence to start into fresh growth before being touched.

PALMS.—These are some of the most important of our stove foliage plants, a fact not greatly to be wondered at when we consider their gracefulness of habit, their robust constitution, and the easiness with which they may be cultivated. In potting them it is important that as small pots as practicable should be used, as they invariably do better thus, and their usefulness as decorative plants for the dinner table or for kindred purposes is greatly increased. The compost should consist of two parts of good loam to one of peat, with plenty of sharp sand. Do not mutilate the roots any more than is unavoidable when shifting; press the soil down firmly around them, but do not fill the pots too full. They require plenty of water at all times, and space must therefore be left so that a sufficient quantity may be readily administered.

Greenhouse and Cool Conservatory.

As the sun acquires power, a watchful eye must be kept upon the temperature, and air must be admitted soon enough in the morning, or the thermometer may run up higher than is desirable, the effect of the too high temperature being to shorten the life of many of the flowers. The house should be looking gay and bright, as there are numbers of plants which, by a little judicious forcing, may be had in bloom at this season.

CYCLAMENS.—These fine old favourites are a host in themselves, and their beautifully mottled leaves and brilliantly coloured flowers are always admired. Occasional doses of weak liquid manure may be given them, with an eye to assist them in the production of flowers. Any particularly fine blooms of these as well as of any good Primulas should be marked, so as to save the seed for future occasions. A small peg should be placed in the pot of such whose seed it is desired to save, as pencil marks upon the pots themselves are not to be depended upon, being extremely liable to be rubbed out.

CAMELLIAS.—The sponging of the leaves of the late blooming plants of these must no longer be delayed, or it will be attended with great danger to the rapidly swelling buds. Attend carefully to the water supply, especially of those coming into bloom. Occasional application of liquid manure will benefit these latter considerably.

BOUVARDIAS that are past their flowering season may be cut down and removed to a vacant pit or frame to rest. Here they will need but little, if any, water for some time. Other plants which bloomed earlier and which were cut down a few weeks ago may be introduced into a gentle heat to furnish cuttings when required.

RICHARDIAS.—These are frequently attacked during the spring months by the little pest green-fly, which greatly disfigures the leaves and often the flowers of the plant. Affected specimens may be carefully sponged, or if they have no flowers open upon them, may be removed and placed for a few hours in any pit or frame that is being fumigated.

Pits and Frames.

CONTINUE to remove plants which have been forced to the show house as they come into bloom, filling their places with others which are to receive like attentions. The latest batches of Hyacinths, Tulips, Crocuses, etc., should be kept as cool as possible and allowed to come on naturally. The covering material must be taken off all pits and frames as early in the day as the state of the weather will permit so as to allow their inmates to get the benefit of all the light possible. Air must, however, be carefully administered during severe weather, especially to frames into which it is suspected that the frost has penetrated.

HERBACEOUS CALCEOLARIAS.—Attend to the spacing out of these as the plants increase in size, and where a shift into larger pots is necessary it may be given as soon as desired. A compost of two-thirds of good fibrous loam to one of leaf mould, enough sand being added to add porosity to the soil, will answer admirably. The great enemy of the herbaceous Calceolaria is green-fly, and light fumigations should be given before it becomes very bad.

FUCHSIAS.—Plants that have been pruned and placed in a gentle heat to induce them to break into growth may, as soon as they have started well, be knocked out of their pots, as much of the old soil shaken from them as possible, and repotted into a smaller size. This will cause them to make roots freely, and will insure the possession of strong healthy plants.

BEDDING STUFF.—In many establishments it is the usual practice to save the old plants of bedding Pelargoniums and pot them roughly up upon the approach of winter. No matter how carefully they are treated, however, parts of them are sure to damp off. These affected portions should now be carefully removed by means of a sharp knife, and a little increase of temperature given, to cause them to break away. The propagation of Verbenas, Lobelias, Ageratums, etc., must be proceeded with. As soon as there are sufficient cuttings upon the plants to form a nice little batch they should be inserted without delay, and the cutting pots plunged in a hot-bed or propagating frame as recommended in a previous calendar.

DAHLIAS.—The roots of any new or rare varieties of which it is desired to increase the stock may be laid in boxes and covered roughly with soil, afterwards placing them in a warm pit. In such a situation they will soon start into growth. The cuttings should be taken when about three inches in length, potted up singly into small pots and plunged in a brisk bottom heat.—*A. S. G.*

THE ORCHID HOUSES.

CATTLEYA HOUSE.—Leptotes bicolor, although not so attractive as are most of the Brazilian Orchids, is nevertheless valuable on account of its flowering during the winter months. Another recommendation is that it takes up but very little room, and is of easy culture under various conditions. No wonder, therefore, that it is popular with most amateurs. It does well either when grown on blocks or in baskets, and very little material about their roots is required, but good peat and live moss should always be used. Being a short habited plant, with almost terete foliage, it naturally requires plenty of light and air, and no better place can be found for them than a position side by side with the white forms of Laelia anceps, which require plenty of sun to make them flower. During growth they require plenty of moisture at the roots, but during the resting season, very little water will be needed, as the nature of their growth enables them to keep plump a very long time without any moisture being directly afforded to them. Indeed, to keep them wet at all times of the year would mean bad health and perhaps ultimate decay. No one can do without rest, and if you study Orchids, or plants generally, closely you will find that their likes and dislikes very much resemble our own.

COOL HOUSE.—Odontoglossum Hallii, now in flower, is one of the finest of the brown section, and very easy to grow, too, if given anything like a chance. It does very well in the same house as the O. crispums are grown in, but it requires a little more shade to be at home. The leaves are longer and more flimsy; the bulbs, too, are large and sappy, which to me seems to point to a shady position with plenty of moisture until the spikes appear, when the shading may be less and the atmosphere drier. When well grown they produce strong branching spikes 3 ft. and 4 ft. long, with two to three dozen handsome flowers. Imported plants do not perhaps establish themselves quite as easily as the O. crispums, or make such large bulbs the first season, but the second year they seem to fairly jump, and make bulbs large enough to produce good strong scapes.

ODONTOGLOSSUM LUTEO PURPUREUM.—This, like the preceding Odontoglossum, should be in every collection, and it requires similar treatment. Good fibrous peat and live sphagnum moss in about equal parts, with bits of crock inserted here and there as the potting proceeds, is all it requires to grow in, but when carrying large spikes of bloom a little stimulant in the way of weak manure water will be beneficial.—*C.*

THE VEGETABLE GARDEN.

Seasonable Work.

WHILE the frost continues, press forward with getting manure out on to all vacant ground, in order that less time may be needed for such work when the frost breaks, for should this weather continue much longer, there will be many arrears that will require attention. Those who took the precaution to have a good stock of all kinds of roots such as Rhubarb, Asparagus, Seakale and Chicory lifted and got under cover, or the ground covered with litter to exclude the frost, will have no difficulty in drawing supplies to take the place of those that have become exhausted, or keeping them up should the present severe weather continue a week or two longer. With from eighteen to twenty degrees of frost each night growth outside is at a standstill, therefore forced vegetables will be in greater demand, and as these do not grow so freely in such weather as we have been experiencing, every attention must be paid to them in order that growth may not in any way receive a check.

Potatos growing in heated pits will be greatly benefited by having the lights covered at nights to keep the frost from the glass. It is astonishing what a difference in the inside temperature is made by a slight covering. Asparagus should have all the light possible, otherwise it will not be tender. Therefore any covering put over the glass to exclude frost should be removed early in the morning. It is not often we have the weather so severe at such a late period, and many no doubt are ill-prepared, for a continuation, we may, however, have another week or two, and if so, much work will be delayed. Peas should be sown in a gentle heat to bring them forward, and when well through the soil, be removed to a cold frame or late peach house to harden off.

Cauliflower that were sown about the middle of last month will be large enough for pricking off and this should be looked to, for if allowed to remain in the seed pans damping is often the result. French Beans will need constant attention this severe weather, for owing to the pipes having to be raised to a greater heat to keep up the requisite degree of warmth, red spider will make its appearance unless kept in check by syringing. Make other sowings of these to prevent any gaps in the supplies; as the weather will soon be getting warmer it will not be necessary to make such large sowings as the pods will set more freely.

A sowing may be made of Tomatos for an early supply; but where room is limited, and there is any possibility of the plants getting drawn before being planted it would be much better to defer sowing for another week or two. Plants already up should be kept near the glass to prevent spindly growth. When potting or planting make the soil firm round the roots, as this will in a great measure cause robustness by making the plants short-jointed. —*Kitchen Gardener.*

A RAMBLE THROUGH SNOWDONIA.

(*Concluded from page* 344.)

CONTINUING our ramble, we soon leave—not without regret—the lovely lake Ddinas in our rear; but regrets in this delectable district are soon swallowed up in fresh surprises. After passing some cottages and noticing Helenium autumnale, and Chrysanthemum maximum, we come across some old slate-roofed—everything is slate here—out-buildings where Polypodium vulgaris has simply taken possession. It is only by examination that one can discover roof at all—this fern is the *alpha* and *omega*, the beginning and the end. The golden-yellow heaps of spores betrayed its vulgarity, for although I searched assiduously in the neighbourhood for the plumose form, I could not find a sufficiently distinct variety to warrant removal. Here was the common Polypody growing luxuriantly in Wales, and yet there was not a Welsh one! Glan Aber village is now reached—wild, picturesque, sylvan, precipitous slopes; fir-clad mountains, and the King of Snowdonia in the dreamy distance. It is now mid-day and the sun savours rather of midsummer than September. But, no matter, it increases one's interest in Nature, and adds a stimulus to one's enjoyment.

While we are thus debating the best points of the panorama, a lovely scene is suddenly unfolded to us, and Llyn Gwynant is stretched before us. This extensive sheet of water gives its name to the beautiful vale we are now traversing, and feeds the other one we lately noted. Its shores are well-wooded with Beech, Mountain Ash, False Maple, Spanish Chestnut, Oak, and Pine, and Rhododendrons seem to thrive, for seedlings in all stages strew the way. Linaria Cymbalaria and Asplenium Trichomanes agree to grow together, while Asplenium Adiantum-nigrum, and Scolopendrium vulgare occupy the same old wall. There were but a few stunted plants of the latter, and these were the only ones I found in Wales! A deviation now and then resulted in discoveries which would otherwise have been untold. Thus I came across Sedum Telephium, and as I carefully removed and bagged a fine piece from the "crammed wall," with rosy-purple flowers, I thought with Tennyson that—

> "*If* I could understand
> What you are, root and all, and all in all,
> I should know what God and man is."

Just then a conveyance went by with a solitary occupant, and he was reading! So, while I had not eyes or understanding large enough to take in the philosophy of Nature, he was content to breathe the air, and ignore the aid of essentials by which he was surrounded. The valley now narrowed, and the road became more elevated; the rivulets and cascades also became more numerous and noisy; here were mountains and music, water and wood, sunshine and sheen. I thought of Rasselas, Prince of Abyssinia and the "Happy Valley," and I flung me down and pondered on the problems of life, the origin of flowers, the value of mountains and the sweetness of the air. Jefferies, Ruskin, Darwin, Lubbock, Wordsworth, Thomson became interpreted. I felt with Ruskin that "mountains are the beginning and the end of all natural scenery," and with Jefferies that "of all sweet things there is none so sweet as fresh air—one great flower it is, drawn round about us, and enclosing us, like Aphrodite's arms." Opposite, a rushing rill resounded; here another came tumbling down, while yet a third made such precipitous progress that it reminded one of those ardent philosophers who, in their hurry for reform, dash along regardless of time. As, however, human energy, like water soon finds its own level, so these rollicking rivulets soon paid the debt of Nature and became absorbed in the larger and more placid element which lay beneath them. Moreover, time has not only thus changed the face of Nature; but our relations also in respect thereto.

Here are the conditions suggestive of Sprites, Nymphs, Goblins, Demons; but we do not now accept those ancient legends concerning them—they are relegated to the limbo of uncertainties, or the nursery, where, alas! they still sometimes conflict with reason, and still continue to hold a kind of mystic sway. Yet, indeed in early times, these things were instinct with life, were wretched realities, capable of producing such terrible nightmares that we moderns are happily quite unconscious of. What has brought about all this change? Science, blessing on science, for although it has destroyed many a poetical myth, it has explained the true causes of natural phenomena which are far more interesting and wonderful, and "contain far more true poetry than those which have occurred to the untrained imagination of mankind."

So, alternating between regret and wonder—regret that this fair vision is so soon to become a dream of the past, and wonder that the action of the elements has not long since razed these mountains to the ground—we arrive at Perry-Gwryd Hotel, where other thoughts and other views present themselves.

Here the road diverges, on the one hand to Capel Curig, and on the other to Llanberis. We take the latter. A rise in the road brings us to Pen-y-pass, *i.e.*, the "head" of the celebrated pass of Llanberis, and one of the more dangerous routes to the summit of the local "King."

Here we are also in the shadow of the Glyders—little less in height than Snowdon itself—while Moel Siabod, another massive mountain, seems quite near. As we descend towards our destination we become conscious of wildness and grandeur not hitherto experienced, for the road is narrow and the heights are so precipitous that the huge sides of the mountains, black and uninviting, rise almost perpendicularly over us. Shattered masses of rock lie about in awful confusion, while one large boulder, of different formation, is perched high and dry, where no art of man could ever have placed it. It is supposed to have been left there when the ice, "which formed part of the great glaciers that filled the valley, was finally melted from below it."

The narrowness and perpendicularity of the Pass will be understood when it is stated that if the voice be projected against its sides echoes will be produced, which, ringing back quick and clear, will re-echo again and again until the sounds commingle and gradually fade away. As we proceed, the little river Seiont becomes more and more turbulent as it gains strength, and rushes about and among the rocky detachments which impede its course. Llyn Peris and Llyn Panarn, two beautiful lakes, receive its waters, passing them on again to their ocean goal.

Opposite are the great slate quarries, where over two thousand workmen are doing their very best to reduce a portion, at least, of Snowdonia to one dead level. The railway station is at hand, to which we retire, and shortly find ourselves once more bound for civilisation and home after a most delightful ramble of about twenty miles through scenery of the most refreshing order.

A word or two anent quotations, which, I fear, have been too freely used—at least, so mentor says. Well, time, place, and subject must be my excuse; for aphorisms, or quotations, in literature, like flowers in Nature, are gems of the first water, which, by virtue of their brilliancy and recognised merit, go far to beautify their dull surroundings. Quotations, then, are generally selected because they represent condensed ideas, germs of truth, or thoughts of master minds which cannot well be improved on. The object in calling attention to them is to promote inquiry, to emphasize the beauties of our tongue, or to furnish the reader with a mood to moralise. So, as in most other things, the "survival of the fittest" also here applies, for only those quotations which are likely to "point a moral, or adorn a tale," will be accepted by the thinking host. Quotations—especially poetic quotations—are ornaments and illustrations to common prose; nay, they are more, they are the Roses and Lilies of our mental as well as our material gardens, for without them, or the lessons which they convey, we should be like Iago—minus his assumed good name—"poor indeed."—*C. B. G., Acton, W.*

HINTS ON POTTING.

THE season has again come round when a general re-potting of most plants is necessary to their health and general well-being. Cleanliness is an important essential in plant cultivation. It is not possible to grow a healthy specimen in a dirty pot or tub, and dirty crocks are equally objectionable. Generally speaking there are always plenty of broken pots about a place, and it is much better to use up these than to employ old ones, unless they have been thoroughly washed and sweetened by drying, before using them a second time. Crocks play an important part in successful plant cultivation. What the vent hole or air-tap, is to the hot-water apparatus, so is the well placed crock to an ordinary flower pot, and without good drainage good cultivation is an impossibility. To crock a pot perfectly, break a piece of pot, not too thick, according to the size being used, but almost large enough to cover the bottom of the pot, and always place it with the concave side downwards, so as to allow water to pass easily underneath. Upon this place some other pieces, about 5 to a 6 in. pot, and finish off with some much smaller ones on the top, so as to make a perfect filter. Should the plant be something special, put in a thin layer of moss, which will keep the drainage perfectly clear and unobstructed. Many failures and disappointments arise from the defective drainage of flower pots.

As to potting soil, one can never be too particular, for therein is contained the plant food in more or less abundance, and in proportion to the quantity and quality of the food supplied, will be the degree of vigour obtained. Over potting should always be avoided, and I am a great believer in firm potting, which is conducive to a short jointed, stocky growth of a lasting character, whereas loose potting brings about the opposite results, and adds to the labour of watering. As a stimulant for pot plants for Aspidistras, Palms, Freesias, Tulips, Azaleas, Spiraeas, etc., I find the Patent Silicate Manure most valuable, and can recommend it to any one requiring a safe all round perfection of plant growth.

If every one would treat their plants as thoughtfully as they do themselves; give them air without draughts, good wholesome food applied with judgment, and extra stimulants as required, the result will be many an hour's extra pleasure to some, and profit to others.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

SOME GOOD LETTUCES.

VEITCH'S PERFECT GEM.—Last spring I was walking through a gentleman's garden with an old friend of mine, and noticed a very compact dark green looking Cabbage Lettuce, and on making inquiries about it, I found it was Perfect Gem, my friend remarking, "and a Gem I am pleased to call it." He at once offered me a few plants, and a pinch of Seed, and many thanks to my old friend for the same, for it proved to be the best Cabbage Lettuce I ever grew. It is compact in growth, very distinct in colour, hearts solid, crisp and tender, and the flavour more that of a Cos than a Cabbage Lettuce. I am sure it only requires to be better known to become a general favourite. I shall grow a large quantity of it this season, for although it may not take the eye as soon as some varieties, yet when once used will not be forgotten, but often sought for.

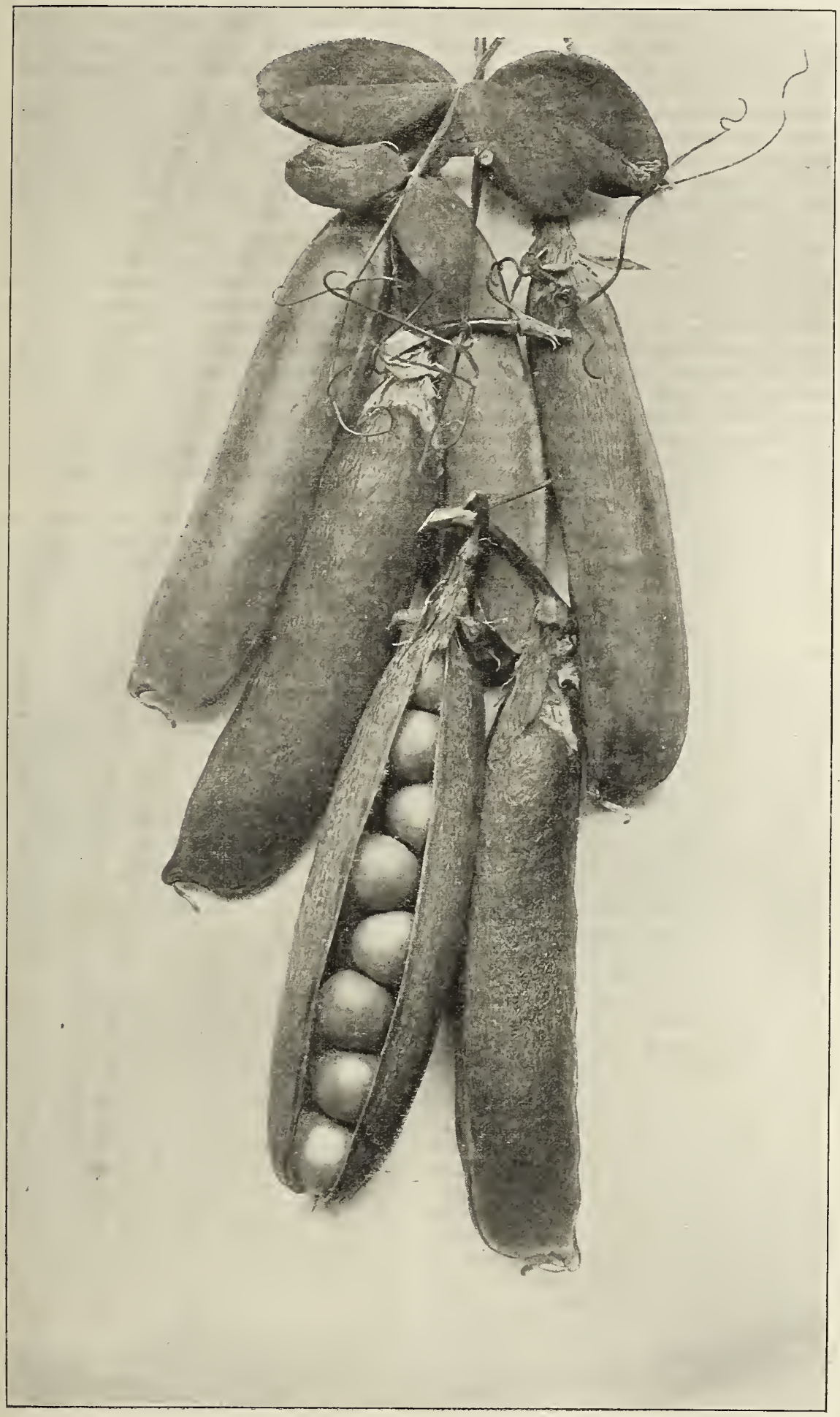
SUTTON'S FAVOURITE.—Another grand Lettuce is this, which has been a favourite of mine for some years. It has a grand, bold appearance in a growing state, and when cut it shows itself off to great advantage having a bold, crisp, golden appearance. Growing very quick and to an immense size, makes it one of of the best Cabbage Lettuces we have. It is very crisp and tender, also a fine exhibition variety, as well as a grand table Lettuce of fine quality.

CONTINUITY (Daniels) is a fine variety of Lettuce, and has the grand quality of standing a long time before running to seed, as so many of the varieties are inclined to do. I like Continuity very much for so far it has been tender, crisp and of good flavour. The only drawback I find to this splendid variety is that as soon as cut and put up the fine bronzy colour quickly becomes dull, and causes the whole to look dead and have a sluggish appearance. But while growing in the ground it affords a very pleasing contrast to other varieties; it also makes a change from day to day, when served up at table. I would advise those who have never tried any of these to give them a fair honest trial this season, and see for themselves which will prove the best of the three. I intend to try them all again by sowing at the same time and testing the time they will stand before running to seed.—*J. L. P.*

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gadens, Chiswick; Secretary of the Fruit Commitee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, GARDENING WORLD, 1, Clements Inn, Strand, W.C.

AN ALBUM OF PEAS.

ILLUSTRATIONS of Peas when simply accomplished by the hand of the artist, aided by his imagination, may mislead for a time, although his triumph may be but short-lived. That good and true representations may be and are produced by the artist we have not the slightest doubt; but when photography takes the work in hand we get the object true to nature.



PEA: SUTTON'S MAY QUEEN.

We had occasion recently to refer to some excellent figures of Peas, one or two of which were rather faint or obscure owing to their being printed on thin paper; but the Messrs. Sutton's "Album of Garden Peas," now before us, with an additional number of full page plates representing bunches of pods as grown naturally, leaves nothing to be desired on the score of printing or paper. By the courtesy of Messrs. Sutton & Sons we are enabled to reproduce the illustration of the early variety May Queen, which we selected not because it was the best example of the photographic plates in question, but because gardeners everywhere are now recognising the value of the variety for early work. It is a first early wrinkled Pea derived from a cross between American Wonder and Early Paragon. The satisfaction it has already given is a sure guarantee that it will be more and more largely grown. The pods are twice the size of those of American Wonder and as early, while the figure shows the number of seeds produced under good cultivation—the second requisite to success after a good Pea to work upon has been originated.

There are several other plates to which we desire to make special reference on account of the great perfection which characterises them, and the triumph of art in aid of the gardener. That representing the Pea Sutton's Bountiful is particularly fine, and the seeds look as if ready to fall out of an open pod, so clear are they. Ot almost or quite equal to it in excellence of workmanship are Sutton's Early Marrowfat, Sutton's Perfect Gem, Sutton's Dwarf Mammoth Marrowfat, Sutton's Eureka, Sutton's Invincible Marrowfat, Sutton's Peerless Marrowfat, Sutton's Magnum Bonum Marrowfat, Sutton's Exhibition Marrowfat, and others. The last-named half-dozen are notable for their great size, each pod being perfectly filled and containing from eight to ten seeds. The exactness of the photographs make the pods appear as if showing the bloom with which they were covered. The shape of the pods can also be determined, whether round, broad and flat, or tumid. Such indications should assist a gardener in determining what kinds are most suitable for exhibition, independently of description. Of course, side, back and front views of many of the kinds are given, so that one can gather at a glance the chief characteristics of any particular variety with the aid of such an album.

STOKING.

I READ with interest the remarks made by "An Old Stoker" on p. 345 of a recent issue of the GARDENING WORLD, and quite agree with him when he declares that stoking is one of the dirtiest and most disagreeable operations the gardener has to perform. It is also very true that a great deal of trouble is caused and a naturally unpleasant task made still more unlovable through neglect of the common laws of cleanliness. Still, a great deal might be done in the way of improvement by the selection of suitable fuel. True it is that there are some boilers in which anything may be burnt, but this is not the case in all instances. Cinders, for instance, constitute a great part of the fuel used in the stoke-holes in many establishments, and anyone who has had to keep up a fire with them knows what an unpleasant task it often is from the great amount of clinkers they make, a fact not to be wondered at when we consider the large quantities of rubbish that cinders usually contain.

Where abundant supplies of coke are obtainable, it is of course much easier to keep up the requisite heat. In my opinion, however, coke is by no means the best fuel; the palm in this respect must be given to "Anthracite" coal. I have tried both, and should, as the result of this experience, unhesitatingly record my vote in favour of the latter, both for cleanliness and heating power. I have been supplied with Anthracite for some years past by Mr. William H. Essery, of Swansea, from whom I obtain it broken up ready for use, the waste and trouble of breaking thus being saved, a consideration where large quantities are consumed. Being, as it is, entirely without smoke, the flues of the boilers in which it is burnt do not get choked up so readily, and the unpleasant sulphurous fumes so common to coke are conspicuous by their absence. A fire banked up at night with "Anthracite" may be depended upon to maintain the heat much better through the night than when coke is used. The saving in labour alone which may be effected by its use is a great point in its favour apart from the saving of worry to the gardener, an individual who, as a rule, is particularly tried in this respect at all seasons of the year, but at none more particularly than when the prevalence of severe frosts renders it a matter of difficulty to keep the thermometers in the houses up to the required standard.—*An Old Gardener.*

VACCINIUM MYRSINITES.

THE cultivation of hard wooded plants is not now pursued with so much zeal and enthusiasm as was the case some thirty or forty years ago. Like many other things they have gone out of fashion, for a while at least. In places where a few Ericas, Epacrises, Aotas, etc., are grown, dwarf, sturdy plants of compact habit are needed to form a suitable edging when they are staged in the show house. Among the subjects suitable for such a purpose mention should be made of Vaccinium Myrsinites. The branches are sub-pendant in habit, and the plant is of a dwarf character, usually ranging from 1 ft. to 18 in. in height. The flowers are pink or pinkish-white in colour, and borne upon short racemes. Like the rest of the Vacciniums, the soil in which it is grown should largely consist of peat. V. Myrsinites was described in the *Botanical Magazine* under the name of V. nitidum decumbens and is synonymous also with the V. Sprengelli of gardens.

PRIMULAS AT READING.

The charming and superb strains of the Chinese Primula at the Portland Road Nursery of Messrs. Sutton & Sons, Reading, are always a feature of interest from the early days of the new year onwards. Those grown for seed are all sown in June with the object of getting them in bloom at this particular season, and when the trusses are fairly well expanded the work of pollination is carried on with careful and steady perseverance till the whole has been accomplished. Happily there are early and late varieties, so that the tardy process that will not be hurried can be overtaken and accomplished in due season. Besides the proved sorts that are grown in quantity, we cannot overlook the extensive trials of new or untried kinds, the seed of which was gathered in June and sown in July. There are 111 trials in one house, a dozen pots of each sort. Out of 800 crosses only 30 were saved, and they are only second rate, thus showing the trouble and expense incurred in trying to get something better than existing kinds.

Single Varieties.

For boldness of character, the giant strain takes the eye at once alongside of those less favoured in the matter of size. Under favourable treatment the flowers of the plain-leaved Giant White attain astonishing proportions when the pips come to be measured. The pure white flowers are of great substance with a large, dark eye. Giant Crimson has been an excellent companion to it for some years, and its glowing red hue stands out in bold contrast to the purity of the other. The soft and pleasing hue of Giant Pink will commend itself to many on account of its charming delicacy and the great size of the blooms. It is a novelty, now put into commerce for the first time, and strengthens the group of which it now forms a part. All the four kinds may also be had in mixture.

Amongst the ordinary types the general standard of excellence is well kept, and the colours are so varied and pleasing that nothing further seems necessary for embellishing the conservatory so far as single Primulas are concerned. White is always in request, and is well supplied by Sutton's Pearl, which has held its own for many years, firmly establishing the fact that it supplies an actual want in spite of the many substitutes that have since been raised. The glowing scarlet-red flowers of Reading Scarlet are so strong by contrast with the white that it is better to tone them down with something intermediate to blend and harmonise the whole. There are several with which this may be done by gradual stages, and Brilliant Ruby, a novelty sent out for the first time, might be put in contrast with it. The flowers are brilliant red and well set above the dwarf and compact foliage. Next to this we should place the well-known and old favourite Ruby King, which is the junior of Sutton's Pearl only by a year. Its dwarf and compact habit, and ruby flowers with a crimson zone round the eye make it a gem of the first water, and that is the secret of its longevity. The depth of colour in Reading Blue makes it a landmark in the range of hues that now characterise the Chinese Primula. The colour as it first appeared has been practically eliminated and replaced by one of greater intensity and purity. The beauty and delicacy of Reading Pink is widely recognised, and by contrast with white gives an impression that is strangely in contrast with the inclemency of the weather and the stern and rugged environment immediately outside. The flowers of Brilliant Rose are of a soft rose when they expand, but they intensify as they develop until they represent one of the most pleasing and brilliant hues in their class.

Fern-leaved Single Kinds.

The elongated and finely cut character of the leaves of this group make the varieties into which the original developed very ornamental associates for the plain-leaved types. It would be rash to hazard an opinion as to which is the best and most beautiful of the fern-leaved sorts, as that is a matter of taste; but the contrast in colour between the flowers and foliage of Gipsy Queen makes it one of the most remarkable of Primulas. The flowers are pure white and well shown off by a background of leaves of a deep metallic tint. The dark green leaves of Purity equally show off the chaste and snow-white flowers that attract by their size, colour, and substance. Sutton's Blue is an excellent companion to Reading Blue, as foliage plays no mean part in the decorative effect of the whole. In this case the fern-like leaves are short and arranged in a compact rosette, and the blue of the flowers is rich. The quantity of flowers produced by Snowdrift is great, and their value for decorative purposes is enhanced by the circumstance that they hang on the plant for a much longer period than those of other kinds, so that the whole truss has time to expand, thus adding materially to the general effect. The soft rose colour of Rosy Queen is even more delicate than in the case of Reading Pink, but charmingly pretty, and easily distinguishable both in colour and foliage.

Double and Moss-curled Varieties.

The small segments forming the centre of the flowers in this section are sufficient to give them a totally different aspect from the single ones, even should the respective colours be identical. The flowers are more durable than those already mentioned, and are therefore well adapted in many cases for cut flower purposes. The fact that they can be raised so readily and as true from seed as the single sorts lends them an additional recommendation. Imperial Purple, no less by the richness of the flowers than their size, is indispensable to a full display in the conservatory in winter, but especially in spring when the colour becomes more intensified and brilliant. Equally rich of its kind is Double Carmine; and besides its pleasing hue it is valuable as being amongst the earliest to come into bloom. The charming Double White Fern-leaved should prove an excellent substitute for the old Alba Plena, and gives much less trouble in its management. The fiery red flowers of Double Scarlet is indispensable in a conservatory where something is necessary to brighten up and give a glow to its occupants. The softer shades are no less welcome in other cases, and Double Rose always finds plenty of admirers. The plain-leaved Double White cannot fail to give great satisfaction under kindly treatment, for the mass of flowers it develops on large plants is something remarkable. Double Crimson takes rank amongst the boldest and most effective on account of the rich glow of its flowers, and is therefore always desirable. Double Blue is no less one of the greatest acquisitions in this strain, and introduces a colour that is otherwise difficult to supply at this season of the year. Those who have no space for a batch of each kind can have the whole in mixture and of the same high quality.

The quaint beauty of Sutton's Gem is due to the peculiar form of the circular leaves and their curled and crisped edges, resembling in the aggregate a bunch of curled Parsley surrounding the base of a bouquet of flowers of a beautiful pink. The beautiful foliage of the Double Alba Magnifica, and the fringed flowers, with their wavy segments, recall the old favourite Alba Magnifica, which was a great favourite in its day. In the double form it has a fresh charm added to it. The Moss-curled strain is now getting numerous in variety, and we hope that improvements will continue to be effected in this direction for the sake of the new and beautiful character possessed by the wavy, crisped, and curled foliage.

Many of our readers will doubtless be interested to know that a succession can be kept up by the varieties above enumerated. Amongst single varieties sown in June, Snowdrift and Reading Scarlet will come into bloom in October. Pearl, Brilliant Rose, Reading Pink, and Gipsy Queen may be considered as second earlies, sown at the same time as the rest. All the giant forms are late in coming into bloom, but Giant Crimson is the latest, and must not be hurried, but allowed to come on gradually. April and May are really the most suitable months for amateurs to sow their Primulas, as it gives them a longer season and less artificial heat is required. There are 1,500 doubles in one house making a grand display. The earliest to bloom are Double Scarlet, White Rose, and Carmine, all of which come in together. The blue varieties, Carnation Flaked and most of the others, are moderately early or late.

For want of space we are unable to do justice to the new varieties this week, and must defer further mention of them till our next. In the meantime, we recommend our readers who can visit Reading to see for themselves, and we can assure them the time spent amongst the Primulas will not be wasted.

The National Chrysanthemum Society's Catalogue.—Centenary Edition. Containing 1,000 new varieties. All the novelties. A history and complete bibliography of the Chrysanthemum, by Mr. C. Harman Payne. Price, 1s.; post free. 1s. 1½d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

EPIPHYLLUM TRUNCATUM AND ITS VARIETIES.

Among the many gardens which are scattered throughout the country, there is only, we venture to say, an extremely small percentage of those of any size wherein Epiphyllum trnncatum or some of its garden varieties do not find a home. Not only do we find it in by far the larger proportion of establishments where a staff of professional gardeners are kept but the amateur has promptly fallen in love with it and thinking it quite good enough for his cottage window or his little greenhouse has attempted its culture and in many cases with marked success.

Many people run off with the idea that a comparatively high temperature is needed to grow Epiphyllums successfully. This, however, is a great mistake, for they will stand as low a temperature as the majority of greenhouse plants without suffering appreciably. Where such regularly cool treatment is accorded them, however, the usual flowering season is, as a matter of course, retarded somewhat, the health of the plants not suffering in the slightest. As a suitable plant for growing in the cottage window it finds not a little favour in the eyes of many, as from its peculiar leafless, flattened branches it is so entirely different in appearance from the generality of plants which are usually to be found there. Its curiously shaped brilliant hued flowers are always greatly admired and last a long time in condition, an additional recommendation to the lover of flowers whose space for cultivating them is of the limited order.

Then again the plants are exceedingly slow of growth, and thus are not at all likely to soon develop into too large and unwieldy specimens. Such plants as this are just the most suitable for cultivating in the small glasshouses so common to the amateur's garden. The commonest form in which we meet them is that of standards, from 1 ft. to 15 in. in height, growing upon Pereskia aculeata on which they are usually grafted. By this means fine handsome plants may be obtained. While propagation by grafting is an exceedingly simple operation and calls for no great skill or technical knowledge on the part of the operator, favourable atmospheric surroundings being the chief consideration, plants may easily be obtained upon their own roots from cuttings which strike both easily and well if placed in heat. From their naturally dependent habit, however, plants obtained from cuttings are not so suitable for culture in pots, where a stiffer, stouter stem than the Epiphyllum ever makes of itself is necessary to impart anything like an air of gracefulness to the plants.

When grown in baskets and allowed to droop naturally over the sides a fine effect can be obtained, although it is an unaccountably rare occurrence to meet with them grown in this way. A really good method of culture is partly illustrated in the succulent house at Kew, where upon a large specimen of Pereskia aculeata, which is trained along the roof and covers one side of the span, an Epiphyllum is grafted about half way up. There should be no difficulty we would imagine in grafting a number of plants along the whole of the stem at suitable intervals. The effect produced by the pendent branches and bright red or rose coloured flowers would be really good and would be a much better way of exhibiting the qualities of a really beautiful plant than the old-fashioned, though not to be despised, stiff pot specimens.

The great point in the culture of Epiphyllums is to see that the soil in which they are growing is never in a soddened or sour condition, but that any water given is allowed free and ample egress. For this purpose the drainage must be made as effective as possible, and a little mortar rubbish or broken crocks should be mixed with the potting compost. Too large pots must also be avoided, as a superabundance of soil around the roots does not tend to promote the welfare of the plants, whilst potting should be indulged in as little as possible. We have seen plants that have not been disturbed for years continue in the best of health and vigour and flower profusely each year, whilst others that have been shifted more frequently have not given very great satisfaction, the injury done to the roots during removal acting as a serious check upon the plants for some considerable time.—*A.S.G.*

For plants which have been in the same pots for several years it is a far better plan to scrape off as much of the surface soil as possible, and to top-dress them with some rich fresh material. Any potting or top-dressing that may be thought necessary, however, must be carried out after the plants have finished flowering. They may then be grown on during the summer months either in a greenhouse or an intermediate stove temperature. Plenty of air must be given them as the autumn advances so as allow the growths made to ripen somewhat, a very necessary precaution if the plants are expected to flower freely. During late autumn and winter months water must be withheld in a great measure, only sufficient being administered to prevent shrivelling, whilst the temperature may range between 40° and 45° by night. As the plants are required to flower they may be removed from the cool winter quarters into a little heat, the temperature of the stove will suit the requirements of the earlier ones, other plants being brought in to form suitable successions.

There are numerous garden varieties of E. truncatum upon the market exhibiting variously coloured flowers, from the bright red of the type to white with variously shaded margins. Among them might be mentioned as worthy of cultivation E. t. coccineum, a rich dark crimson; E. t. vidlaceum superbium, white with deep purple edge; Ruckerianum, deep reddish-purple with a rich violet centre; and Mackoyanum, orange-scarlet.—*Cereus.*

THE AMATEUR'S GARDEN. SEASONABLE NOTES.

Planting.

No one must think of planting until the frost is quite out of the ground, and a spell of mild weather sets in. We have known planting done when the frost has hold of the surface soil, and in the act of planting some of the frozen earth is buried among the roots, and there it remains for a long time, the process of thawing going on slowly, and causing a coldness about the roots of the tree planted. This is one reason why we always so strongly recommend that planting be done in October and November. If any planting remains to be done it had better be deferred until March.

In the

Kitchen Garden

digging and trenching should follow all green crops which are finished, such as Savoys, Brussels sprouts, &c., but if it has to be done in frosty weather, then let all the frozen surface be pared off first, and thrown aside, not buried, returning it to the surface when the digging is accomplished. Advantage can always be taken of frosty weather to wheel out manure on to the ground, ready for digging into the soil when the thaw comes; and the action of frost will tend to sweeten it, and at the same time destroy any injurious insect life which may be in it. Frosty weather is a good time to burn up all prunings of fruit trees, clippings of hedges, indeed anything which will not rot quickly with other vegetable refuse, and which it is best to burn. And we would have our readers remember that all wood ashes make a good manure, especially as a surface dressing for onion beds.

Composts.

What do we mean by this? Simply this, that there is such a thing as mixing soils for various plants, and a compost which will suit one plant is not so good for another. But we may speak of a general mixture—that is, one which will do for most plants an amateur might desire to cultivate. It should be made up of one part fibry peat, two parts leaf mould, one part well-rotted dung, and four parts of a good fibry loam, a "hazelly" loam, as the old gardeners used to call it, or one in which nut bushes will grow; add to these one part of silver sand, and our general compost is complete. Happy is the amateur who has accommodation for stowing away those ingredients by themselves and mixing them as required. It is not necessary they be under cover, as they may be placed in the open, provided they are on the highest ground, and they may be covered with boards, and such like. Heavy rains especially need to be warded off, The compost we have mentioned above may be varied by adding a little more sand, or dung, or leaf mould, as may be required. Calceolarias, which some amateurs take pride in growing, like a little more peat than some other plants, and so do the tuberous-rooted Begonias, now so deservedly popular. The large flowered show and decorative Pelargoniums, which make such fine greenhouse flowering plants during summer, like peat and leaf mould, and so do Fuchsias; but the bedding Pelargoniums, which are a good deal grown in pots, like a good loam and sand, with little or no manure. The amateur needs a potting shed, with a bench, upon which he can place the compost he is using, and upon which he can also do his potting; and under it there should be small bins, in which he can place the different ingredients mentioned above, and so mix them to suit the particular plant he is potting. We can only deal in a general way with potting composts; experience is the best teacher, and the amateur soons finds out what is best suited to the requirements of particular plants.

Old Pots.

The amateur should take care of these. Some are a bit reckless in the destruction of them, but those which are dirty should be put aside till some convenient time when they can be washed. They should be soaked in a tub of water, then be well scrubbed, put away in their different sizes, and so be ready for use. When new pots are used they should be previously soaked in water for a few minutes, else they withdraw a great deal of moisture from the soil placed in them.

Plants in Cold Frames.

Sometimes, at this season of the year, plants in cold frames, however carefully covered up at time of frost, will be affected by it when it is very severe, and when this happens, our advice is to leave the covering on for two or three days, until there is reason to think the frost has left the frame, and then gradually expose the plants to the light. To uncover frost-bitten plants and expose them sudddenly to the light is ruinous. We have known partly tender plants, caught by the frost in this way, to quite recover and become robust and healthy again by simply keeping them closely covered up while the sharp frost lasted. This fact is worth bearing in mind.

Silver Sand.

We wish our readers to distinctly understand what we mean by this, as we are frequently recommending it as a part of compost for potting plants, sowing seeds in, or striking cuttings. It is a fine white sand of a very sharp gritty nature, helping to make soils porous, and preventing them from binding too closely together. It is obtained from pits, Reigate, in Surrey, being famous for its silver sand, the New Forest, in Hampshire, parts of Bedfordshire, etc. When such a sand is difficult to obtain, through not being found in the neighbourhood, fine sea sand will serve the same purpose, but before using it in composts it should be put in a tub and covered with water, and the water changed several times to wash the salt out of it. River sand may be used where the silver sand is not obtainable, but if it be thoroughly saturated with water when it is obtained it is well to place it in a heap to dry somewhat before being mixed with potting composts; and the very fine siftings from red gravel or from old mortar rubbish may be also employed. Cocoanut fibre in a fine state will do, but it should be used somewhat sparingly, as it is apt to make the soil too open and light.

Standard Apple Trees.

One has only to keep his eyes open when travelling about the country to discover that many orchards are altogether neglected, and the trees no more cared for than the Elms which grow in the neighbouring lanes. One of our contemporaries recently alluding to this fact said: "Where old standard trees exist much may be done to improve them by judicious thinning of the branches which cross each other, and where crowded, by removing them carefully with a pruning saw, and smoothing the edges of the rind with a sharp knife. This will let in air and light to the centre of the trees." But some will say, Why cut away branches which will bear fruit? The reason is that when the head of a standard Apple tree becomes full of branches, and in summer a dense mass of leaves and shoots, it is obvious that air and light —sunshine especially—cannot find their way into the centre of the heads of the trees, the wood does not become thoroughly ripe, and, in consequence, fruit spurs are not formed, and all the fruit which is produced is only at the points of the branches. But when the head of a tree is kept well open fruit spurs are formed in the centre as well as at the extremities, and the crop is not only better, but much finer. As one means of inducing your trees to bear better crops, thin out the branches if they are unduly thick. Then it may happen that the soil on the surface of the ground in which the trees are growing needs renovating. You cannot possibly expect a tree to go on bearing fruit year after year unless you give it some encouragement. Clear away any weeds, and any surface growth, and any of the soil also, if you have reason to think it is unsuitable, and add fresh, such as some good garden mould mixed with a little manure. This will impart a fresh impetus to the roots near the surface, and, we think, gradually result in better crops of fruit.

Sending Flowers by Post.

Occasionally correspondents send us flowers or sprays of foliage to name, and it occasionally happens that they wrap them in cotton wool, with the result that when they reach us they are dried up beyond recognition, or else it is very difficult to distinguish them through being so much faded. Sometimes flowers, otherwise packed with care, are put into thin card boxes, with the result they become hopelessly smashed, and the flowers with them. A tin or wooden box should always be used, and at the bottom of it lay a piece of brown paper and then the flowers; if there are several, it is well to lay pieces of silver paper between them. Cover the top flowers also with silver paper, and fasten the lid. We have found it of advantage when sending some distance to make the brown paper at the bottom of the box a little damp, care being taken not to make it damp enough to saturate the petals of the flowers with too much moisture. When sending flowers let them be fully expanded, and always cut them of a morning before the sun has shone upon them. If cut when they are just expanding, they don't sometimes show their true condition or their true colour, both of which should be developed in order to distinguish the variety and give it its true name.

Climbing Roses.

Should anyone be contemplating the planting of climbing Roses, we would advise them to plant what are known as the Dijon Teas—that is, varieties which have sprung from the well-known Gloire de Dijon. They are all strong growers and free bloomers, and embrace all but the bright scarlet colours; use can be made of them in many effective ways for covering walls or pillars tied up to strong stakes, for screens, and all other uses of climbing Roses; and they have the important character of forming huge flowering shrubs and bushes, and can be most effectively used in shrubbery planting. We can strongly recommend Bouquet d'Or, deep salmon yellow; Kaiserin Friedrich, yellow and salmon, changing to rose; Madame Eugene Verdier, deep chamois yellow, late in flowering; and Progress, bright carmine, very fine. Any one or all of them will be certain to please you.

Manure for Vegetables.

The best and safest manure is good decomposed stable dung which has laid by for a few weeks and been turned over occasionally, as this contains, in a greater or less degree, all the properties plants require. Good stable or farmyard manure should be used at the rate of three or four good barrowfuls to a rod: but ground for flowers does not require so much manure as that intended to grow vegetable crops. Perhaps the safest artificial manure is a mixture of superphosphate of lime and kainit, say three parts or pounds of the former to one part or pound of the latter; mix well together, and apply in spring at the rate of about two ounces to a square yard, dusting it over the surface, and then scattering some fine soil on it. If the growth does not appear so good as desired, then apply another dressing in a month or so.

Roses for Pot Culture.

Here is a selection of five Roses for pot culture—Duke of Teck, crimson-scarlet; Heinrich Schultheis, purplish-rose; Merveille de Lyon, white; and Mrs. John Laing, soft-pink: all hybrid perpetuals. Noisette Céline Forestier, yellow, makes a beautiful pot rose.

Crocuses Destroyed.

Mice appear to be active this season in causing the destruction of the Crocus bulbs. They appear to be very fond of the roots of the pretty Crocus, and they will find their way to a bed, scrape up the bulbs, and carry them away for food. Rats will do the same. We were looking through a private garden the other day where a good deal of flower forcing is done at this season of the year, and we saw that rats had found their way into the warm frame, and destroyed many of the plants, eating the bulbs after biting away the flower stalks. Try to catch the mice by setting traps near the Crocus bulbs, baiting them with something likely to prove more tempting than the Crocuses.—*R. D.*

GARDENING MISCELLANY.

THE LATE MR. WILLIAM THOMSON.

So many members of the horticultural community, in all parts of the country and also abroad, have written expressing their sympathy with my sisters and myself in our recent bereavement, that, with the editor's kind permission, I would like to thank them in the columns of THE GARDENING WORLD. We would have liked to have thanked all personally, but we find that impossible, and would feel grateful to the editor if he will kindly permit this to appear in THE GARDENING WORLD. We have been much comforted by the many beautiful tributes to my father's memory that we have received from all quarters, and we also have read with the deepest interest and gratitude the generous tributes paid him by the Horticultural Press.—*John Thomson, Clovenfords, N.B.*

IRIS JAPONICA.

Two fine specimen clumps of this beautiful Iris are forming exceedingly attractive objects in the succulent house at Kew at the present time. The plants in question are growing in shallow pans, and are producing a profusion of their exquisitely marked flowers that will for beauty of colouring and distinctness and vividness of marking vie favourably with the gorgeous blooms of many a high-priced Orchid. Like most of the Irids, I. japonica exhibits a great dislike to being disturbed at the roots, and the plants in question illustrated this dislike by the reluctance with which they flowered during the season immediately following their potting. At the present moment, however, they are pictures of health and beauty. The plant is rather dwarf in habit, for the bright green leaves, although quite 2 ft. in length, droop considerably. The flowers are produced upon a lax panicle, and, like most of the rest of the members of the family, are extremely fugacious. In colour they are lilac, the falls being spotted bright yellow in the centre, and prettily fimbriated at the edges. The plant has been known both as I. fimbriata and I. chinensis, under which latter name it was figured in the *Botanical Magazine*. A native of China and Japan. To judge from the Kew specimens, the plant has much to recommend it to the favourable notice of cultivators, and it will no doubt become a favourite when its good qualities become better known.

THE PARABLE OF THE FIG TREE.

IT is passing strange that so correct a writer as Mr. Stogdon should, in reviewing what another has written with special reference to accuracy in quoting from Scripture—have fallen himself somewhat into a similar deviation from the truth. But the mis-quotation in his case is one of authorship rather than substance, for the question of gender is immaterial, and the adverbs "nigh" and "near" do not in the least affect the sound or sense of the passage cited. When I read the original article by the most excellent "Z," in which the said mis-quotation occurred, I took it as, indeed, I believe he intended it to be taken—in a proverbial sense. Moreover, "Z" spells his "proverb" with a small p., and uses it in a general sense, while his critic adopts a capital letter, and employs it in a special manner. Again, "Devoniensis" contends for masculinity in the matter under consideration, while Mr. Stogdon suggests "that the translators substituted 'her' for 'his' under the mistaken idea that the Fig tree was dioecious!" But why quibble about non-essentials? Both are right, and both are wrong, as a consultation of the Revised Version of the New Testament will reveal. I could say something about that mythological personage who is said to quote —I beg pardon, "cite"—Scripture for his own purpose, but I won't, except to remark that it seems unwise to go to the Bible for a clinching argument, inasmuch as the language of the East is certainly not synonymous with the strict requirements of modern accuracy, but is rather of an inflated and ambiguous character. However, I, like "Devoniensis," do much appreciate Mr. Stogdon's "discursive, botanical epistles;" and, therefore, if he will permit me, although he is only known to me through those "epistles," I would add a hope that he may long be able to *sit* (figuratively, of course), under his own Fig tree, and enjoy all the blessings which are allegorically said to proceed therefrom.—*C. B. G., Acton, W.*

GREVILLEA THELEMANIANA.

ALTHOUGH the genus Grevillea is a large one, and upwards of a hundred and sixty of the species it contains have at various times been described, the average gardener's acquaintance with the genus is, as a rule, limited to his knowledge of that well-known and popular decorative subject G. robusta. Still, the presence of such a valuable plant in the genus might of itself lead us to suppose that there were others almost if not quite as valuable and noteworthy. The above plant is an instance of a good but as yet little known subject. It is of elegant habit, the branches being slender and drooping, while the ultimate divisions are linear in shape and bright green in colour. The flowers are red tipped with yellow, and are produced in pendulous racemes some four or five inches in length. As a greenhouse subject there are few to surpass it, and it is well deserving the gardener's notice. A mixture of loam and peat with sufficient sand to keep the soil open will suit them very well. If potted firmly good-sized plants some three feet in height can be had in comparatively small pots, which renders them all the more valuable where numbers of plants are required for indoor decoration.—*G.*

CYPERUS PAPYRUS.

MANY people seeing this splendidly ornamental plant growing luxuriantly in a stove heat, run away with the idea that it will not succeed in a lower temperature. This, however, is by no means the case, for although it certainly grows more freely in the higher temperature it also thrives fairly well in a comparatively cool one. We see no reason, moreover, why it should not be used as a sub-tropical plant for placing round the margins of streams or lakes during the summer, in which position its tall and stately heads would appear to great advantage. When grown in a greenhouse, as in the stove, it needs an abundance of water at all times. At Kew it is accorded sub-aquatic treatment with the best of results, as visitors there who have seen it growing in a corner of the tank in the Water Lily house can testify. A deep rich soil is needed for it to grow in, as the plant is a heavy feeder. Mealy bug, too, will take a deal of watching, as the gigantic heads afford every inducement for this little pest to take up its abode there, which it often does to a considerable extent, the appearance of the plant certainly not being improved thereby, and once it gets a fair hold it becomes a matter of great difficulty to get rid of it.

TROPAEOLUMS IN WINTER.

THESE common old favourites, when well handled, are capable of yielding a good supply of cut flowers during the dull months of the year. The best among them for the purpose are those of a slender climbing habit, and these trained under the rafters of a temperate house will flower very freely and enliven the whole house for a long period, and afford a plentiful supply of cut flowers. To be successful in this a start should be made by striking a batch of cuttings in April; shift them on as required, using a free, rich compost, and expose them well to the sun. Have them well established in their flowering pots by September, and attend well to watering. Keep all flower buds picked off till October, when they must be taken in, if not previously done, but as a very few degrees of frost will destroy the labours of a summer, it will frequently happen that they have to be taken in early in September.

To flower them through the winter they must be kept growing gently, as if kept too cold for any length of time stagnation of growth follows, and the plants will rot off. On any situation with moderate warmth is the best; if kept too close they will become spindly and too weak to flower in a satisfactory manner. They are dwarf growing varieties with double flowers, and these merit more attention than is generally accorded them. Those who know their value, and grow them for conservatory decoration, are often able to add considerably to their supplies of cut flowers from them. Standing up on shelves, with flowers and foliage almost hiding their pots, they look very pretty, and when arranged among other plants are very decorative. The same course of treatment is suitable to them as that advocated for their more aspiring compeers, only no training is required.—*W. B. G.*

COTONEASTER SIMONDSII.

AMONG winter berried plants which are quite hardy, I deem this worthy of more attention from those who take an interest in berried plants generally. There are times when Holly berries are exceedingly scarce and when very many will gladly avail themselves at the festive season of Christmas of any material as a substitute, or which can be used in conjunction with it, to eke out the meagre supply of Holly berries. I must confess that till recently this plant stood rather low in my estimation owing to its loose straggling habit of growth, on account of which when planted under similar conditions to C. microphylla either against a wall or as a single specimen it contrasts most unfavourably with that variety. Neither of these positions are suitable for this plant, and my own observations have led me to the conclusion that its proper place is among Laurels and other evergreen shrubs, where it should be permitted to grow up above them. Here it is seen to the best advantage, forming sprays from one to two or more feet long densely studded with deep red berries. These, with the sun shining on them against a background of Laurel foliage, look very gay and beautiful during the dull winter months; and a few of the richly berry laden sprays would prove most decorative in any floral arrangement at this season.—*W. B. G.*

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

MAGNOLIAS.—*Sandy*: There are several so hardy that we think they would succeed with you. First on the list we should place Magnolia conspicua and its varieties. The closely allied or hybrid M. Lennei and M. Soulangeana, perhaps correctly regarded as varieties, might also be tried, as they are both very beautiful, especially the former of the two. M. glauca is a small-leaved and very hardy species that flowers freely during a good part of summer. M. obovata is a dwarf growing, summer flowering species not unlike M. Soulangeana in the colour of the flowers, being white, heavily suffused with purple. The evergreen M. grandiflora might be trained against a wall, because, though very hardy, it is liable to have the leaves destroyed by gales of wind, and by wind in winter when the stalks are frozen and brittle. There are others, but the flowers are less showy in most cases. Sweet Bays are rather tender, but when once established they come up again from the roots every year, although they may be cut down by frost in winter. They would then form low bushes.

ODONTOGLOSSUM CRISPUM.—*T. H.*: There are many worse and many better varieties in cultivation. We think it very pretty in being pure white with exception of a spot on the lip and some on the column, and in the beautifully crisped characters of the segments. If the latter had been broader it would have greatly increased the value of the variety. It is well worth growing till you get better, but in the meantime you may regard it as of medium value.

CARNATION DISEASED.—*H. Louth*: Your Carnations are affected with the Carnation Spot, a disease which is incurable as far as our present knowledge goes. You can do much, however, to destroy and prevent it. Take a close bottomed basket or put a sheet of paper over it; then carefully cut off the worst of the shoots and every leaf that is affected with the fungus. Put them into the basket as you cut them; cover them with paper to prevent the spores from blowing about; take them away and burn them at once to prevent the healthy plants from being affected. The disease should not spread very rapidly, seeing that you have the plants in a cool airy vinery, for a dry, airy atmosphere is unfavourable to the fungus. Possibly they became affected before they were put in the vinery. Some varieties are more liable to spot than others, and might be kept apart from the rest. See that the drainage is good, and keep the foliage dry, and the plants near the glass. By persevering in this manner you should ultimately get rid of the pest.

CALANTHES DISEASED.—*R.*: Both the pseudo-bulbs and flowers of the Calanthes you sent us showed evidence of good cultivation, but the plants have to contend against a swarm of mites by which they are being destroyed. They exist inside the dead sheaths on the tops of the pseudo-bulbs, so that the first thing you should do is to clear away every particle of the same with a sharp knife or scissors. The decayed portion of the pseudo-bulbs should also be cut clean away and rubbed over with powdered charcoal to dry up the cut portion. Sulphur is inimical to the mite, and we do not suppose that you have done any harm, but rather good, in applying it. Wash the whole of the pseudo-bulbs, including the roots, with a strong solution of soft soap or Gishurst compound mixed with sulphur would even be more effectual, and perhaps enable you to get rid of the pest. This

process could be effected when you re-pot them. In the meantime the exposed parts of the pseudo-bulbs may be treated in the way we recommend. It should be done at once. We should be pleased to hear on a future occasion what success you attain. Next year when the leaves fall you might remove their sheathing base as a precaution.

COMMUNICATIONS RECEIVED.—W. P. R.—M. R.—A. H.—A. T.—W. D.-W. & J. B.—J. G. P.—F. & B.

TRADE CATALOGUES RECEIVED.

TOM B. DOBBS & Co., 32, Queen Square, Wolverhampton.—Vegetable and Flower Seeds.

W. P. LAIRD & SINCLAIR, Dundee.—Garden and Farm Seeds.

W. J. GODFREY, Exmouth, Devon.—Japanese Chrysanthemums.

WILLIAM BARRON & SON, Elvaston Nurseries, Borrowash, near Derby. — Forest Trees, Cover Plants, &c.

JOHN COWAN & Co., The Vineyard, Garston, near Liverpool.—The Montrose Collection of Orchids.

R. & J. FARQUHAR & Co., Boston, U.S.A.—Seeds, Plants, and Bulbs.

DAIKER & OTTO, Langenweddingen, Germany.—Seeds and Plants.

JOHN SMELLIE, Busby, near Glasgow.—Pansies, Violas, and Carnations.

W. PIERCY, 89, West Road, Forest Hill, S.E.—Summer flowering Chrysanthemums, &c.

LONDON SEED TRADE.

January 29th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed market, Mark Lane, report a decreased trade in agricultural seeds, owing to severe weather. Values unchanged.

COVENT GARDEN MARKET.

January 30th, 1895.

Market at a standstill owing to rough weather. No alteration.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Grapes, per lb.	1 0	2 0
Nova Scotia Apples per barrel	12 0	21 0	Pine apples. —St. Michael's each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	20 0	21 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettnces ...per dozen	2 0	0 0
Beans, French, perlb.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunoh	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Smallsalading,punnet	0 4	
Cucumbers .....each	0 9	1 3	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistras, per doz	18 0	42 0	Evergreens, invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
" gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0	Narciss (French) doz. bch.	4 0	6 0
Azalea.....doz. bchs.	6 0	12 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums 12 sps.	0 6	0 9
Carnations...per doz.	2 0	3 0	Pink Roses...per doz.	3 0	6 0
Chrysanthemums, doz. blooms	2 0	6 0	Pyrethrum doz. bun.	2 0	4 0
" doz. bunches	4 0	12 0	Primula, double, bun.	0 6	0 9
Double Daffodils, doz. bchs.	16 0	18 0	Roses, yellow, dozen	2 0	4 0
Single Daffodils, doz. bchs.	24 0	30 0	— Red..... doz. blms.	3 0	6 0
Eucharis ...per doz.	4 0	6 0	— Tea ..... per dozen	0 6	2 0
Gardenias 12 blooms	2 0	4 0	Scarlet Geraniums, doz. bchs.	5 0	9 0
Heliotropes, 12 sprays	0 6	0 9	Tuberoses, per doz	0 6	1 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Violets (French) Parma, per bch.	4 0	5 0
Lilac (French) per bch.	5 0	6 0	Violets (French) Czar, per bch.	1 9	2 0
Lilium Harrisii, doz. blooms	6 0	10 0	Violets (French) doz. bch.	2 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (English) doz. bch.	1 6	2 6
Marguerites, 12 bun.	1 6	3 0			

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The Royal Gardener's Orphan Fund.

(Supported by Voluntary Contributions).

THE ANNUAL GENERAL MEETING of the Subscribers to this Fund will be held at Cannon Street Hotel on Friday, February 8th next, for the purpose of receiving the Report of the Committee, and the Accounts for the past year; to appoint officers for the ensuing year, and to elect six children to the benefits of the Fund; also to amend Rule IV. as follows:—After the word re-election in the eleventh line to insert "provided they have attended three meetings in the course of the year."

The Chair will be taken at Two o'clock.

The poll will close at four o'clock, after which no Votes will be received,

By Order, A. F. BARRON, *Hon. Secretary.*
CHISWICK, January, 1895.

P.S.—The voting papers have all been issued. Any subscribers not having received one is requested to communicate with the Hon. Secretary.

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THE "CHARLES COLLINS" FUND.

At a meeting of representatives of the Horticultural Press held at the Hotel Windsor, Victoria Street, S.W., on January 11tb, the following resolution was unanimously passed:

"In consideration of the services rendered to borticulture in bis journalistic work by the late Charles Collins, of the high respect in wbicb be was universally held, and of the fact that owing to the long-continued ill-bealth of himself and his wife he was unable to make adequate provision for his family, who are in deep distress, a fund be opened for tbeir benefit."

On the same occasion a General Committee, comprising a number of horticultural journalists, togetber with the following gentlemen wbo form tbe Executive Committee, were elected to carry the above resolution into effect, viz.:

MAXWELL T. MASTERS, M.D., F.R.S. (Cbairman), 41, Wellington Street, Strand, W.C.

BRIAN WYNNE (Vice-Chairman), 1, Clement's Inn, Strand, W.C.

GEORGE GORDON, F.R.H.S. (Treasurer), Endersleigb, Priory Road, Kew.

T. W. SANDERS, F.R.H.S. (Hon. Secretary), 57, Cressingham Road, Lewisham, S.E.

For the information of those wbo are not fully acquainted witb the facts of this sad case, it may be briefly stated tbat tbe late Cbarles Collins was for some few years engaged on the editorial staff of the *Journal of Horticulture*, and prior to tbat filled similar positions on tbe *Gardeners' Chronicle* and *Amateur Gardening*. He was returning home on tbe evening of December 26tb from a visit to some friends at Forest Gate, and, just as be was about to enter the train, was suddenly taken ill and expired almost immediately. He leaves a widow and two little girls, aged three and four years respectively.

Mr. Collins, having only attained the age of tbirty years, had been unable to make adequate provision for the support of his wife and family, and hence the Committee and Executive have resolved to make an earnest appeal to those wbo knew him to subscribe to the above fund, and thus enable tbem to alleviate in some measure the pressing needs of the widow and family.

Subscriptions may be sent to either of the gentlemen named above; or to the editors of tbe various gardening journals. The amounts received will be duly acknowledged in the Gardening Press.

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Sixty of the leading Prizetakers have been asked by the Editor of the Journal of Horticulture to give in their order of merit, a list of the 12 best new Japanese varieties for Exhibition. This list appeared in that paper on January 24th. Out of the 12 Best I have the honor of introducing Nos. 1, 2, 3, 7, and 12. I do not boast of those I send out, neither do I cast a slur on other Growers' Varieties, but the above Golden Testimony speaks for itself. Here we have a body of independent Growers who unbiassed by any trade consideration have placed "The Ryecroft Collection" in the premier position of the World.

The following are the 12 in their order of merit with price for good plants in March. 1. Duchess of York, 6/-; 2. Mrs. W. H. Lees, 3/6; 3. Miss Maggie Blenkiron, 2/6; 4. Madame Carnot, 3/6; 5. Niveus, 1/6; 6. H. L. Sunderbruch, 2/6; 7. Duchess of Wellington, 5/-; 8. Mrs. E. F. Trafford, 4/-; 9. Louise, 1/6; 10. Mons. Pankoucke, 1/6; 11. Rose Wynne, 2/6; 12. Hairy Wonder, 3/6.

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For Index to Contents see page 381.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, Feb. 12th.—Royal Horticultural Society; Committee Meetings at 12; Annual General Meeting at 3 p.m. Sales of Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, Feb. 13th.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, Feb. 15th.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE.
SATURDAY, FEBRUARY 9th, 1895.

A STUDY FOR WINTER EVENINGS.—The more severe a winter is, the more belated all kinds of work in the garden get, so that besides the ordinary pressure of work in spring, there is often much of the winter work to be got over. The planting in the flower garden can be carried on more efficiently, expeditiously, and satisfactorily, provided the arrangements have all been previously planned, thought out, and committed to paper. This will also serve as a key to the plants in stock, their respective quantities, and the beds into which they are to be put. The time is now at hand when certain subjects must be got ready for propagation to meet the demands that will be

made upon them in June. Then the question for the present is to work out the arrangements for the bedding stuff in stock, and which will vary according to the kinds which are most popular at present, or clamour for recognition, or according to the tastes and inclinations of those who are responsible for the ordering of the flower garden. That the latter may vary within limits from year to year, it is necessary to work out new designs beforehand so that nothing can interfere with nor hinder their accomplishment when the proper time arises.

There are many cognate questions to be considered in making these fresh arrangements, and their ultimate effectiveness and success will depend upon the calculations and skill which the deviser can bring to bear upon them before they are put into operation. No rotation of cropping is studied as a rule as in the case of vegetables; but appropriateness of position is of paramount importance. For instance, certain subjects will grow and flower well in positions shaded to some extent by trees and buildings, such as foliage plants, Pansies, Violas, and Calceolarias; but Pelargoniums, Petunias, Zinnias, Gazanias, Lobelias, tuberous and other Begonias, Verbenas, and all the succulent tribe revel in the sunshine. Some things thrive satisfactorily in a dry position, while others like a tolerable supply of moisture, particularly during times of drought, and if so supplied will succeed even though exposed to bright sunshine all day long. The effect of exhaustion can always be overcome by the use of good farmyard manure, though it is possible to overdo the soil by frequent application unless occasional trenching is resorted to. In many private establishments on the other hand there is a difficulty in getting a sufficient supply for the garden, and in such cases it may be economised in the flower garden by applying it those beds only in which it is intended to plant vigorous growing subjects like Cannas, Ricinus, Wigandias, Begonias, and others of that nature.

It is frequently the case that all the beds are manured alike with whatever the cultivator has most at his command. To make the soil as rich for Pelargoniums, Petunias, Tropaeolums, Verbenas, and similar things, as for Begonias and subtropical subjects, is to court failure, because every experienced gardener knows that Pelargoniums may be made to grow like Cabbages, but in wet seasons particularly the display they make is relatively poor indeed. Soil of medium richness, and a position relatively sheltered from boisterous winds, but well exposed to air and sunshine, enable Pelargoniums to give the greatest satisfaction. The stems are dwarfer, the internodes shorter, and the flowers more profuse under such conditions. All these things are more or less familiar to the average gardener, but are points for the rising generation to master; and while the head gardener is planning new arrangements, his under gardeners and apprentices should also be encouraged to make plans of the flower garden, even from old copies, and try to attribute reasons and understand the why and the wherefore of every detail connected with the same.

True it is that Pelargoniums are not held in the same esteem, nor monopolise the hot-houses and flower garden to anything like the same extent as they did comparatively a few years ago; but everything has its day and generation, and they who profit by the experience to be gained from the popular subjects of the day, and are ever ready to appropriate any new ideas that may turn up and turn them to account, are laying up a useful store of knowledge that can hardly fail to be serviceable to them on some future and as yet unforeseen occasion. The great point with young gardeners is to induce them to think for themselves. Much valuable time has been irreparably lost through carelessness and inattentiveness in youth, and afterwards regretted when other pressing and accumulative matters absolutely prevent the desirable time for studying what might have been acquired in youth.

It is very difficult to curb the youthful inclination against a desire for mere amusement, and in some cases more so than in others; though in many cases a good example set by elders and superiors would be sufficient to turn the bent of the young man's inclination, and encourage him to a studious and diligent application of his energies to the requirement of the science and technicalities of his profession. Well grounded in this, the gardener is able in after life not merely to follow his avocation with a blind slavishness to precedent and the traditions of the past, but is in a position to make advances, to improve upon old ideals, and even to invent new ones and add to the science of gardening to his own and all men's advantage. This should be the aim and purpose of every young gardener; hence the advisability of utilising the long winter evenings to the fullest advantage.

Farningham Rose and Horticultural Society.—The annual exhibition of this society has been fixed for July 3rd.

Winter Flowers.—A *Daily News* correspondent writes—"It may interest your readers to know that in the seven weeks, ended with the 31st of December last, I counted 144 distinct species of wild plants in bloom or bud in a portion of the county of Somerset."

M. Charles de Bosschere, one of the contributors to the *Revue de L'Horticultural Belge*, has been named corresponding member of the National Horticultural Society of France, in testimony to the esteem for his works in horticulture.

To Prolong the Flowering of Orchids.—M. Ernest Bergman, of Ferrières, speaks in great praise of a method he has discovered of prolonging the flowers of Orchids for a longer period than they would under ordinary circumstances. It is sufficient to cover the flowering specimens in the evening with pieces of silk paper. The night steam or vapour in condensing cannot deposit itself on the flowers, and the latter keep for a much longer time.

Zinc Labels.—Various kinds of ink are used for writing upon large labels. The *Revue de L'Horticulture Belge* says that here is one of the best:—"Dissolve one part of sulphate of copper and one part of chloride of calcium in thirty-six times their volume of pure water. Allow the writing to dry for two minutes, then wash with a good quantity of water, dry it and wipe with a piece of cloth soaked in oil.

Royal Gardeners' Orphan Fund.—By an unfortunate printer's error which appeared in our last issue, and which we hasten to correct, Mr. Matthew Todd, Maitland Street, Edinburgh, was credited with having sent to the Honorary Secretary the sum of £3 10s., instead of £13 10s., as the proceeds of the sale of flowers made by him on behalf of the Fund at the last Edinburgh Chrysanthemum Show. Mr. Todd's annual contribution to the Fund is so warmly appreciated by every well-wisher of the charity that we should be sorry if by any inadvertence of ours his friends should imagine that his devoted efforts were not worthy of all encouragement.

Roses from New Zealand.—On Thursday morning of last week, and during a passing squall of wind and snow, we had a cube-shaped block of ice brought into our office, in the centre of which was a fine bunch of Roses as bright and fresh in colour apparently as if only just gathered, and as pleasing to see as a glint of sunshine on a very wintry day. The blooms had been gathered some eight weeks previously in the garden of Mr. Capper (editor of the New Zealand Journal, *Truth*), at Christchurch, Canterbury, and were brought over in the block of ice as a momento of his last trip out by Mr. R. J. Bales, the Smoke-room Steward of that magnificent liner, the R.M.S. "Gothic," who was naturally pleased with the success of his experiment, and the commander of the "Gothic" is to be congratulated on having at least one devoted lover of flowers in his ship's complement. The block was subsequently taken to the Royal Aquarium, Westminster, where Mr. Wilkinson promptly placed it on public view.

Long Duration of Flowering.—On the 13th of May, 1894, at the International Horticultural Exhibition at Antwerp, we noticed (says the *Revue de L'Horticulture Belge*), in the general collection of exotic Orchids of M. Vuylsteke, the presence in a good variety of Cypridedium Chamberlainianum well flowered. At the Chrysanthemum exhibition in the same city, the plant turned up again with two new flowers expanded and three buds upon the same raceme. "On Christmas Day, we received from M. Vuylsteke, the flower coming from the first of the three buds. It is certain then that to-day, mid-January, the specimen yet flowers, which makes an uninterrupted flowering of eight months!" We have little doubt this could be matched in England amongst the Cypripediums, but a case comes to our knowledge where Masdevallia ochthodes, in an amateur's collection, flowered uninterruptedly for a period of five years.

The Midland Carnation and Picotee Society.—The fourth annual report of this flourishing midland Society will be found of more than usual interest to the Carnation cult, and is a most creditable production in all respects. The cash statement for the past year shows the total receipts from all sources to have been £229 8s. 9d., while the expenditure amounted to £182 17s. 10d., including some £120 awarded in cash prizes and medals, and of £5 5s. and £5 respectively, generously contributed to the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund, leaving a cash balance in hand of £46 10s. 11d. The prize-winners and the winning flowers at the last exhibition are given in detail, and there is also a full list of what eighteen successful exhibitors consider to be the best varieties to grow. Saturday being with many a very awkward day for attending an exhibition, especially when it precedes a bank holiday, it has been decided to hold the show this year on a Wednesday, and the experiment is to be tried of continuing it over a second day, the dates fixed upon being July 31st and August 1st. The schedule is a very attractive and comprehensive one, and the value of the prizes, medals, &c., offered, is about £135.

Curtis, Sanford & Co., Limited.—We learn from a prospectus before us that the Devon Rosery, Torquay, in almalgamation with the South Devon Fruit Farm, is to be converted into a limited liability company, which will be known as "Curtis, Sanford & Co." The authorised capital of the company is £40,000, divided into 7,363 ordinary shares, and 370 deferred shares of £5 each. Of the £31,850 now issued no less than £20,350 are taken by the vendors, leaving only £11,500 for public subscription. Of the shares taken up Mr. F. W. Sanford has secured 947, the representatives of the late Mr. Henry Curtis 660, Capt. Bainbridge 440, Mr. W. H. Morris 353, Mr. S. W. Herbert 220, Dr. Morgan 220, Mr. Alfred Chandler 220, Mr. Peyto Shrubb 177, Mr. J. N. Whitehead, Admiral Ward, Mr. J. Conron, Mr. J. Coulthurst 110 each. These are all included in the vendors, and shews their confidence in the concern they are selling. The Devon Rosery was established in 1844, and its average annual profit during the past thirteen years has been £1,442. Mr. F. W. Sanford, who for close on thirty years has been the managing partner at the Rosery, is the managing director, and Mr. A. Chandler, the secretary, has been secretary and cashier there for fourteen years. The services of the active partners in both concerns have been secured for five years.

Universal Exhibition at Amsterdam.—Under the name of Universal Exhibition of the Inn and Traveller, an exhibition will be held at Amsterdam from the 1st May to the 1st November of the present year. It is under the high patronage of Her Majesty the Queen Regent of the Netherlands. A programme, now before us, gives the special rules and the details of the horticultural section of the exhibition, which will be held in the grounds behind the National Museum. Everyone occupied with the culture of plants—amateurs, horticulturists, nursery-

men, market gardeners, gardeners, etc., of whatever country, are invited to take part in this exhibition. Besides the permanent exhibition and all that pertains to the same, there will be four temporary exhibitions, the fixed dates of which will be announced later on. Provisions are also made for miscellaneous exhibits not mentioned in the programme, and awards will be made according to the propositions of the judges. For the permanent exhibits of trees, shrubs, Roses, etc., ground will be allotted gratuitously, as well as leaf soil and manure, and the plants will be watered and kept in order by the commission. The awards will consist of a cross of honour, and medals of gold, silver, and bronze and in diplomas. Demands of admission from other countries should be addressed before the 20th February to the Chief Secretary of the Commission, Isaac Bulk. For temporary shows applications may be made a fortnight previous to the same.

The Gardening Charities.—W. C. writes: "The gardeners of Worcestershire are bestirring themselves in a novel and praiseworthy manner, on behalf of the Gardeners' Royal Benevolent Institution, and the Royal Gardeners' Orphan Fund. A thoroughly representative and well attended meeting of the gardeners and nurserymen of the county was held at Worcester on Saturday last, when the claims and advantages of these societies were pointed out and discussed. It was shown that these institutions paid considerably more money in the shape of pensions, than was annually subscribed in the county taken by itself; also that a contribution of sixpence per week from anyone would pay the full subscription to both societies, viz., one guinea to the Benevolent, and five shillings annually to the Orphan Fund. The result of the meeting was that many names were given in, and the meeting further resolved itself into a General Committee, so as to canvass every individual gardener and nurseryman in the county. Directories were produced and a roll call instituted, each person present undertaking to bring his personal influence and acquaintanceship to bear upon those residing in his district. It was also suggested that each individual gardener should respectfully call the attention of his employer and other patrons of horticulture to the movement. Progress will be reported on March 2nd. We hope to merit the reward of "well done" Worcestershire, and hope other counties will follow suit."

The Shrewsbury Horticultural Show.—The schedule for the great August Show at Shrewsbury has just been issued, and is of a very representative character with most liberal prizes throughout. Stove and greenhouse plants and groups of plants have liberal prizes allotted in the various classes, and a new class for the most meritorious flowering or foliage plant not in commerce before January, 1895, with a gold medal as the first prize, and a silver medal as the second, should create interest amongst the introducers of new plants. Increased prizes are offered for a display of floral arrangements; liberal prizes for bouquets, collections of Roses, Dahlias, hardy border flowers, Carnations, and for hardy bulbous and tuberous rooted plants. A large sum of money is set aside for fruit, such as £10 as a first prize for six bunches of Black Grapes, two classes for smaller collections of fruit, and a new class for twenty-four varieties of fruit to be arranged with plants with prizes of £20, £15, £10, and £6, to encourage a more artistic arrangement at horticultural exhibitions. Nearly £800 is offered in cash, and the Society is also generous in awarding silver medals.

The Wolverhampton Floral Fete Committee has also issued their Schedule, and are extending the value of several of their prizes, stove and greenhouse plants and groups getting very liberal encouragement, and Roses are especially encouraged, a new class being added for the most decorative arrangement of Roses in a space 12 ft. by 5 ft., with Ferns and other plants allowed. There are international challenge prizes for arrangement of Pansies and Violas in a space 10 ft. by 3 ft., and a new class for a collection of nine varieties of fruit, with a first prize of £10.

The Grand Yorkshire Gala Schedule is also issued, and on much the usual lines, very liberal prizes generally being offered, a new class now being for a collection of Roses in pots, with a first prize of £15. There is also a first prize of £10 for a group of Carnations in pots. Orchids, Pelargoniums, stove and greenhouse plants, and groups are always striking features at York, and the usual large prizes are again offered.

AFFORESTATION OF WASTE LAND.

The estate of Holkham in Norfolk is evidently one of the best managed in England, although previous to 1775, when Thomas William Coke succeeded to it, the land about there formed a large, bare, rabbit warren, extending over a considerable portion of West Norfolk. Now the cultivated portion constitutes one of the richest and best farmed tracts in the kingdom, while 1,100 acres of woodland have been covered, and improvement still continues. The greater portion of this was planted by the first and second Earl. Mr. Coke commenced planting in 1775, and made the first thinning in 1802, and the process was continued at intervals till 1815, when the first extensive thinning was made, and the wood fetched a high price. Ever since then the work has been regularly carried on every year, and the sales attract a large number of buyers from various parts of the country, Many kinds of wood are grown, but Ash is the most profitable, for on account of its high quality it fetches the largest price of any. As much as four shillings have been obtained per cubic foot for it. Originally the land was practically valueless, now it is worth £60 per acre.

Lord Leicester is the present proprietor, and still recognises the value of forest plantation. His forester, Mr. Hugh Munro, graduated on the estate of the Duke of Sutherland, in Sutherlandshire, and has occupied his present position since 1877. He states that the amount obtained for the thinnings is sufficient to pay all expenses for the keeping of the forest, including rates and taxes. He still continues the improvement, reclaiming land as it becomes fit for planting. The estate extends down to the seashore, which here consists of loose sand, only prevented from blowing over the neighbouring land by the long, creeping, underground stems of the Marram Grass (Isamma arenaria). When the sand forms a bank above high water level, this Marram Grass creeps over and binds, making a kind of land, but very poor, as might be expected. The grass, as is well known to those on sandy sea coasts, grows about 18 in. to 2 ft. high, and loose sand sand blown amongst it is fixed there while the grass continues to to surmount it by fresh growth. Knowing the valueless character of this land, the present Earl commenced experiments upon it 1855, planting it with Larch and Firs. The former failed to thrive, and no more were planted there; inland, however, the Larch succeeds well. Since the last named date 350 acres of these sand dunes have been planted, and the work is still in progress. The trees are planted six yards apart, the object in view being merely the ornamentation of the bare coast line. For commercial purposes, that is for the production of good timber, the trees should be planted two yards apart.

Mr. Munro estimates that the planting of the sand dunes at this distance, the fencing, the price of the plants and all other expenses connected with them, could be accomplished for £5. Some thinning would have to be effected in twelve years, in twenty-five and again in thirty years from the time of planting, After this, annual thinnings may be made and the trees so cut down pay all expenses in maintenance. By the time the trees had attained the age of 80 or 100 years they would be full grown, at the present prices of timher would be worth £60 or more per acre, according to the facilities for its disposal. Setting down the primary cost at £5, the additional compound interest on the original outlay, at 2½ per cent per annum, would in the aggregate at the end of 28 years be about £10. For the first four years the expenses for superintendence would be 5s. per acre, but only 2s. during the next twenty years, after which the thinnings would pay the cost of working and interest, so that the whole outlay would be about £13 per acre. After payment of rates and taxes a good margin of profit would be left.

The trees are grown in the home nursery treated and reared on the most approved principles under the experienced and skilled directions of Mr. Munro. The trees most extensively planted are the Corsican Pine, (Pinus Laricis), 50 per cent, the Austrian Pine, (P. Austriaca), 25 per cent, the Scotch Pine, (P. Sylvestra), 20 per cent, and the Sea Pine, 5 per cent. Larches are most valuable, and would fetch £70 to £80 per acre at present prices, after attaining an age of 120 years, but it will thrive only when planted inland. All the other trees require to be planted on dry soils, as stagnant water is inimical to them; but wherever the land is sufficiently soft for a spade to be pushed into it, the above trees may be expected to thrive.

NOTICES OF BOOKS.

How to Grow Vegetables and Fruit for Profit and Exhibition.—A handbook for the amateur and cottage gardener, tenant farmer, &c. By George Garner. Liverpool: Blake & Mackenzie.

This is a small octavo volume of 113 pages exclusive of a full index, which the author directs to the attention of those named on the title page. Parts of the book have already appeared as articles in Gardening Journals, and the author encouraged or induced by the enthusiasm which he finds amongst amateurs and cottagers for cultivating and exhibiting fruits and vegetables, has collected these articles, and written others which he now puts in book form. In so far as he vouchsafes information for the guidance of those who desire to gain a knowledge of the two most important branches of horticulture, he does well; but we more than suspect him of being somewhat enthusiastic himself, especially in the matter of fruit culture, and although we have not the slightest desire to throw cold water on any attempt to increase the acreage under fruit culture, yet we would offer a word of caution to the inexperienced not to undertake any large or extensive enterprise rashly, without that assurance and fortification which comes of a good practical knowledge. This would apply more particularly to the tenant farmer, who might be led away by the first glow of a promising field for his energies.

The author is himself a gardener, as one could readily perceive from the instructions given for the cultivation of various subjects, but particularly vegetables. In the space at his command there is no room to go greatly into details, but the leading points in good cultivation are generally grasped, and set forth in language that any intelligent amateur could hardly fail to understand. The details will have to be filled in by the cultivator himself, as his work proceeds; but in all cases a good point is gained if a correct start has been made, and further pretensions no book could make, however good, while so limited in size. Some woodcut illustrations scattered through the book, help the inexperienced reader in getting a notion of what he should aim at in the production of well shaped vegetables for exhibition. Lists of the more popular and generally esteemed varieties of vegetables are given at the end of each article, so that the amateur who intends to exhibit would do well to secure them from reliable sources, than trust to the cheap seeds that generally bring disappointment.

Those who are often much troubled with the Onion Maggot, and intend to exhibit, should try the method of raising Onions and Leeks under glass for planting out about the end of April and the beginning of May. This gives the plants the advantages of a good start and a long season in which to make their growth. Many amateurs and most cottagers have not the convenience of glass structures of any kind, but those who are earnest and enthusiastic in their hobby can do much by means of fermenting manure, and some squares of glass in the raising of seeds. The directions concerning Peas should also be of material service to those who labour under the disadvantages of dry and poor soils in the warmer districts of the country. The article on judging and the faults and merits of produce should be useful as a guide to amateurs and cottagers.

The chapter on insect pests and diseases is the weakest portion of the book, not altogether on account of its briefness, nor because nothing new has been promulgated, but because of the indefinite character of much that relates to the insects. Nor are we sure that the work of insect and fungus is not sometimes confounded, as in the case of clubbing amongst the cabbage tribe. This is attributed to the presence of a white grub; but it is now well known that a fungus is responsible for the production of the greatest amount and degree of clubbing, and for the great destruction that oftens occurs to the members of the tribe. This is known as Anbury or Fingers-and-toes. The Winter Moth and the Codlin Grub are also confounded. We should have liked to know the name of the grub that has the peculiar habit of hiding in the crevices of the bark, curling itself up in the leaves and finally eating its way into the fruit of the Apricot. Nor do we believe that Peach-blister is caused by cold winds when strong sunshine has full power upon the foliage.

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne, F.R.H.S. Price, 1s. post free, 1s. 1½d., from the Publisher of the Gardening World, 1, Clement's Inn, Strand, W.C.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Sophronites grandiflora.—From first to last this has remained the gem of the genus and is likely to do so. The first discovery of it was made by M. Descourtily in Brazil upon the high mountains between Bannanal and Ilha Grande, and later on it was picked up on the Organ Mountains. All this argues that a high temperature is not particularly necessary to success under artificial conditions, but a light position near the glass is necessary to ripen the growth and enable the plant to flower, which it does during the winter months, when its warm scarlet ffowers are much appreciated by all classes of people who are fortunate to make its aquaintance, independently of Orchid growers. The number of times it has been figured in various works amply testifies to its popularity, for besides an attractive plant in the cool Orchid house, it makes a neat and beautiful picture on paper. More than a score of figures and plates of it have been given. Besides the intrinsic beauty of the plant it possesses another recommendation; being of small size and its wants easily supplied in small pans suspended from the roof of a house, a large number of plants may be accommodated even in a house of limited dimensions without encroaching upon the space devoted to the larger-growing subjects upon the benches and stages, It has just recently found a place in the *Orchid Album*. *Pl.* 504.

Pleione maculata.—The Indian Crocuses, as the species of Pleione are called, are very attractive during the autumn and winter months when in bloom notwithstanding the fact that they lose their leaves before that time. They vary to some extent in the different shades of purple, rose and white with yellow or some modification of it on the disc of the lip. The species under notice has white sepals and petals which contrast beautifully with the spotted lip from which the name is derived. The ground colour of the lip is white with several large purple blotches round the sides and a large central area of golden-yellow; the latter is further ornamented with numerous broken plates or fringes running along it longitudinally and adding much to the interesting character of the flower as a whole. Orchid pots or pans are most suitable for the cultivation of the Pleiones, and loam, peat and sphagnum with silver sand make a compost in which they may be expected to succeed. Liberal supplies of water are necessary while growth is being made, and the plants at this time must be placed on a shelf near the glass to expose them to the influence of light. As the leaves wither they must be allowed to go to rest by withholding water till they begin to push flower scapes when water must be again given to support the fresh activity of the plants. There is a fine illustration of P. maculatum in the *Orchid Album Pl.* 503, *fig.* 1, and on the same plate *fig.* 2 is an illustration of P. Lagenaria.

Cattleya Hardyana Luciani.—For a long time after the introduction of this grand Cattleya it remained alone in the particular beauty which characterises it, and was, in fact, a rare plant in collections. Reichenbach at the time considered it to be a natural hybrid between C. Dowiana aurea and C. Warscewiczii, better known in gardens as C. gigas. Subsequent introductions seem to confirm rather than dispel the idea of the hybrid origin of C. Hardyana, though some of the recent discoveries or introductions approach C. Dowiana aurea so closely that it is difficult, if not impossible, to draw a hard or fast line between the two, in fact, the distinction in some cases seems almost arbitrary. With the introduction of the beautiful variety under notice, the balance swings the other way and the colours approach those with which we are familiar in C. Warscewiczii, thus, as it were, completing the series. The sepals and petals are of a light but warm rose; but the affinity is more clearly shown by the lip, the terminal lobe of which is rich crimson-purple, more or less interrupted towards the margin, is pale and much crisped and undulated. The side lobes are white with exception of a narrow purple margin, and a large yellow blotch occupies the central area between them. There is a coloured plate of it in the *Lindenia, Pl.* 449.

Bifrenaria tyrianthina.—Various names have been given to this Orchid, which was first introduced from Brazil in 1836, but appears to have been lost to cultivation and recently re-introduced. It is allied to Maxillaria and Lycaste, to which it may be compared in general appearance. The oblong pseudo-bulbs bear a solitary, elliptic-oblong, plaited leaf. The flower scapes are shorter than the leaves, beneath and by the side of which, however, the flowers are well exposed. The scapes bear two or three flowers each of good average size and showy. The dorsal sepal is lanceolate-oblong, but the lateral ones are broader and unite with the base of the column so as to form a spur. They are purple-violet, and the smaller petals are similar in hue, but paler in the centre and towards the base judging from the coloured illustration in the *Lindenia Pl.* 446. The lip is paler towards the margin, but is veined with dark purple over the greater portion of the interior. As recently as 1890 a plant flowered in the collection of W. C. Walker, Esq., Percy Lodge, Winchmore Hill, and which had come from Brazil in company with B. Harrisoniae, and more recently it has been introduced by Messrs. Linden, L'Horticulture Internationale, Brussels; and the plate above mentioned was drawn up from one of the specimens which flowered.

Dendrobium nobile Cooksoni.—A large plant of this beautiful Orchid was receutly a conspicuous object in the plant houses at Greenlands, Henley-on-Thames. It is upwards of 2 ft. in diameter, appears to be in perfect health, and carried a large number of the finely-coloured, curiously-shaped flowers. It differs from the type D. nobile in that the petals have developed a partially concave form at the tips, the markings upon them being also of a richer hue. D. n. Cooksoni was first noticed in the Orchid collection of Theodore Lange, Esq., Heathfield House, Gateshead, but was first exhibited by N. C. Cookson, Esq., Wylam-on-Tyne, after whom it was named by Reichenbach.

Orchids at Chardwar.—When at Chardwar, Burton-on-the-Water, to-day, I was pleased to see the collection of Phalaenopsis in such good condition. One plant of P. Stuartiana, which was only a very small one twelve months ago, has now three leaves over 10 in. long and very firm, and it is carrying a splendid spike of twenty blooms open. Some of the P. Schillerianas have leaves over 12 in. long, and several are in bloom. A very fine variety of P. amabilis has twelve blooms, and a fine form of P. grandiflora aurea is also noteworthy. Among other Orchids in bloom I noticed Lycaste Skinneri delicata, very chaste, and two plants of L. Skinneri alba, one a splendid form and snow white, with very broad petals well thrown back, also Lycaste Youngiana with twenty-two blooms; Cattleya Trianaei, several varieties, one especially fine with large open lip, somewhat similar to Leeana; also a good form of Cattleya amethystoglossa and C. Walkeriana with two blooms. Among Dendrobes I noted several good forms of D. Wardianum, also D. formosum, and several good D. crassinode and crassinode Barbariana with forty blooms; Phaius grandifolius with several long spikes; Saccolabium Harrissonae has two good spikes, and Oncidium ampliatum several good spikes in bloom and many to follow. Among Cypripediums in bloom I noted C. bellatulum, Calypso, Cardinale, calurum, Argus, callosum, Chamberlainianum, Harrissianum, several forms, Lathamianum nitens (a very fine form), venustum, and Roezlii. The Odontoglossums are showing a quantity of spikes, several good forms of O. crispum being in bloom; also some O Rossii and pulchellus majus, and a splendid hybrid with two spikes. The Dendrobium nobile and other varieties promise a profusion of bloom later on, and the Coelogynes are just beginning to open and will make a good display for some time to come.—*J. C., Feb. 4th.*

FRUIT UNDER GLASS.

Vines.—The berries of the bunches borne by the earliest canes will now be swelling apace—thinning, of course, having been properly carried out. Where the early Vines are a trifle later than this, and the berries are nicely set, too long time must not elapse before operations are commenced. Take care not to remove too many berries at one time, it being a safer and hence a wiser plan to thin gradually, especially with these very early Grapes. The pinching out of laterals will need attention, these should not be allowed to lengthen for a foot or so before removal, but must be stopped at the first leaf. The temperature by night should range between 65° and 70° Fahr. if possible, but if the sharp weather renders it difficult to maintain this temperature it is much better to allow it to drop a degree or two lower than to make the house smell too strongly of fire heat. In the succession houses the disbudding of the shoots must be looked after. They must not be too rashly removed, however, for even experienced hands at tying down meet with mishaps sometimes. The thinning of the bunches must not be delayed too long, and on no account should the canes be too heavily cropped, but the size and strength of the plant must receive due consideration. Keep the air well charged with moisture, and see that the supply of water to the roots is well maintained, always using water chilled to about the same temperature as that of the house. Houses that are being started must receive a thick layer of fermenting material upon the outside borders, and if some spare boards or sheet iron are available to throw off the deluges of cold rains or heavy downfalls of snow so much the better.

Figs.—Continue the applications of liquid manure to plants in pots which are swelling their fruits, unless they are growing strongly enough without. As growth proceeds in the other houses attention must be paid to the stopping of the shoots, which may be done at about five or six joints from the commencement. This will serve to throw the strength of the tree into the swelling of the first crop of fruit, and also to assist in the formation of fruit in the axils of the leaves which shall be matured later on in the season. Any trees in the later houses that have not been pruned must be seen to without delay. Pruning should consist in the thinning out of the branches, removing those that have become bare or have exceeded their limits. These are much better cut clean out and fresh growths to take their places encouraged to break away from the bottom. The pruning of Fig trees under glass is not a lengthy operation provided the summer pinchings and stoppings are properly looked after.

Peaches and Nectarines.—Continue the disbudding of the trees in the early house as advised in the last calendar. Keep the syringe vigorously at work night and morning, using chilled soft water. As soon as the fruit is properly set the temperature may be raised two or three degrees. Give air when practicable in the mornings, shutting up the house, however, early in the afternoon, thus saving a portion of the sunheat, which is of a far more genial character than that proceeding from the hot-water pipes. The later houses must be kept as cool as possible until started, frost only being excluded during the night, and air freely given during the day.

Strawberries.—As soon as the fruit is set upon the earlier batches of plants the upper portion of the flower stalk must be cut off, and the fruit thinned out to nine or ten to each plant, which will be quite sufficient crop. The syringe must be vigorously plied to ward off the attacks of red spider. The temperature may be kept gradually upon the increase until as the fruit commences to ripen it may rise to 75° or 80° Fahr. by day with sun heat. Succession batches should be introduced at intervals into heat, a temperature of about 45° Fahr. by night rising to 50° by day being amply sufficient to start them.

Melons and Cucumbers.—As soon as the young plants have pretty well filled the pots with roots, but before these become anything like entangled with each other, they should be planted out in the beds made up for them. A good plan is to heap the soil upon the bed (which must be thoroughly warmed through) into mounds, upon which the young Melons or Cucumbers are planted, making the soil around them nicely firm. The young plants may be dewed gently over with the syringe during bright weather, the walls and floor of the house also being frequently damped, and a minimum night temperature of 65° Fahr. maintained, rising to 75° on bright sunny days. —*A. S. G.*

THE VEGETABLE GARDEN.

The severe weather we are still experiencing will doubtless put many things back in this department, as it will be some time even after a thaw does take place before the land will be in a workable condition particularly on heavy and wet soils. Under such circumstances the only thing is, if crops cannot be sown in the open ground, some preparation must be made for bringing them forward under glass. Peas

that were sown in pots about the middle of last month, and placed in a cool vinery will be pushing through the soil nicely, and as they are protected from the frost there is but little fear of them taking any harm. Plenty of light and air being admitted they will grow robustly. The quantity treated thus must depend on the requirements of the place; with us about a thousand pots of the leading kinds are so treated, which will be transferred to the open ground about the middle of next month, to be protected with glass till all danger of severe frost and cold winds are past. We have for several years adopted this plan and found it to answer admirably.

There are now so many first class varieties that it pays to go to a little extra trouble to have them early, and if due precaution be taken both with sowing and planting, very few failures indeed will have to be recorded. Sutton's Early Marrow is one of the finest flavoured early peas yet offered to the public, it is of dwarf compact growth, not more than three feet six inches in height, even on good ground when liberally treated and is podded to the ground owing to its branching habit. We have grown this variety every year since it was first introduced, and are more than ever in favour of it. Early round seeded varieties are plentiful, but to have a first-class Marrow with large, well-filled pods that can be gathered by the first or second week in June in an ordinary season, is something uncommon. Most people are of opinion that it takes a large number of pots to plant a row, this, however, is not the case, as one pot of plants to every fifteen inches will be found ample.

The mode we adopt is to sow the seed in four inch pots, three parts filled with rich soil that has been passed through a half-inch sieve. No drainage is used, as by careful watering there is no fear of them getting waterlogged, About a dozen seeds are put into each, these being placed evenly over the surface of the soil. When this is done the remaining space is filled up with soil and a gentle watering given to settle it down. Germination soon takes place and as the pots get filled with roots, a more liberal supply of moisture is afforded. Being in such an airy structure the plants are hardy from the commencement. Should the weather during February be warm, as it is sometimes the case, the pots are removed to a cool frame, where the lights are drawn off in the daytime which keeps them perfectly hardy. When planted in the open a trench is taken out and the soil put on the north side. The pots are then placed an even distance from each other where turned out, the soil is carefully pressed round each ball, and the growth spread out so as to fill up the vacant space between each clump.

Sheets of glass about twenty by fourteen are then placed in a sloping position from the ridge at the back of the row to the ground in front, forming portable frames, which not only protect the plants from the colds winds, but assist in promoting growth during the early stage after planting. Those who cannot procure the glass can use Laurel boughs, or any other evergreens that will ward off the cold winds. Necessity causes people to have their wits sharpened, and where supplies of these much esteemed vegetables must be had, no pains should be spared to procure them. Many others that will transplant readily may be treated in like manner, as by so doing a continuous supply may be had even in adverse seasons.—*Kitchen Gardener.*

THE FLOWER GARDEN.

As long as the weather maintains its inclement character work outside will in a great measure be at a standstill. Even if it were possible to get the spade in the ground, digging is scarcely a practicable operation, as it is a very great mistake to bury beneath the surface of the soil masses of frozen earth or quantities of snow and ice, as this keeps the ground cold and damp for a long time afterwards. Make sure that all tender subjects are sufficiently protected, or the long continuance as well as the severity of the frost will be sure to do a deal of damage. The snowfall in many parts of the country has been an excessively heavy one, and unless precautions are taken, harm to trees and shrubs, especially those of the evergreen section, will be the inevitable result. Steps must be taken, therefore, to relieve all trees which are heavily weighted from the burden of snow they carry.

As soon as possible after the snow has ceased falling paths must be swept, for if this operation is delayed too long the traffic passing over them will greatly augment the difficulty experienced in clearing them. It is not advisable to sprinkle salt upon the paths with a view to the removal of the snow, as a certain quantity of this, mixed with a proportion of snow, form a freezing compound of great strength. In most cases a layer of snow upon the ground will be of service in affording some protection to plants of the herbaceous section. With seedlings, however, it often plays great havoc, especially if the severe weather is broken with short spells of thaw, the result being that a layer of ice covers the young plants, excluding in a great measure the necessary air from them, a kind of treatment which, if continued for very long, invariably causes the death of a large proportion.

As soon as the weather breaks and the ground has sufficiently recovered from the effects of the frost to be workable the planting of Anemones and Ranunculuses may be carried on, and the pruning and training of the plants that clothe the walls proceeded with. While the present atmospheric conditions last, however, the time may be spent with advantage in the making of stakes, and the writing of labels in readiness for the coming spring, so that no valuable time may be lost presently.

HARDY FRUIT GARDEN.

The wintry weather will hinder in a great degree active operations in this department also, as it is not possible to plant new trees or to prune and train others while things remain as they are. Great care must be taken that the roots of consignments of young trees, which it is proposed to plant as soon as occasion permits, are sufficiently protected from the frost. If they have been put in by the heels in a vacant plot of ground to await their turn for planting it would be well if some bracken, hay, straw, or any other light protective material were also placed around them.

At this season of the year the rubbish heap is apt to be rather encumbered with prunings of fruit trees which have been removed hence, as well as branches of evergreen or deciduous shrubs from the flower garden and pleasure grounds. Advantage may be taken therefore of the present time to burn these up out of the way, both for the sake of tidiness as well as with an eye to the much more important consideration that the manure thus secured will be of the greatest service during the coming season. The value of wood ashes as a dressing is incalculable; more especially so on heavy grounds, although it never comes amiss on any soil. Attend to the turning of manure, so that it shall be in a sufficiently advanced state of decomposition before it is required for use, as the application of raw or badly prepared manurial material to ground is not a practice to be recommended.

See that a sufficient stock of shreds, and nails, or tying material are to hand for use when required. Pruning tools should also be looked to for sharpening, for it is impossible to prune well if knives and saws are not in good condition.

Gleanings from the World of Science.

The Starling.—The rapid increase of the starling in numbers, and the enlargement of its range in Scotland form the theme of a useful investigation by Mr. Harvie-Brown. At one time the starling was not a common or generally distributed bird in North Britain, but it has become so plentiful that it has been forced to extend its bounds, until now it is numerous in almost every section of the kingdom. This multiplication seems to have proceeded from two great centres, one in Shetland and Orkney, the Outer Hebrides, and the Caithness coast, and a later one entering Scotland in the south, and passing north through the south and central districts of Scotland. Moray, it would appear, has drawn its supplies from the north in comparatively recent years but in all the country south of the Grampians the birds seem to have been permanent immigrants from the south. The starling thus reverses the maxim which the dying Aberdonian left as his only legacy—"Aye be keepin' sooth!" For it is keeping northward, and at the present rate bids fair to fill every nook and crevice, so that in order to preserve the balance of life some weaker members of the broods must go to the wall in the struggle for life. However, before this can take place, feebler species will be the first sufferers. Indeed, Mr. Harvie-Brown sees this law in action, in one locality, where the starling is too numerous for all of its individuals to find a livelihood.

Advantages of the Starling.—About twenty-six years ago starlings became very common in the interior of Aberdeenshire, not merely as visitants in the autumn when they ranged the stubble fields and pastures in vast flocks; but they seemed to have taken up their quarters permanently, at least some of them, for they made their nests and reared their young about farms, and other buildings in the summer months. Previous to that for many years at least, they had been comparative strangers. No one seems to have suspected or blamed them for doing any mischief, and no measures were taken against them except by boys, who were eager to make acquaintance with their eggs and nests. The fact is they are harmless birds, while they served to some extent in keeping sparrows in check by utilising the holes about the roofs of houses in making their nests, and which were previously used by the sparrows. Previous to the above date, they were comparatively rare birds or only heard of occasionally. During the autumn months the larvae of the Crane Flies, or Daddy Long Legs are very plentiful in meadows and wet places, particularly where there is plenty of rank grass and moisture. These grubs are known as leather jackets, and are often very destructive to grass, and other kinds of vegetation. They are cylindrical, and dirty gray, with a very tough skin, resembling wireworms, except in colour, and doubtless often do mischief which is attributed to the last named insects. Starlings busy themselves in picking up and devouring these leather jackets, and thus render the agriculturists incalculable benefit. During summer when they make their nests about dwelling or out-houses, they benefit the gardens and lawns in the neighbourhood of the same, by destroying grubs and caterpillars of various kinds. They should therefore be encouraged. Boxes may even be put up for them in orchards where they may be encouraged to take up their abode and breed, for they devour caterpillars of various kinds, and are most active in this respect during the breeding season.

The Cuckoo.—Before the history of this bird was properly known, all kinds of curious tales were related about it. Amongst others were its mischievous depredations amongst the gooseberries. It was seen to fly down amongst the bushes and that seemed to have been sufficient evidence of its eating the fruit. The fact is that the cuckoo is an insectivorous bird and thus benefits the community by the quantities of caterpillars which it devours during the early summer months. If it were to hatch and rear its own young, the quantity of caterpillars required would even be greater.

The Sparrow.—Opinions are frequently very much divided concerning the merits and demerits of what is probably the commonest and most widely distributed bird in this country. Those who are in favour of it speak of the armies of caterpillars and other winged creatures of that same order which it devours. Doubtless it must live upon something otherwise it could not maintain itself in such numbers everywhere in spite of all persecution. It is as beneficial and least harmful perhaps in cities and large towns, where there are no gardens for it to molest or rob. We cannot overlook the fact, however, that sparrows devour seeds of all kinds that are not too large for them to swallow, also Pinks and Carnations fn winter and spring, the buds of gooseberries and currants, Crocuses, Polyanthus, Primulas, Pansies, Violas, Lettuces, Peas, when coming through the ground when in bloom, in pod, and when the seeds attain full size, and doubtless many other subjects. The good they effect does not seem to be precisely stated.

Our Health in Winter—Dr. Andrew Wilson, writing in *Lloyd's Newspaper* on diet, says: "The teaching of Nature should never be neglected, and in the matter of winter food let us see we are not wrong, and take sufficient fat, for the changes that result in the wear and tear of our bodies are lessened in intensity by the fat of food, and the need for flesh is always less when fat forms a due proportion of our diet." The Doctor proceeds to enumerate natural products that are admirable, among them "Cocoa" with its contained Cocoa Butter. Relatively to this it may be said that **Epps's Prepared Cocoa** retains all the constituents of the natural Cocoa, including the oil or butter, intact.

ASPLENIUM ADIANTUM-NIGRUM GREENII, *Nov. var.*

This variety may be described as intermediate between the type and A. Adiantum-nigrum acutum. The fronds are tufted with a stipes about 5 in. to 7 in. long; the frond itself or lamina is lanceolate, acuminate, or more or less distinctly caudate, bi-tri-pinnate, 6 in. to 9 in. long, and 4 in. to 6 in. wide at the base. The lower pair of pinnae are not very much larger than those next above them, and vary from lanceolate to triangular, according to the size and development of the frond, and are caudate. The pinnules vary similarly. The ultimate segments are oblanceolate-spathulate, narrow, and all furnished with moderately long, acute teeth above the middle or towards the apex; the larger ones are more or less deeply incised about the middle. The sori are crowded along either side of the mid-rib of the pinnules and the apex of the pinnae.

It is named in compliment to Mr. C. B. Green, of Acton, who is much devoted to British Ferns, and who obtained it from a locality near Loch Broome in the West of Ross. A. Adiantum-nigrum acutum differs in having more decidedly triangular fronds, brought about by their being shortened and widened by the great development of the basal pair of pinnae. The apices of these pinnae are attenuate, and the segments narrowly rhomboid with long, acute teeth. As far as Britain is concerned, this form seems to have been found only in a few Irish counties and in Jersey. It is more plentiful in North Europe, and also in the Canaries, Azores, and Madeira. The variety under notice occurring in the far north of the island, would seem to indicate a similar origin and possibly the same habitat as A. A.-n. acutum in North Europe, that is, the variety A. A.-n. Greenii would be a connecting link between the extreme form on the Continent and the type occurring in the north of Scotland. The slender and pointed character of all parts of the frond and the sharp teeth of the segments contrast strongly with the more rigid and blunt pointed fronds of the type. The two are, therefore, abundantly distinct for garden purposes, and those amateurs who love and appreciate British Ferns must appreciate this new variety.

NEW VARIETIES OF CHINESE PRIMULAS.

As intimated in our last issue, we here revert to the grand display of Chinese Primulas to be seen with Messrs. Sutton & Sons, Reading, in order to mention the new varieties which have been added to older and highly appreciated kinds. The improvements consist of new colours which have been acquired in the different sections by untiring labour and perseverance. That they have been considered fit to take their places alongside of the existing standards of perfection says much for their individual merits.

Two varieties have been added to the fern-leaved section namely Giant White, and Giant Rosy Queen. The former is very robust in habit and an excellent companion for the plain-leaved form. The flowers are large, of great substance and pure white or slightly tinted blush with age, and beautifully undulated. Giant Rosy Queen is to be sent out next year, but those who may see it now cannot fail to be charmed with the huge size of the flowers, and their delicate rosy hue. It is perfectly distinct from anything in the collection and will be admired by hundreds when it comes to be known. Its great orange eye adds much to its majestic appearance. An Award of Merit was accorded it on the 15th ult. by the Royal Horticultural Society. Amongst single varieties, the glowing orange-scarlet hue of Grenadier is well worthy of its name. It is very floriferous and numerous trusses of bloom keep up a succession in such a way that it cannot fail to brighten and give life to any collection whether in winter or spring. Quite distinct in its way is a lavender-coloured variety, the large flowers of which become darker as they expand, but always remain of a light Forget-me-not blue with a white line round the five-angled eye. The leaves are plain and wholly green including the stalks; indeed, it may be stated, that this is the first blue Primula with a green petiole. Another has large, deep salmon flowers.

Four new doubles have been added to the list, all of which are of a high order of merit and must add considerably to the existing popularity of the section. One of the prettiest is Rosy Queen with soft, rosy pink flowers and fimbriated segments. In the way of colour, Double Heliotrope is more novel and in that respect interesting. It was obtained by crossing Double White with Double Blue, and the results were somewhat peculiar, inasmuch as thirteen of the seedlings resembled the seed parent and thirteen partook more of the character of the pollen parent. The flowers of the variety selected and perpetuated are large with deeply indented segments and a good rosette in the centre, so that the variety comes fully up to the standard of the rest in form, while the colour is very distinct and novel. Double Salmon is handsome and is of a rich tint of that hue indicated by the name.

A pink variety has appeared amongst it, and curiously enough, both came from a puce-coloured parent. Another noteworthy kind in this section, is that having reddish-purple or crimson flowers, and takes its place amongst the darkest kinds grown.

Close by the Primulas are houses containing other florist flowers here grown to such perfection. The Cinerarias are in 32-size pots with the large and healthy foliage covering them. Calceolarias which are notable for the brave display they make during the spring months, are now luxuriant and healthy plants in 16-size pots. The dreaded green fly is easily settled by the use of Lethorion Cones for fumigation. We noted some Coleus plants large enough for 48-size pots but which are still in small cutting pots. They are stood on a shelf near the glass and supplied with water from pans kept under them, and the vigour of the plants as well as the colour of the foliage, are simply marvellous for this season of the year. Stored about in the same range of houses are large quantities of the roots of large flowering Cannas, the tubers of Streptocarpus, tuberous Begonias, the rhizomes of Gesneras, and Achimenes and the bulbs of Liliums all stored in cocoa-nut fibre ready for use. The varieties of Begonias of the B. sempervirens type now largely used for bedding, are getting numerous, important and require a great deal of house-room.

THE PLANTS OF THE BIBLE.

In a lecture on this subject recently delivered at Ealing, the Rev. Professor Henslow said there were about 120 plants mentioned in the Bible, but, owing to the absence of science in the days to which the Biblical narratives referred, accuracy of definition was often wanting, and identification of a plant therein mentioned with one of modern times was difficult, the same term being in the Bible sometimes used to denote plants that were altogether dissimilar, We were not guiltless in respect of this matter in our own day; an instance was our employment of the term "lily" as a name for a number of flowers that are entirely distinct from one another in scientific genera and species. A large number of Biblical plants were, however, recognisable in their prototypes of modern days, as being obviously the plants mentioned in the Bible. He would group these recognisable plants under the headings of textile materials; herbs, including plants used as condiments, as food, and as dyes, &c.; odorous resins; fruit trees; timber and other trees; and desert and aquatic plants. Professor Henslow gave his audience much interesting information concerning the trees and plants alluded to in the Bible and comprised in these several groups. His lecture was profusely illustrated with some fifty lantern views depicting the plants and trees under consideration, and also by numerous specimens collected in Malta, Egypt, &c., of the wood, seeds, and other properties of the plants. Under the group of textile materials, he included flax and cotton. The latter, he said, was only mentioned once in the Bible (in Esther i. 6), and its cultivation in Egypt and Palestine did not appear to have been known before the time of Esther, or about 500 B.C.

Fitches were plants known now as Nigella sativa, the black seeds of which were, and are still, used scattered over cakes, like carraway seed. The Lentil was one of the most important, as it was the most nutritious, of all seeds; this plant constituted the red pottage of Esau. Several varieties of Wheat were cultivated in ancient days; the only form which was probably wild was Triticum monnococcum in Mesopotamia. This, or an allied form, was probably the "Rye" mentioned with Flax as destroyed in Egypt by the hail. The term "Rye" was a wrong translation, because Rye, as was well known, would not grow in hot countries, and could not therefore have been cultivated in Egypt. The common form of Wheat in Egypt was still the same as of old, called T. turgidum, while the poliferous variety, compositum, was described in Joseph's dream. On the subject of Wheat, Professor Henslow took the opportunity to enter a strong protest against the supposition that genuine Egyptian mummy Wheat had ever germinated; that supposition, he said, was utterly false. The Arabs practised upon the credulity of travellers in this matter, and rolled newly plucked Wheat in the mud of the Nile in order to make it resemble the brown mummy Wheat placed by Egyptians in jars or other receptacles as offerings to the dead; this so-called mummy Wheat was taken by travellers from the hands of the dead, and on being planted germinated as a matter of course. It should be remembered that the genuine mummy Wheat was not placed in the hands of the dead person, but in the receptacle that was deposited by the side of the embalmed corpse.

In respect to bitter herbs, Professor Henslow said that the plant from which gall was extracted had every appearance of having been the Poppy. In connection with this plant, the lecturer related a curious theory that Sir Benjamin Richardson had mentioned to him concerning the custom of the Jews in offering to malefactors condemned to death by crucifixion wine mingled with gall. The supposition was that this drink was given to them, not only to stupify them, but also, by producing the simulation of death, to enable them to escape justice; and the habit of breaking the legs after crucifixion was designed to prevent this frustration of the execution of the sentence of the law. Professor Henslow said he had been unable to veryify the accuracy of this theory, but if it were true it threw a curious side-light on the motive that might have influenced our Lord in refusing the drink offered to Him at the crucifixion. If He were aware of this custom of thus enabling condemned persons to escape justice, He would certainly have refused the drink, as He would not have acquiesced in anything that would have tended to defeat the law in the sentence it had passed.

Professor Henslow dealt in equally attractive style with the other groups of plants—those from which dyes were procured; those from which odorous resins were obtained—the frankincense, myrrh, and Balm of Gilead, he said, were not the products of trees grown in Palestine, but were brought from Saba, the capital of the district lying to the north-east of Aden; fruit trees, such as the Fig tree, and the Palm or Date tree—the latter was illustrated by a photograph of a group on the site of Memphis (called in the Bible Moph and Noph), with a colossal statue of Ramses II., a king under whom the children of Israel were in slavery; desert plants, in conjunction with which the plants that probably supplied the material with which the Crown of Thorns was formed were designated; and water plants, of which the Papyrus of Egypt the lecturer said was the most important—that plant, which was now extinct in Egypt, but still grew in Palestine, had several uses, boats, chairs, baskets, and paper being made from its stems.

VANDA CAERULEA.

Those who have seen a well-grown plant of Vanda caerulea know what an imposing effect it has in the Orchid house during the autumn and early winter months. Whether the spikes are few and the flowers large, or numerous with smaller flowers, the peculiar shade of colour is unique in its way and without rival at that period of the year. The accompanying illustration was prepared from the photograph of a plant grown by William Barr, Esq., Llewellyn Park, Orange, New Jersey, U.S.A., kindly sent to us by Mr. A. Dimmock of St. Albans. The plant was a grand specimen with eleven spikes and 116 blooms, all handsomely coloured. The collection of this Orchid is one of the finest in the States, and grows luxuriantly in the corner of a house; every leaf was without spot or blemish, and bespoke a state of rude health. Much more could be said about the beauty of the plants in flower and their vigorous condition last autumn, but the illustration of a specimen that is hardly ever matched, and probably never surpassed, will speak for itself. All were grown in pots in the usual way.

SNOWDROPS.

The turn of the season bas once again brought with it the familiar form of this dear old friend, which, regardless of the inclemency of the weather which it often has to face at the commencement of the season, boldly pushes up its pure white flowers to the light, gladdening our eyes with its beauty and cheering our hearts with the thought that although spring may not yet have made her presence felt in earnest some of her children have at least begun to make their appearance. We question very much if there is any flower indigenous or exotic that enjoy so large a share of popularity as the Snowdrop. That much to be pitied individual "the Spring Poet" with his proverbial long hair, his wild appearance, and still wilder ways, takes his first inspiration, or in other words catches his first severe attack of the poetic frenzy, from the humble Snowdrop with its nodding downcast pure white flowers. All classes combine to hail its appearance from the frozen earth, and all unite to do it honour and render it the homage due to its intrepidity in braving the unkindly breath of early spring.

Without doubt a great deal of its popularity is due to its early flowering season, for it is very certain that if the Snowdrop made its appearance at any other time of the year it would not have been so extensively noticed and honoured and would not have excited into action the talent of the painter and the spring poet (if it is admitted that a "Spring Poet" has talent) to the extent it has done. As the summer advances there are scores of more brilliantly dressed subjects that in their magnificence of beauty would utterly over-sbade and eclipse the modest dress of the lowly Snowdrop. But coming as it does long before the Swallow dares, it has acquired for itself an imperishable name and fame. These early children of spring possess in their modest way a charm that does not attach itself to the more gorgeous flowers of later spring and summer.

With regard to its natural distribution "Bentham" in his "Illustrated Hand Book of the British Flora" states that Galanthus nivalis is found "in woods and shady pastures in central and southern Europe extending eastward to the Caucasus and northward into central Germany. In Britain, probably not indigenous, but long cultivated in cottage gardens and now perfectly naturalised in many parts of England, and here and there in Ireland and Scotland." Whether indigenous to this country or not, there can be no doubt but what it has long been an occupant of our woods and forests as well as a cultivated plant in many an old-fashioned garden, which would not be complete without a few clumps of Snowdrops any more than a caricature of our greatest statesman would be perfect without the well-known huge pointed collar.

It is more than probable that its presence in an apparently wild state in different parts of the country is due in the first instance to the labours of persons with a taste for the naturalising of suitable plants, probably individuals who, falling in love with its beauty, sought to decorate their estates or

Vanda caerulea.

grounds with it in quantity. These planted subjects becoming perfectly resigned to their altered conditions, and on friendly terms with their new surroundings, became the progenitors of a race of plants that has so long been closely and intimately associated with the natural beauties of our English woods, where for some reason or other it always affords a more pleasing picture than it does when growing in a cultivated state in our gardens.

The florist has of late years been busily at work among by far the greater proportion of our favourite flowers, striving to impart to them his idea of a more perfect form, eliminating a petal here, broadening others there, or inducing both stamens and pistil to assume the petaloid form, with the result that the offspring of his handiwork are extremely unlike the natural originals. Indeed, so far has he been successful in persuading the general public that his idea of beauty is the correct one, in fact, that rigid symmetry of form and beauty are synonymous terms, that in some instances the species upon which he worked in the first place have been entirely lost sight of, or at least relegated to exceedingly obscure corners. Not so with the Snowdrop, for although the florist has brought out various new forms, some of which are accorded a great deal of public favour, and are largely cultivated, still the original G. nivalis remains, and is almost, if not quite, as great a favourite as ever from its hardiness of constitution and the earliness of its flowering season. It would be hard indeed to imagine a more beautiful and pleasing picture than a batch of plants naturalised in corners of the flower garden or pleasure grounds, where, as if to make sure that its flowers shall not be passed over without due recognition, they open before the leaves reach any length, the latter considerably elongating, however, after the flowering season has passed.

Some of the varieties of G. nivalis are very distinct and pretty, and form very suitable subjects for growing in pots, amongst which G. n. Imperatri, with its large flowers and broad glaucous leaves; G. n. reflexus, in which the outer segments of the perianth are reflected back in pretty much the same way as the petals of the Cyclamen; G. n. Shaylockii, with its characteristic green blotches upon the tips of the outer segments; G. n. virescens, in which the inner segments of the perianth are wholly green; G. n. etiolatus, a pretty and distinct form which has the ovary and the tips of the inner segments yellow instead of green; and the much-prized double form G. n. flore pleno, with its large but stiff and formal flowers, are all worthy of cultivation.

The place of honour belonging to the most handsome member of the genus is usually awarded to G. Elwesii, a very distinct species with very large flowers, hailing from Asia Minor. The outer lobes of the perianth here are broad and spreading, two deep green blotches being very noticeable at the base of the inner segments upon the outer side.

G. plicatus, a species common to the Crimea, which is also cultivated in our gardens to some extent, has rather smaller flowers than those of G. nivalis, added to which they are sometimes of a greenish hue. The leaves, which are larger than those of the last-mentioned species, have a longitudinal fold or plait on both sides, and hence the very appropriate specific name.—*G.*

WINDOW GARDENING.

(*Concluded from page* 348.)

Chinese Primulas and Cinerarias, etc., are also very useful when in flower, but it is only possible to have these in bloom when they are grown in a warm frame or greenhouse and brought to the windows when suitable. There are several other very useful things that might be used in this manner, but my remarks have reference chiefly to those who have no glass erections in which to bring on choice things for a short summer display. And, now, besides the lower parts of the windows there are also the sides, which should have some little consideration, and there are many neat close growing climbers that may be used with effect. If it is desirable, make permanent coverings with Roses or Clematis, Jasmine or Honeysuckle. A close growing, small-leaved Ivy is often found useful. The neat Canary Creeper can be sown in the boxes in March and trained up string or wire; here its bright yellow flowers show to advantage, and the habit of the plant is well retained. A few of the close growing Sedums and Saxifrages can be grown in single vases and hung on the walls by the windows; some are exceedingly pretty and at the least are novel.

And now turning our attention again inside, I would remark that some windows are so fixed that there is little room or convenience for outside display. This necessitates a fresh start in the dwelling rooms. When this must be done, I would advise that but few plants be grown, but that such as are kept should be larger than those grown in the boxes, etc., in the open. Many Ferns, as I stated at the commencement of my remarks, can be well grown in this manner: so, too, may some of the Palms, now easily obtained, various green-leaved Dracaenas and Grevilleas, are satisfactory during the summer; but perhaps the three that are mostly grown for their foliage in this respect, and that stand the fluctuations of temperature, and not seriously affected with dust, etc., are the India rubber plant, the Aspidistra, and the Calla Lily. This latter also flowers in the spring, and its large expanding trumpet shaped white blooms are objects of considerable interest. The Calla will bear a little more water than most of the plants grown indoors, and if occasionally a little stimulant be given it will be much strengthened thereby; this matter of stimulants calls for a further remark. Doubtless, manures rightly applied, are helpful to all vegetable life, as the root space of plants in boxes, etc., is very restricted, it is well, if now and then a little extra help is afforded; the growing eager roots soon extract the richer particles from the soil, but extract it remember in a soluble form, and so the right use of some fertiliser is most beneficial. Thomson's, Clay's, or Wood's special mixtures can be spread on the surface of the soil and no unpleasant appearance or distasteful odour accompany its application Of course, use these mixtures with discretion, and if a little were given just before watering, say once a fortnight after the plants are well established either in boxes, pots, vases, etc., the results would be apparent, and amply repay the cost. These manures are easily obtained in convenient tins at most of the florists in the town.

If any of you are so situated that at times you can obtain a peck or so of good wood ashes, by all means get them. Keep them dry, and if no other help can be given some of this spread on the soil would be of service. I trust I have not tried your patience too much, nor monopolised too large a share of your time, there is yet, however, one other matter to which I should like to turn your attention. Why should you not among yourselves exhibit a little rivalry in the dressing of your windows, and seek so to cultivate your plants that a spirit of emulation were aroused still further? I do think if a little of this feeling were held by you, and put into definite form, the outcome would be a far more cheerful display of colour in our streets, a feeling of admiration and satisfaction would ensue, and our town become in a very short time a perfect bower of beauty, the whole most charming, the individual windows neat and attractive. I think if a few prizes were offered for the best front garden, and the best and most showy boxes, etc. in the windows, we should soon see an improvement, and success in one direction, would undoubtedly lead to fresh attempts in others. Still much as I should like to know some such spirit were moving amongst you, I should be sorry to find that the culture of flowers were merely undertaken that advantages might be secured simply of a mercenary character.

Though I know that one cannot live simply upon honour, or honourable distinction, and cannot always be expected to labour for nothing, still, I should like to see the culture of flowers as I have attempted to indicate, more largely carried out for the love of the plants themselves, that an affection for them so sprang up and an admiration of their beauties so prevalent amongst you, that successful culture were the only rewards that were sought, and whilst receiving the pleasure of gazing upon them oneself to know that others enjoy the same sights and are charmed in a similar manner, whilst unconscious thanks are ever rising in the bosom of those who receive joy through your labours. Ever bear in mind that in dealing with plants, you have for the time being in your charge and keeping a life—unconscious I admit, still a life that can respond to kind and considerate treatment, and that does resent neglect, and unwise methods of culture; a life that has come to us through all the ages. A continuation of the first life of its kind that came originally from the Hand of the All Wise, All Good, Almighty Creator; a life whose inherent powers you may develop to its highest capacity, and in your hands may produce results never before presented.

With thoughts present such as these, I would advise you to engage in this work, and promise you that with diligence, patience and some little practical knowledge, you will find you have advanced from stage to stage, until by and by your success will have exceeded your most sanguine expectations, and your pleasure be continually shared by many who come within the circle of your influence.—*W. Swan.*

GARDEN PEAS.

I AM often struck when reading through the list of Peas in catalogues, both wholesale and retail, to see the improvement made in many ways in this most useful vegetable. I feel, therefore, that I shall not be out of place at this season of the year in offering a few remarks upon them, in doing which I may perhaps say a few words for some of the old varieties as well as the new.

Perhaps a few remarks on the preparation of the land may be useful to some of the readers of your valuable paper; therefore, for a general crop of Peas, I should recommend that the land be well trenched 2½ ft. to 3 ft. deep, and should the bottom spit be found poor heavy soil not fit to come to the top, break it well up and add some burnt ashes, old mortar rubbish, road scrapings, or anything of a workable nature. This, well worked into the bottom, will make it ready to receive the roots of the Peas, and also prepare the soil to come to the surface when the next trenching time comes round, which should be, in well kept gardens, about every three or four years. Nothing will make a garden more productive than breaking the ground well up by trenching and adding plenty of good manure, burnt ashes, or anything that will improve the class of soil you may have to contend with. In my opinion there is no better plan than to have a good fire once or twice a year and burn up all the rubbish that accumulates from the potting bench, kitchen and flower gardens, etc. When a good body of fire has been got together and all the light rubbish burnt out, cover the fire all over with a good layer of heavy soil, for this, when well burnt, will be of much use in many places when planting trees, dressing flower beds, or on a bad quarter of the kitchen garden. In fact, I never saw a good heap of burnt ash turn out to be useless, and we may be sure this burning kills thousands of seeds of weeds as well as numbers of slugs and snails.

I will now return to my subject, and see what has been done since the time of the Crimean War. When I was a lad the early Peas that I well remember to have then been in cultivation were Daniel O'Rourke or Sangster's No. 1, a small white-seeded variety. Now we have so many varieties we can hardly say which are the best, such as Ringleader, First and Best, William the First. Every cultivator has his own fancy, and so have I, and those which I have proved to be the best on light or medium garden soil of late are Carter's Lightning, Day's Sunrise, Early Bird, Exonian, English Wonder, and Dr. Hogg. If these are sown on a warm border any time in January they will prove good useful kinds. The land for these should be well dug and manured before planting, but should anyone prefer sowing in pots, which I should recommend where pits or a cool Peach house can be used, nothing is better than sowing the first batch in 3 in. pots. The young plants when about 1½ in. high, after being well hardened off, may be planted out in rows and staked properly at once. This will act as a protection to them, and if done carefully nothing is lost in the time taken for labour, for there is a great saving of seed to begin with, and in most cases the Peas grow away and do well if properly planted.

When we mention improvement we do not forget the dwarf Peas, and the improvements in these is great. For instance, take American Wonder, Chelsea Gem, William Hurst, English Wonder, Wordsley Wonder, and Carter's Daisy; all of these I can speak most highly of. I have grown them all side by side on some good light soil, and have proved them to be all well worth growing. In my opinion, English Wonder is the best of the six sorts I have mentioned. Carter's Daisy comes in a day or two later than the English Wonder, and with me grows

much stronger, having larger Peas and finer pods, but not so well filled as in the English Wonder. I shall give it another trial this season, however, on some stronger soil, and this may improve it somewhat. Wordsley Wonder is a good dwarf Pea, and should be grown by every one, if only for a trial with others. I have proved that all the dwarf varieties do best when grown on rather light soils. They do not seem to thrive so well in heavy land, as they grow so short and stunted. I also find it will not do to grow from seed saved from the same piece of land, a change being much needed, for, as in the case of Potatos, the change of seed is as good as a coat of manure.

I should recommend growing dwarf Peas in beds from 2½ ft. to 3 ft. wide, supporting them by sticks about 15 in. long to keep them off the soil. This will be found very beneficial, as the plants will bloom better, set better, and will be freer from grit when fit to gather, and if bad weather prevails they will keep longer in bearing, as the haulm will not rot on the gronnd so quickly. Lastly, they are much easier to gather.

So much for the early section, now a few words about the second or main crop. As I said before, the soil should be well trenched and manured before sowing is thought about. Amongst the best of the main crop varieties are Dickson's Favourite, a first-class, white, round Pea, growing 4 ft. 6 in. high; Lye's Favourite, a second early, a grand cropper, and rather similar to Dickson's, only the Peas are rather wrinkled; Champion of England, a sort that has stood the test well for over forty years to my knowledge, and can still find a place with the best; Criterion, a grand Pea, and one that has been grown some time, and which some fifteen years ago I grew to perfection at Oakley, when I said it was the Champion of England's master, and I still believe it to be so, both for flavour and colour. I cannot say the constitution of Criterion has proved good with me, but as a grand Pea for a gentleman's garden nothing can be better, growing as it does from 5 ft. to 5 ft. 6 in. high.

I have amongst the newer varieties some good sorts of Messrs. Daniel's introduction, which I can recommend. Their Matchless Marrow is a noble looking exhibition Pea, with long, handsome pods well filled with from ten to twelve large Marrow Peas of fine flavour. This is a very promising Pea, and one which in my opinion will become a leading variety. Another, called The Daniels, is a fine variety, and is said to be a cross between Best of All and Alpha. It is rather a strong grower, and the haulm runs about 4 ft. 6 in. in height. The pods are long and handsome, and well filled with fine Peas of splendid flavour—altogether a fine main crop Pea. Other sorts which I have proved to be good ones are Advancer, Dr. McLean, Premier, and Prince of Wales. Then we have Sharp's Queen, a splendid variety; Sutton's Satisfaction, a grand Pea of good constitution, fine flavour, and well filled pods, a good Pea for exhibition, and one that will stand dry weather well. Sutton's Main Crop Marrow I can also strongly recommend as a heavy cropper, possessing a good constitution, a fine appearance when growing, pods long, hanging in pairs, and well filled with Peas of a fine bright green colour when cooked. This is a fine market sort.

I now come to the late or June main crop varieties, and well do I remember my first noticing Peas in a large quarter of the garden in which I served my time when a lad forty years ago. They were planted about 8 ft. apart from row to row and well staked. The sorts grown, Champion of England, Knight's Tall Marrow, British Queen, and Ne Plus Ultra, two rows of each. I remember the man who served the kitchen at the time taking the skeleton or a light Salisbury barrow, and placing a board on it to stand upon to reach the Peas, which, to my fancy, were the best I have ever seen, but for their height, which might go against them with some people. Although much may be urged in favonr of the dwarfer varieties, if plenty of good sticks are to be had, and plenty of room available in a large garden, I should go in for tall Peas, and believe them to pay best. If the reader could see a row of Ne Plus Ultra, 7 to 8 ft. high, and Peas gathered from them for a month or six weeks, as I have done, when planted on well trenched land, they would say the same as I do.

I will mention a few other good late crop varieties, amongst which Autocrat is without doubt one of the very best of the later introductions. It grows about 4 ft. 6 in. high, is of strong and robust habit, and bears fine pods of a beautiful dark green colour, well filled with Peas of splendid quality, foliage of very dark green hue, and a good bearer. Daniel's Main Crop Marrow Pea is also a splendid sort and the most like the old Ne Plus Ultra of anything I have seen. In flavour it is the same, also in height, viz., from 5 ft. to 5 ft. 6 in. Last year the pods were perhaps a little longer than usual and quite straight. The pods were well filled, and in all respects it proved to be a splendid Pea, and one that should be largely grown. Other good varieties, late sorts, are Omega, Sutton's Perfection, Walker's Perpetual Bearer, Yorkshire Hero, and Veitch's Perfection.

I find that many people who grow Peas make the mistake of huddling them up too close together. Now my idea is to give them plenty of room upon good land, when good Peas will be obtained. Varieties 3 ft. in height should be allowed 3 ft. 6 in. from row to row; at 6 ft. high, 7 ft. from row to row. If people could only manage to do this I am of opinion that single rows about a place would be the best method of culture, as they would get better crops and be better repaid for their outlay than they would be by growing them so close together in rows. Stake them as soon as possible, but give the Peas room to go up between the sticks, not force them to come through about half way up. As soon as the main or late crops are coming into bloom give them a good coating of old Mushroom dung. Half rotten stable manure, short grass of the lawn, or any kind of mulching, as this will be of benefit to the Peas by keeping the moisture in the soil. If this is done and after a dry hot day a few pots of water can be poured on this mulching in the evening, it will be very refreshing to the Peas, and the foliage will also be improved at the same time. I have often seen heaps of short grass, long manure, etc., laying wasting that might have been made useful for mulching. Of course, we do not all see alike, but to my mind mulching is one of the finest things that can be done for growing crops, such as Peas, Kidney Beans, etc., on light soils, as they grow better, bear better, and are of improved flavour, always feeling fresh and crisp and fit for table, instead of tasting like vegetables that have been gathered a few days and laid withering and spoiling.—*J. L., P.*

EARLY SPRING-FLOWERING PLANTS.

The Winter Aconite.

Which among the many plants cultivated in the open ground is the first to flower in early spring? Some would no doubt say the lovely golden-flowered Winter Aconite, Eranthis hyemalis, which has been described as the "very 'firstling' of the year," and for this reason, that as a rule it blooms in advance of the Snowdrop. It is one of the most pleasing of the harbingers of spring, of quite dwarf growth, with a golden yellow, saucer-shaped flower resting in a kind of rosette of leaves. It is also one of the most accommodating of plants, and it can be purchased in the form of dry roots in the autumn, or in little flowering clumps in February; it will do well in any kind of soil almost, and when planted soon establishes itself, and then by pushing its tuberous-like roots in various directions increases rapidly until in time it covers a good space of ground. I have seen it overflowing from a flower border, and actually thrusting up its blossoms amid the gravel of a walk close by. We have grown this pretty subject in our gardens for many years, and though it seeds and can be raised from seeds, no variation is noticed in the type. I have to add that the roots may be left in the ground to spread, or they can be lifted at the end of the summer, when the foliage has died away, and replanted in the autumn. I remember, now several years ago, paying a visit to Castle Ashby, Northampton, the seat of the Marquis of Northampton, when the late Mr. George Beech was the gardener, and when spring gardening was carried out largely and finely. Castle Ashby lies snug and close, and spring flowers bloomed early, consequently it was early in the year when I went there, and I remember Mr. Beech taking me to see a huge Chestnut tree only just pushing into leaf, and the ground all round the trunk was a mass of golden blossoms of the Winter Aconite, which had established itself on the spot, and was annually extending its borders. The plants bloomed and matured their leaves before the tree got well into leaf, and the leaves of the Chestnut fell in autumn, rotted, and gave a fine mulch to the Aconites.

Crocus biflorus.

I think that this species of the Crocus shares with the Snowdrop the time of blooming, C. biflorus is a small dwarf growing form; creamy white, with lines of blue purple pencilled upon the exterior petals. It is also known as the Scotch Crocus, and unlike most of the fine varieties of the Crocus, the skin of the bulb is hard, and it is not shed as in the case of some others. This early species should be planted on the margins of flower borders, and let alone; then, when established in a year or two, it will bloom freely, at least in company with the Snowdrop, if it does not precede it. The Crocus of legendary history was no doubt that known as the Saffron, or Crocus sativus. It is from the stigmas of this Crocus Saffron is manufactured, which was at one time employed for dyeing purposes, but it was not particularly lasting. At one time it was considered a valuable stimulant, exhilarating the spirits and relieving pain; but it is not now of any importance except as a colouring matter for pastry, confectionery, and liqueurs.

Years ago, the Saffron Crocus was largely grown at Walden, Essex, and anyone can readily understand why the prefix was added to the name of Walden. The stigmas were gathered as soon as the flower has fairly expanded, or else the virtue is lost.

The Snowdrop.

And then the pretty Snowdrop! What can compare with it for winsomeness in early spring—just at the time when the new life of the springtime is stirring the vegetable kingdom? We have single and double forms of the Snowdrop, but there is a kind of contrariness about the bulbs, for no matter how carefully they are selected, it is impossible to ensure the single coming single-flowered, and the double double-flowered, so much do they run the one into the other; but let this tendency to run ont of character be what it will, the flowers are none the less beautiful. There are two or three large-flowered species, such as the Crimean Snowdrop, Galanthus plicatus, and the Giant Snowdrop, G. Elwesii. An enterprising gardener in Scotland took in hand, some years ago, the Snowdrop, and by seeding from it raised a number of varieties, some of which flowered very early, and some quite late, and so provided an agreeable succession; indeed, so much so, that when the earliest are in bloom the later ones are only just coming through the soil.

In reference to the culture of the Snowdrop, it has been said that these welcome harbingers of spring never show to such advantage as when planted in dense clumps and broad bands. This is quite correct, because two or three bulbs make but little display, while two or three dozen planted as a clump or band would be very attractive. The Snowdrop can be grown in pots, and almost as many bulbs as the pot will conveniently hold should be placed in good soil, and then there will be a surprising head of bloom. A double Snowdrop blossom really demands inspection; if examined, it will be found "exquisitely beautiful," and it might be spoken of as a piece of vegetable jewellery. The flowers are bell-shaped, closely packed with petals, like so many microscopic crinolines arranged for the attiring of a fairy; they are snow-white, and sometimes delicately tipped with light green.

The Hepatica.

The pretty Hepatica is with me as early as any spring flower; and the silvery-blue blossoms of one variety are already expanding themselves under a warm wall, though the spell of sharp enduring frost will greatly check them. It used to be classed with the Anemones, and was known as Anemone Hepatica; but it is now generally known as Hepatica triloba. I think it not unlikely the single blue flowered form was the first of the type, though it is little better than conjectural to say so. There are the single and double blue; the single and double red, or rather rosy-pink; and the single white, but no double form of this colour. Report says there was at one time a double white form, but no contemporary horticulturist appears to have seen it, nor does it exist in catalogues published seventy and eighty years ago.

The Hepaticas, and especially the double pink, the single blue. and the single white, will grow well in any good deep garden soil which is not too heavy. The Hepaticas like a deep run for their roots, and in a light deep soil will do remarkably well. They require to be planted and let alone, and then the

clumps grow into size, and when in full bloom make delightful floral objects. The double blue and the single red appear to be less robust in growth, and as a matter of precaution should be grown in pots. There is a very strong growing species named H. angulosa, with sky-blue flowers, which will grow in any soil, however cold and moist, and bloom freely.

I think if anyone would take the Hepatica in hand, and fertilise the blossoms, some welcome variation might be obtained in seedlings. The Hepaticas seed pretty freely, and the seeds should be gathered as soon as they begin to turn brown and sown on the surface of a box of light, sandy soil, and be just covered in the soil; the surface pressed down firmly, and then a piece of board laid upon the top and the box placed in a cold frame. In the course of a year the seeds will germinate, but it will take time for the plants to get into size to bloom. I have sometimes obtained seedlings of the single blue by spreading some fine sandy soil over the surface round the plants; in course of time the seed scattered by the plants germinates, and grow into size; but it takes two or three years, at least, for them to get into size to blossom.—*R. D.*

HINTS ON POTTING.

Under this heading your correspondent Mr. J. G. Pettinger in an article appearing on p. 360 of The Gardening World deals with a much discussed and hence well worn subject, but one that is nevertheless of very great importance, upon which it is scarcely possible to discuss too freely, viz., "Potting." Almost every gardener (we use the word in its widest sense) has his own ideas with regard to potting, ideas that are in most cases the result of practical experience. Often enough, too, these opinions vary considerably, and if it were possible to get a consensus of opinion from growers in all parts of the country we should find, we doubt not, that the ideas thus gleaned from a number of sources would be of the most conflicting character when considered as a whole.

Thus one gardener will declare that he finds that to grow a certain plant well a quantity of peat must be present in the compost in which it is to be grown, and that a particular temperature must be accorded it, together with various other details of the method of culture successfully pursued by him. This may, perhaps, be met by another assertion from a different quarter to the effect that the writer has grown the plant in question for years, that it has never been allowed the slightest portion of peat, leaf soil, perhaps, being used instead, that the temperature accorded it has been lower or higher, as the case may be, and altogether advocating an entirely different method of treatment.

What does this go to prove? that one or the other of the methods of treatment are wrong, or that neither are entirely right? Certainly not! It only tends to show what a wide range of difference of opinion may be exercised in the practice of even one branch of the profession. We would contend that it is an extremely healthy sign, and one that argues well for the inherent life and vigour of exponents of the profession of horticulture that there are so many and divers (we might almost say diverse) opinions as to the best method of conducting operations. It shows that there are numbers of eager and zealous gardeners, who, not content to follow slavishly any stereotyped rules that may have been laid down by some supposed authority with regard to the treatment of any one subject, are constrained to test for themselves the alleged value of such instructions, and prepared should they not obtain from them the satisfaction they may rightly expect to derive are intelligent enough and brave enough to strike out fresh paths for themselves.

Now although the different ideas that may be promulgated with regard to the treatment of any one subject may be apparently conflicting and contradictory, they are only *apparently* so. We must bear in mind that plants are exceedingly adaptable subjects, and often suit themselves to circumstances in an astonishing way, added to which the conditions of climate vary considerably in the different parts of our Islands; we may therefore expect to find a corresponding variety in the treatment given them. As Mr. Pettinger remarks, the time for potting a great part of the permanent stock of plants will soon be here, if indeed it is not already with us. The careful gardener will be busy in making his preparations for an early start, a supply of clean and suitably sized pots as well as plenty of clean crocks for drainage purposes being procured.

Soil, too, must have careful preparation, and it should be seen that it is quite fit for using before a start is made. A supply of really good fibrous loam is not within the reach of all gardeners, and happy are those who possess it. Much of the loam that is used is very far from being the ideal article, as it is often of clay-like consistency, with scarcely a vestige of fibre amongst it. It stands to reason, therefore, that plants which are potted in a compost largely made up of a soil of this kind must receive very careful after-treatment if anything like satisfactory results are hoped for.

Among the various points with regard to potting, none have created more discussion than the question of firmness of soil. How often do we see it recommended to pot certain plants firmly, with the result that some young hands at potting take this to mean the using of the potting stick or rammer with a vigour and strength that a stone-breaker might envy, and this upon a heavy and often wet compost. Small wonder is it that many tender-rooted plants refuse to thrive under such harsh treatment, as their roots are unable to penetrate the hard layers of soil surrounding them. Some growers go so far as to assert that a rammer should never be used in potting except when dealing with Cape Heaths, Azaleas, or such subjects. Whether we agree with this or no, certain it is that no gardener would allow the rammer to be used with indiscriminate freedom upon all subjects alike. To do so would be but to court failure.

The quality of the soil used must be considered, whether it be fibrous or destitute of fibre, or whether a large proportion of peat enters into the making up of the compost. Peat is usually added to impart porosity to the soil, and not, as is sometimes supposed, for the sake of any stores of nutriment it contains. Therefore for any plant which is to be grown in a compost consisting largely of peat, potting can scarcely be too firm. From the same reason the rammer may be used without much fear when good fibry loam is being used, whereas it would be madness to employ it to any extent upon wet heavy soil.

Of course, we are aware that in some instances ramming of the soil is a necessity, notably in the case of decorative plants which have to be kept in as small pots as possible for obvious reasons, or of subjects which are given to too rank and luxuriant growth, with a view to securing sturdy short-jointed growths. This method is a really good one to pursue with Tomatos which are often much inclined to run to haulm instead of producing fruit. The effect of very firm potting is therefore to check luxuriance of growth, and it must necessarily follow that it should not be applied to weaker-growing subjects of delicate constitutions which it is desired to get to grow as rapidly as possible. In such cases a downward pressure of the fingers and a few smart taps of the pot upon the bench will make the soil sufficiently firm for all purposes.

In re-potting plants care must be taken that the new soil is well worked round the roots of the subjects operated upon, as neglect in this respect will be sure to be productive of not a little check to the plants, that might in a great measure be avoided by the taking of proper precautions. Another most important point, and yet one that does not receive the attention it ought to do, is to see that the pots are not filled too full of soil. This must be especially looked after where the plants are thirsty subjects that need a lot of water during the growing season, for if space enough is not left to hold sufficient water to thoroughly soak the ball, the labour of watering must, as a natural consequence, be greatly increased, repeated attentions with the watering can being necessary, or, failing this, the languishing of the neglected plant from the results of an insufficient water supply.

Crocking.—It must be manifest to all that any notes on potting would not be complete without some reference to this often despised but none the less important part of the business, for upon its proper performance rests, in a very great measure, failure or success in the culture of pot plants. Some young gardeners are apt to consider the crocking of pots somewhat beneath their dignity. Oh, anybody can crock pots! say they; and the job is straight-away committed to the tender mercies of the boy. We would beg to differ with them in this respect; everybody cannot crock pots properly; merely throwing a handful of crocks into the bottom of a pot is most decidedly not a workmanlike method of procedure. Mr. Pettinger also says in the article before referred to that "should the plants be *something special*, a thin layer of moss should be placed on the top of the crocks to assist in keeping the drainage free from obstruction." If by "something special" is meant either a rare plant or one of delicate constitution, this caution is abundantly necessary, but this is, we think, applied in a very much too limited degree. All plants which have to stay in the same pots for several months, and through the soil of which quantities of water have to pass, should have a layer of moss as Mr. Pettinger recommends, or of the roughest part of the compost placed over the crocks, or the drainage will infallibly become choked up before long by the soil carried down among it by repeated waterings. All such plants if they are worth growing at all should therefore be treated as "something special," at least with regard to this precaution. As in Mr. Pettinger's own words: "Many failures and disappointments arise from the defective drainage of flower pots."—*G.*

GARDENING MISCELLANY.

THE LATE MR. WILLIAM THOMSON.

"Howl fir tree for the Cedar has fallen."

During the last thirty years it was my privilege on many occasions to come in contact with the above named gentleman, whose loss the Horticultural World is now deploring. In many respects our departed friend occupied the "pride of place" as a gardener, and on this ground I think that some effort should be made to perpetuate his memory. Another (and perhaps a more important) reason why I think this suggestion should be carried out, is in consequence of those higher qualities which our departed friend possessed in an eminent degree. No one could be in the company of William Thomson very long without coming to the conclusion that he was a man of integrity and uprightness. There was a tone, an atmosphere—if I may use the figure—about him which one inhaled, and so became the better and stronger. On several occasions I was struck with his conduct to those under him; he beheld them as fellow creatures, and knew that they had as much right to happiness as himself. Disdainful looks, proud, snappish, severe speeches, which some can make use of upon every supposed offence, were seldom seen or heard from him. From the best of principles, therefore, his servants were bound to serve him—the principle of love. I sincerely trust that someone more capable than myself will take this matter up, if so, I will do all in my power to assist.—*Bruce Findlay, Manchester.*

STOKING.

I have read with great interest the remarks made by "An Old Stoker" and "An Old Gardener" in your two recent issues. I quite agree with both your correspondents that stoking is by no means a cleanly job. Plenty of gardeners make stoking far worse than it really is. I have charge of the stokehole in my present situation, and have never found any great difficulty in keeping myself clean. When I put in coals I always throw water about them to keep down the dust. Before taking out the ashes I pour plenty of water on them, and when taking out the soot I pour a pail of water on the floor and pull the soot out and let it fall on the water. Of course it is impossible to keep down all the dust, but I think if all gardeners were doing this they would benefit greatly by it. The great art in stoking is to keep a strict watch on the thermometer, keep the flues clean, and the fire well redd out.—*An Apprentice, Scotland.*

ALPINIA MUTICA.

From the great amount of space they need, it is very certain that the owner of houses, where the room is considerably restricted, cannot afford to grow Alpinias. It is only in lofty, roomy houses, therefore, that they may expect to find a place under cultivation, such as for instance, the Palm house at Kew, where at the present time a specimen of A. mutica is carrying a fine spike of its exquisitely coloured flowers. The lip of the corolla is a rich

golden yellow in colour, finely crispulate at the edge, and veined heavily with dark crimson. Native of Borneo. This species, in common with the other members of the genus known to us, is both a gross grower and a heavy feeder. The soil can scarcely be made too rich for it, and should consist of three parts of good loam, one of peat, and one of well decayed manure with a little silver sand. During the growing season particularly copious supplies of water are necessary, although less will be needed during the winter months. From this it must not be argued that the plant must be dried completely off, as such a proceeding would be attended with considerable danger. The plant now in flower at Kew is growing in one of the beds in the centre of the house along with a number of Palms, &c., a position in which the soil is never allowed to become dry. Propagation may be best conducted by division of the root in spring-time, just as the plants are starting well into growth, whilst a stove heat is an essential at all times.

THE PRESERVATION OF POTATOS.

One of the obstacles to the preservation of potatos, is the shooting of the tubers. As soon as the tuber is put into any place favourable in temperature and moisture the tuber will begin to grow, and therefore deteriorates as an article of food. A growing potato is always more or less a loss, and is not so well able to feed either man or animal. The nutritive matter is slowly consumed by the germ, and the tuber subsequently becomes a source of danger to man as well as beasts. There was only known one way of stopping the growth. This consisted of taking out the eyes with a knife, a proceeding which is very slow; and very frequently in doing it the tuber was bruised. For three years now, Mons. Schaibau has tried at the French Agronomic Institute another mode, which has been found effectual. It consists of treating the potatos with sulphuric acid, Take a large tub and fill it three-parts full with water, add sulphuric acid to make a two per cent solution. The potatos are placed in the solution and kept there for about 12 hours; they are then with drawn and dried, and their preservation is absolutely secured. If the solution is stronger a less time is required; with a three per cent, five to eight hours' immersion is sufficient, and with a four per cent solution three to six hours' immersion will be effectual. The dissolved sulphuric acid attacks the germs on the surface, and quite kills them. Some persons have objected to this method, stating that it was dangerous both for man and animals, but this fear is said to be chimerical, because the quantity of sulphuric acid remaining on the surface of the potatos is very slight, and the seltzer water used daily by thouaands of people contains considerably more of this acid. Furthermore, potatos are used as human food without the skin, and the acid does not penetrate into the flesh.—*Mark Lane Express.*

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Names of Plants.—*W. B.*: Not Miltonia, but Epidendrum cochleatum. *A. K.*: 1, Asplenium bulbiferum minus; 2, Adiantum formosum; 3, Selaginella caulescens minor; 4, Selaginella Kraussiana Brownii; 5, Aspidium capense; 6, Nephrodium molle corymbiferum. *J. S.*: 1, Viburnum Tinus; 2, Eugenia Ugni; 3, Jasminum nudiflorum; 4, Ficus pumila, usually called F. repens in gardens; 5, Myrsiphyllum asparagoides. *W. J. G.*: 1, Elaeodendron orientale, usually but erroneously called Aralia Chabrieri in gardens; 2, Nephrolepis exaltata; 3, Asplenium Nidus; 4, Laelia anceps. *H. Y.*: 1, Cypripedium venustum; 2, Urceolina pendula; 3, Dendrobium album; 4, Libonia floribunda; 5, Reinwardtia tetragyna.

Angelica and Eryngo-root.—*Timeo* would be greatly obliged to any of our lady readers for a recipe for making and preserving a sweetmeat of Angelica Archangelica, and state what part of the plant is best for that purpose; also how to preserve Eryngium maritimum or Sea Holly, called when preserved Eryngo-root.

Vineries and Sulphur Fumes.—*Omega*: Provided you clean and wash the vines in the usual way, and also cleanse the walls and woodwork of the vinery there cannot be much vermin left that you need fear. Most if not all of the red spider now in a vinery kept cool and resting would consist of eggs upon the vines, or about the walls; but chiefly on the rods. Nor do we think that the burning of sulphur in the house now would prevent the appearance of red spider in the summer time, provided the conditions are suitable for the multiplication of the pest when hot weather prevails. Under the circumstances we would dissuade you running the risk of injuring the vines with sulphur fumes.

Work on Forestry.—*Omega*: There are several works on this subject, but some of them are of considerable size. A moderate sized and inexpensive book which would meet your requirements, would be *Practical Forestry*, by A. D. Webster, published by Ryder & Co., London.

Vines.—*West*: So far from the Cannon Hall Muscat being delicate on its own roots, it is a most vigorous grower, and you certainly need not take the trouble to inarch it on any other variety; but the Muscat Hamburgh would decidedly be the better for inarching on the White Tokay. We have not seen the book you mention, and know nothing as to its merits.

Melons for a Frame.—*P. M.*: There are two good all-round and well-known scarlet Melons that would suit your convenience and purpose, namely, Blenheim Orange and Munro's Little Heath. In the way of green fleshed kinds Hero of Lockinge is the best all-round variety of its kind, very reliable, and does not require much heat.

Communications Received.—H. W. W.—S. E. —M. T.—R. L.—A. I.—J. T.—H. L.—G. F.—E. & Co.—E. W.

TRADE CATALOGUES RECEIVED.

Harrison & Sons, Leicester.—Vegetable, Flower, and Farm Seeds.

M. Crozy, 206, Grande-Rue de la Guillotière, Lyon, France.—Cannas and Chrysanthemum.

Dickson, Brown & Tait, 43, 45, Corporation Street, Manchester.—New Farm Seeds.

Joseph Lane, Palgrave, Diss, Norfolk.—Vegetable and Flower Seeds, &c.

J. E. Barnes, 9, Exchange Street, Norwich.—Vegetable, Flower, and Farm Seeds, &c.

E. Webb & Sons, Wordsley, Stourbridge.—Annual Catalogue of Farm Seeds.

Thomas Sibbald, Bishop's Auckland.—Vegetable and Flower Seeds.

John Turner, Wetherby, Yorks.—Garden and Farm Seeds, Chrysanthemums and Dahlias.

LONDON SEED TRADE.

February 5th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed market, Mark Lane, report that the seed market remains fairly steady. Alsike being in full supply offers on reasonable terms. Red Clover, White Clover, and Trefoil realise prices current last week. Ryegrasses steady.

COVENT GARDEN MARKET.

February 6th, 1895.

Market at a standstill owing to rough weather. No alteration.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	3 0	9 0	Grapes, per lb.	1 0	2 0
Nova Scotia Apples per barrel	12 0	21 0	Pine apples. —St. Michael's each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	18 0	21 0			

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 9	1 3	Spinach per bushel	3 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Aspidistras, per doz	18 0	42 0	Evergreens, invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
„ gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	6 0	8 0	Narciss (French) doz. bch.	4 0	6 0
Azalea.....doz. bchs.	6 0	12 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums 12 sps.	0 6	0 9
Carnations...per doz.	2 0	3 0	Pink Roses...per doz.	3 0	6 0
Chrysanthemums, doz. blooms	2 0	6 0	Pyrethrum doz. bun.	2 0	4 0
„ doz. bunches	4 0	12 0	Primula, double, bun.	0 6	0 9
Double Daffodils, doz. bchs.	16 0	18 0	Roses, yellow, dozen	2 0	4 0
Single Daffodils, doz. bchs.	24 0	30 0	— Red..... doz. blms.	3 0	6 0
Eucharis ...per doz.	4 0	6 0	— Tea ..... per dozen	0 6	2 0
Gardenias 12 blooms	2 0	4 0	Scarlet Geraniums, doz. bchs.	5 0	9 0
Heliotropes, 12 sprays	0 6	0 9	Tuberoses, per doz	0 6	1 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Violets (French) Parma, per bch.	4 0	5 0
Lilac (French) per bch.	5 0	6 0	Violets (French) Czar, per bch.	1 9	2 0
Lilium Harrisii, doz. blooms	6 0	10 0	Violets (French) doz. bch.	2 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (English) doz. bch.	1 6	2 6
Marguerites, 12 bun.	1 6	3 0			

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THE "CHARLES COLLINS" FUND.

At a meeting of representatives of the Horticultural Press held at the Hotel Windsor, Victoria Street, S.W., on January 11th, the following resolution was unanimously passed:

"In consideration of the services rendered to horticulture in his journalistic work by the late Charles Collins, of the high respect in which he was universally held, and of the fact that owing to the long-continued ill-health of himself and his wife he was unable to make adequate provision for his family, who are in deep distress, a fund be opened for their benefit."

On the same occasion a General Committee, comprising a number of horticultural journalists, together with the following gentlemen who form the Executive Committee, were elected to carry the above resolution into effect, viz.:

MAXWELL T. MASTERS, M.D., F.R.S. (Chairman), 41, Wellington Street, Strand, W.C.

BRIAN WYNNE (Vice-Chairman), 1, Clement's Inn, Strand, W.C.

GEORGE GORDON, F.R.H.S. (Treasurer), Endersleigh, Priory Road, Kew.

T. W. SANDERS, F.R.H.S. (Hon. Secretary), 57, Cressingham Road, Lewisham, S.E.

For the information of those who are not fully acquainted with the facts of this sad case, it may be briefly stated that the late Charles Collins was for some few years engaged on the editorial staff of the *Journal of Horticulture*, and prior to that filled similar positions on the *Gardeners' Chronicle* and *Amateur Gardening*. He was returning home on the evening of December 26th from a visit to some friends at Forest Gate, and, just as he was about to enter the train, was suddenly taken ill and expired almost immediately. He leaves a widow and two little girls, aged three and four years respectively.

Mr. Collins, having only attained the age of thirty years, had been unable to make adequate provision for the support of his wife and family, and hence the Committee and Executive have resolved to make an earnest appeal to those who knew him to subscribe to the above fund, and thus enable them to alleviate in some measure the pressing needs of the widow and family.

Subscriptions may be sent to either of the gentlemen named above; or to the editors of the various gardening journals. The amounts received will be duly acknowledged in the Gardening Press.

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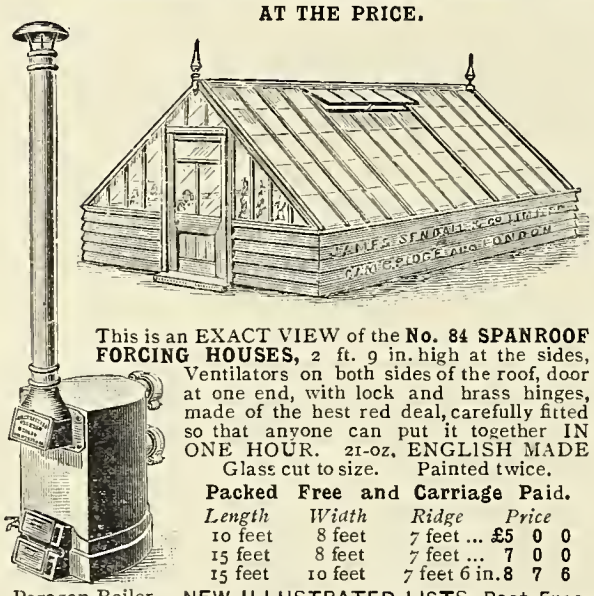

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The great Scotch newspaper, "The Scotsman," says—"Of the Nurserymen who make a speciality of **Florists' Flowers** and **Hardy Border Plants**, John Forbes, of Hawick, is probably the most widely known. His catalogue for 1894 is a **substantial affair** of 130 pages, and when it is stated that the name and description of a plant rarely occupy more than one line, some idea may be formed of the vast number of varieties offered."

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JOHN FORBES, Nurseryman, Hawick, Scotland.

BEST NEW CHRYSANTHEMUMS.

Sixty of the leading Prizetakers have been asked by the Editor of the Journal of Horticulture to give in their order of merit, a list of the 12 best new Japanese varieties for Exhibition. This list appeared in that paper on January 24th. Out of the 12 Best I have the honor of introducing Nos. 1, 2, 3, 7, and 12. I do not boast of those I send out, neither do I cast a slur on other Growers' Varieties, but the above Golden Testimony speaks for itself. Here we have a body of independent Growers who unbiassed by any trade consideration have placed "The Ryecroft Collection" in the premier position of the World.

The following are the 12 in their order of merit with price for good plants in March. 1. Duchess of York, 6/-; 2. Mrs. W. H. Lees, 3/6; 3. Miss Maggie Blenkiron, 2/6; 4. Madame Carnot, 3/6; 5. Niveus, 1/6; 6. H. L. Sunderbruch, 2/6; 7. Duchess of Wellington, 5/-; 8. Mrs. E. F. Trafford, 4/-; 9. Louise, 1/6; 10. Mons. Pankoucke, 1/6; 11. Rose Wynne, 2/6; 12. Hairy Wonder, 3/6.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Feb. 18th.—National Chrysanthemum Society. Meeting of General Committee at 7 p.m.

TUESDAY, Feb. 19th.—Orchid Sale at Protheroe & Morris' Rooms.

WEDNESDAY, Feb. 20th.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.

THURSDAY, Feb. 21st.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, Feb. 22nd.—Orchid Sale at Protheroe & Morris Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, FEBRUARY 16th, 1895.

WILL INSECTS BE SCARCE NEXT SUMMER?—When severe weather prevails the gardener and many others are loud in their complaints of the various inconveniences and evils of frost and snow, while of the several pleas that are urged in mitigation of the same is that insects will, to a great extent, be destroyed, and the various crops and garden subjects will enjoy an immunity from the same for the summer at least, until they have time to increase under more favourable conditions, and again become troublesome. Many reasons could be urged for this belief, but like every other question

in which the forces of Nature are concerned, it wants analysing. Reports have come in from various sources all over the world lately showing at once the extent of the area over which severe weather and snowstorms prevail, and the effects of it upon locomotion and all kinds of life. From Devonshire comes the statement that the frost has killed the wild birds in large numbers. A blizzard actually prevailed over the Highlands and other parts of Scotland during the early part of last week, blocking the railways, snowing up trains and putting a stop to the traffic. The sheep were being smothered in the snow owing to the impossibility of carrying fodder to them. Game was dying in large numbers, and the grouse were being driven before the blinding drift into the sea. Famished deer had so far given up their wildness that they approached the farmyards fearlessly in quest of food and shelter. In Westmorland, it was said that the grouse were dying by hundreds for want of food, and others were being killed by crows. Sheep were dying in numbers in Antrim and Down, Ireland. Similar reports concerning the severity of the storm and the intensity of the frost come from other parts of the British Islands, as well as America and the Continent, and in Italy it is stated that the Olive and Orange groves are practically destroyed, involving enormous loss.

Assuming that the wild birds are being killed in large numbers in Devonshire, it does not necessarily follow that the frost is directly responsible for it. Independently of records, it may be taken for granted that the cold is more intense inland and in the north, and correctly or incorrectly, report states that the minimum temperature has varied from 20° of frost to 4° and 7° below zero. One can understand sheep being smothered in the drifting snow, and birds being driven to sea or out of their course by the force of a gale and the blinding effects of a blizzard, but these cases bring into consideration another set of causes. The effect of blizzards and deep snow is to cover up the food of wild animals including birds. Without snow the frost might be more severe, yet comparatively harmless to the animals so long as their food is accessible. Insectivorous birds, but particularly some classes of them, would be most likely to suffer. Provided they are able to obtain a tolerably fair supply of food, they can maintain their warmth and natural energies in spite of excessively low temperatures. The crows above mentioned (if report is correct about the matter) belong to a class that can and do feed upon a great variety of food when driven to it, as they are both flesh and vegetable feeders.

In the face of all this evidence, it seems at first sight that insects must be destroyed in myriads, especially when we remember the destruction that an early autumn frost causes amongst them. But those insects have served their time and enjoyed their brief day in most cases, and their loss causes no break in the chain of living nature. Those that live more than a year or hibernate through the winter seek their hiding quarters as the cold increases, and those whose earlier stages are passed in the earth, descend still deeper on the approach of frost. Those of more ephemeral duration have laid their eggs or their young have passed through the grub or caterpillar stage and are resting or rather passing the pupa or chrysalis period of their existence below or above ground according to their kind. Some moths and butterflies pass the winter in the perfect state, others as caterpillars intending to resume their feeding as growth commences and leaves unfold in spring; but a very large number assume the chrysallis stage below ground. The pupae of the Cabbage butterflies are hung up to a stone or wooden wall or fence in some more or less sheltered position, but otherwise exposed to the action of frost, and unless birds discover and destroy them, they would hatch out in spring as if nothing had happened while they were dormant.

The fact is that nature has long ago settled the question what insects were capable of withstanding the severities of our northern latitudes. It is certain that for thousands of years past there have been severe winters, it may be at irregularly recurrent intervals, and those insects which could not endure them must have perished. Eggs and pupae in exposed positions and also at a few inches beneath the surface of the soil, must often get frozen solid and yet seem none the worse on the return of milder times. Experiments have actually proved this to be the case. Even some caterpillars can exist through the winter under a thin skin of gum on the branches of trees. Paradoxical as it may seem, caterpillars are more liable to wholesale destruction in summer, through the wetting of their food by heavy downpours of rain. The Antler Moth which destroys grass pastures by the acre, is partial to mountainous and upland districts yet may be destroyed in this way. Should this or any other caterpillar be comparatively scarce next summer compared with the last, it is necessary in weighing the evidence as to the cause, to have ascertained from actual observation whether the caterpillars were destroyed or not by the cold rains of the previous season.

Mr. James Dickson, from Keir Gardens, Perthshire, has been engaged as gardener to Sir John H. Amory, Bart., Knightshayes Court, Tiverton.

Mr. J. Milburn, for the past two years gardener to C. W. Fincken, Esq., Hoyland Hall, Barnsley, has been engaged as gardener to F. M. Burton, Esq., Highfield, Gainsboro'.

Death of a French Nurseryman.—We regret to hear of the death on January 20th of M. Albert Truffant, of Versailles.

Proposed National Exhibition of Vegetables.—At the adjourned meeting of the Committee held at the Royal Aquarium, Westminster, on the 12th, inst. Mr. H. Briscoe-Ironside presiding, Mr. Molyneaux reported the result of his efforts since the proceeding meeting to obtain pecuniary support from the seed trade, but this not being of an assuring character, it was resolved unanimously that the matter be postponed to another year.

Syndical Chamber of Belgian Horticulturists.—The monthly meeting of the Syndical Chamber of Belgian Horticulturists and of the Royal Agricultural and Botanical Society of Ghent was held on the 3rd. inst in the compartments of the Casino, when Certificates of Merit were awarded to Cypripedium Surprise, C. Pomone, C. Verlumne, C. Mellona, C. Flamingo, and C. Etéocle. The first named was the best and the verdict in its favour was unanimous. A Certificate of Merit was also accorded to a group of seven Cypripediums, which like the previous ones were exhibited by M. Jules, Hye, Ghent. Honourable mention for cultural merit was accorded to M. Panzer, of Merzem-lez-Anvers, for Pandanus Fosterianus.

Feeding the Birds.—Mr. H. W. S. Worsley-Benison, of Sutton, Surrey, has given us an account of his experience of feeding birds in winter. He adopts two plans—one is to suspend a beef or mutton bone to the lower branch of a tree; the other is to place kitchen scraps and leavings on a board, supported on uprights, to serve as a table. This, while serving the purpose of the birds, renders them safe from the attack of the predatory cat. The meat-bone is in the same way attacked with zest as soon as it is suspended. Mr. Benison claims that he is recompensed not only by the interest of the spectacle of the feeding birds, but by the assistance they render him in getting rid of numerous garden pests.

William Thomson Memorial Fund.—At a meeting of members of the Royal Caledonian Horticultural Society, held at Edinburgh on the 23rd ult., it was agreed that a fund should be instituted, and the interest thereof applied in providing memorial prizes in memory of the late Mr. William Thomson, Clovenfords, such prizes to take the form of medals and sums of money, to be awarded for exhibits at various shows throughout the United Kingdom, in the same manner as the memorial prizes already in existence, and Mr. Thomson's family have expressed their approval of the proposal. Such fund will be vested in trustees to be named by the subscribers. It is further proposed that a general committee, consisting of gentlemen in various parts of the United Kingdom, should be appointed for the purpose of collecting subscriptions, and Mr. Chas. Stewart, 4, Albyn Place, Edinburgh, will be glad to hear of anyone who may desire to help in the movement.

Scottish Horticultural Association.—The Transactions of this Association for 1894, together with the Syllabus for 1895 and the 18th annual report, have just been published. The Association meets on the first Tuesday of each month, and besides the reading of papers and the discussions thereon, exhibits are brought to the meetings, to which First-class Certificates may be awarded to new and meritorious subjects not in commerce. Awards of Merit and Commendations are granted to meritorious subjects which may be in cultivation, but possess sufficient excellence or rarity to entitle them to the same. The present membership of the Association is 520, a fact of no small importance, and enables it to take the leading place amongst associations of its kind in Scotland. By the aid of a grant voted to it by the Magistrates and Town Council, the Association has been able to carry on a course of Technical Education Lectures during last year, and is continued again, having been commenced on the 17th of January. Copious extracts of various practical papers read at the meetings and dealing with horticulture have been printed in the Transactions and must prove useful to the members who have now the opportunity of studying them at their leisure. There is a humorous one about the Chrysanthemum, also papers on Violets, Winter and Spring Supply of Flowers, the Vine, a Horticultural Journey from England to Valencia, Agriculture on the Nile, Plants for Winter and Spring Decoration, Japanese Chrysanthemums, and on Soils.

Metropolitan Public Gardens Association.—The twelfth annual report of this body is published in the form of a pamphlet extending to 133 pages. The Association was formed in 1883, that is, about eleven years ago, for the purpose of securing all gardens, vacant plots of ground, and open spaces available in and around the Metropolis, to lay them out as gardens or recreation grounds for the benefit of the inhabitants. The income is derived from the voluntary annual subscriptions of members and from legacies which may be occasionally left for the use of the Association. The present membership is 868, but the expenditure is greater than the income, owing to the urgency of the wants of the population, which increases at the rate of 70,000 annually, the increment being practically equal to a good-sized town. Since the formation of the Association it has laid out 62 gardens and 20 playgrounds having an aggregate of 112 acres and costing £38,000. Besides this 3,000 trees have been planted, and 3,000 seats placed about certain streets and public gardens of the Metropolis. A map of London is given showing by red marks the enormous number of spaces which the Association has opened, helped to open, or over which it holds control. The opening of Lincoln's Inn Fields (which have been closed to the public since 1734) was one of its earliest projects, though as a body it had only been the means of keeping the subject before the public till the London County Council, under the Improvement Act, 1894, accomplished the acquirement of the said fields for the use of the public, and which will be opened this year. The pamphlet also gives a long list of churchyards, disused burial grounds, gardens and recreation grounds which have been or are about to be laid out as public gardens.

A WEATHER CONTRAST.

I AM reminded, on referring to my diary, that on this date last year (Feb. 10th) those remarkable and vacillating atmospherical conditions which go to make up what we concisely yet crudely call weather, were something very different to those phenomena by which we are at present surrounded. The contrast is indeed marvellous. Then I was realising in some degree the power of the aphorism of Lord Bacon which the GARDENING WORLD has permanently and properly appropriated, and which finds a fitting place every week at the head of the literary matter. Then, I find, I was busy making alterations in the garden, and otherwise taking "refreshment," without which "the spirit of man" cannot be sustained in all its pristine vigour.

Thus I noted, also, that the conditions under glass were likewise far removed from those which now obtain; for in the hardy plant house such harbingers of spring as Snowdrops, Crocus, Cyclamen, and Tritelias had already begun to smile; while the potting up of Solomon's Seal and Dicentra spectabilis from the open ground, and the re-potting of British Ferns, etc., was alike indicative of the genial weather which did then prevail. Alas! the scene is changed. The thermometer is now standing between freezing point and zero, where it has fluctuated more or less acutely for some time past, and where it seems inclined to linger still. In consequence, the garden presents a sorry aspect. The Primroses and Wallflowers look but ghosts of their former selves; the Carnations seem to pine for better times; the Acubas bow their heads in sorrow and refuse to be comforted; the icicles hang in sombre mood from the eaves of the plant houses, and seem as if they would never go. Everything is frozen inside and out—the plants in the houses, the pipes in the ground. Not a ray of light comes from the former, not a gleam of hope from the latter. Yet we know from past experience that Nature, now so silent and sad, will in the sweet by-and-by relent her severity, and give us verdant spring and flowery summer. So we may well pocket her affronts, and endeavour to put up with her "cold obstruction," in the certain knowledge that later on she will make amends. Still it is at present problematical to solve whether 'tis worse—

"To bathe in fiery floods, or to reside
In thrilling regions of thick-ribbed ice."

It is, however, sufficiently evident, by the extreme records already published, that much damage will be done to vegetation; and that gardeners and gardens alike will have to bear in their respective ways much discomfort and many losses.

As a result of the phenomenal cold many strange and weird experiences have already been chronicled; but the following, which I cull from the *St. James' Gazette*, I know not whether to receive with levity or to treat with sympathy:—"Scots have been feeling the present cold spell even worse than we Southrons. They have as much frost, and more snow. A Lanarkshire correspondent writes: 'We are cut off from the railway here by an enormous drift, and as it is Biggar Fair only two men can be got to work at it? It is a strange sight to look upon the thousands and thousands of sheep driven down from the hills between Abington on the one side and Biggar on the other. They all have to be hand-fed. The shepherd from Cay Ghyll came down to the gardener's cottage yesterday, and, though wrapped in plaid and hood and other snow attire, his beard and whiskers were so encrusted with ice that he could not open his mouth, and they were more than half an hour thawing him with warm water.' Let us hope, poor fellow! that *aqua pura* was not used for this beneficent operation."—*C. B. G., Acton, W.*

NOTES ON HARDY PLANTS.

MORISIA HYPOGAEA.—This is a little known Alpine plant, which merits a note at this time of the year, as although subject to sharp frosts and snow, it still continues to expand its blossoms in an open but sunny position of the rockery, and while its proper period of flowering is July, there is scarcely a month during the year but what it is in blossom. It is dwarf and compact in habit, growing about three inches in height with rather small flowers, of a clear yellow, and if planted in a soil consisting of sandy loam, in a sunny position it is seen to great advantage. Propagation is readily effected by division in spring and cuttings in summer, as well as by seeds which should be sown where the plants are to remain. A native of Sardinia and was introduced to our garden in 1833 and will be found fully described in "Sweet's Flower Garden" Series 2, t. 290.

SCABIOSA CAUCASICA.—This is a well-known plant in our gardens and highly prized on account of its free-flowering qualities; its usefulness for cutting as well as decorative purposes. Its culture is so easy that there is scarcely any soil or situation in which it will fail to grow and its hardiness is beyond question. The plant grows to about three feet in height, the flowers, borne on long stems are of a soft lilac blue colour often exceeding two inches across and flowering from June to September. And as its name implies it hails from the Caucasus whence it was introduced to our gardens so far back as 1803. A synonymous name not unfrequently used to this plant by some botanists is Asterocephalus caucasicus. A white form of this species has been introduced during the past year and although at present is rather scarce it will eventually become a great favourite with all lovers of hardy plants.—*E. Scaplehorn, Rose Bank, Fleet, Hants.*

CHRYSANTHEMUM CHAT.

ANOTHER of Mr. Pettinger's practical articles in the last number of your paper makes one the more regret, if he will excuse the left-handed compliment, that the suggestion he threw out in your columns (Oct. 6) that a second year's blooming from Chrysanthemums was obtainable, has not been supplemented by some detail of the methods to be practised to secure so desirable a result.

Probably there are few growers, certainly very few amateurs, who do not regretfully throw away well-grown specimens after they have done good service on the stages, but there is the 8 in. or 9 in. of pot space to deal with, filled not only with roots, but with every good thing from the heavens above and the earth beneath, to say nothing of the intervening chimney.

It is quite possible that experts will find no difficulty in giving effect to Mr. Pettinger's idea, but allowance should be made for the smaller cultural skill of the amateur, in whose interests I am writing, and who is, perhaps, more interested in the successful growth of this family than of any other on which he tries his "'prentice hand."

And might I be allowed this opportunity for observing that articles and books written in some measure at least, I take it, for *our* instruction, pass entirely over our heads from disregarding elementary points of teaching, an error which Mr. Pettinger always avoids. Even such an excellent book as Mr. Molyneux's on the Chrysanthemum is not free from fault of this kind, and I suspect the "correct bud" remains a mystery to many readers to this hour.

It may be from natural stupidity, though certainly not from lack of perseverance, that I fail to understand many of the instructions given "for our learning." Some need transposing for the sake of the grammar, others tried on the principle of topsy-turvydom as practised with a partially defaced label leave something to be desired, and even when held up to a window pane, the "correct bud" fails to become a transparency. Perhaps he is too "correct" to risk the vulgar gaze, and is not quite sure that he has put his underclothing on the right way, and dreads exposure after losing the concealment of his green overcoat.

And why in the name of all that is English is this bud when found to be "taken" when above all things it is to be *let alone*, as the pretty waiting-maid retorted when asked if she was to be let *along* with the lodgings.

However, even this puzzlement has its compensations, for by running a "crown" against a "terminal" one gets the assistance of the best of all instructors, experience, and a little mild excitement in addition, whilst disregarding this pretended earmarking of the warranted embryo.

It is not that amateurs are so unreasonable as to expect to attain the excellency of culture which results from years of applied skill and observation produced by practical gardeners, of whom it is not too much to say that taken collectively they form the most intelligent body of men in the kingdom, and of whose knowledge and perseverance amateurs have a much fuller appreciation than, I fear, many of their employers, who too frequently are without the remotest idea of the difficulties which have been surmounted.

Still we have our small ambitions, even rivalries if you like, and probably meanness enough to take advantage of the experience of others, provided always that the kind relation of them is pitched low enough for our weak understandings.—*R. F. H.*

GARDEN FUEL.

THE quality of the fuel used for heating purposes in the garden must always be a matter of consideration and importance to the gardener. In large establishments, where great quantities are weekly consumed, the expense necessarily incurred will amount to a considerable sum. More especially will this be so in outlying districts beyond the area of the coalfields; and when we are visited, as at present, with a severer pinch of frost than usual, the gardener whose yearly expenditure is limited very naturally will be induced to make a series of trials of various kinds of fuel in order to be able to keep within the prescribed sum. Many, we have little doubt, will have long since discovered that it is possible to accomplish this in two ways. First by the purchasing of the best quality of fuel, and second by the purchasing of an inferior kind. There is, however, this important difference, the better kind is more economical and gives entire satisfaction and the expected results; the inferior is neither economical, satisfactory, nor likely to give other than inferior results. Still, we have no doubt, to all intent and purposes, it may meet the requirements of the object in view. Of the two plans the most commendable to be adopted by far, is the using of the better fuel. Such a course has many advantages to recommend it. This must be apparent to most people. One undoubted feature this class of fuel possesses is that a mnch less quantity than that of an inferior kind will serve to raise a required heat in less time; it is also more durable and contains less foreign matter than an inferior fuel.

A great many of our gardeners are not, however, subjected to the inconvenience which the limited sum system of garden management incurs, and in consequence will have less anxiety as to the abnormal expense caused by a spell of severe weather. Yet they must not be supposed to be exempt from fuel troubles notwithstanding. The powers that be in the form of factor, agent, or otherwise not infrequently take it for granted that refuse not adapted for any other estate department is perfectly good fuel for garden purposes. A more egregious mistake could not well be conceived. Though dirty, drossy coal material may burn perfectly well in a garden furnace when it would be impossible to burn it in the ordinary way, the fact, nevertheless, is no argument in its favour for a garden heating power. On the contrary, no fuel ultimately can be more expensive, less satisfactory, and more troublesome than one of this kind. It must be borne in mind that the difference between the heating of garden structures and the heating of animal structures are not so very wide apart. It is approved by experience and reason that a small quantity of nutritious food is immensely more beneficial to the essential development of bone and muscle than larger quantities of a less nutritive quality of food. Nay, more the animal functions in the former are altogether relieved of the excessive work which must be the lot of the latter to accomplish in the form of digesting or burning or disposing of the non-nutritious matter. As is well known the animal functions under such uncongenial circumstances must of necessity undergo an undue amount of tear and wear in this process, and no small amount of energy is also lost in the operation.

Bad fuel serves to give but poor heat, much waste in the form of gas, not to mention the prodigious quantities of unconsumed carbon in the form of smoke which polutes the atmosphere to the annoyance of the neighbours, and the undue precipitation of soot in the flues, to the eminent disgust of the 'prentice or labourer. Moreover, there is the question of ash and soot disposal. Though they be ever so easily disposed with, they incur labour. We know several good gardeners who habitually burn inferior coal under the mistaken idea that they are of all kinds the cheapest. Such coal I have over and over again ascertained to give a return of fifty per cent. of ash per ton. Compare this with the quantity of ash per ton of best Welsh Anthracite. For our own part we have been always accustomed to burn the

best English coal or anthracite. We never took kindly to this district coal for heating purposes. It is extremely dirty, is not durable, which, in frosty weather, necessitates almost constant stoking. Notwithstanding the faultless character of the best Newcastle coal for heating, we have a strong predilection for Welsh anthracite. The heating merits of this fuel for gardens are simply incomparable.

During the recent hard frost here, it would be trying work for us to keep up the necessary heat of the volume of water encased in a thousand feet of four in. piping, by one furnace, were it not for anthracite. Our district coal would only accomplish the same feat by stoking up to midnight and getting up at four or five in the morning. The use of anthracite completely overcomes this difficulty and reduces work in such weather to that of ordinary firing. We are astonished so many gardeners and nurserymen do not avail themselves of this invincible fuel. But antedeluvian notions are not easily removed, nor chronic habits readily put aside, consequently the aspect of our astonishment must be to some extent modified. In the interest of gardening we would recommend the fuel to the notice of all gardeners.—*Gamma, Edinburgh.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Cattleya labiata Trianaei.—The first arrival of this popular Cattleya in British gardens consisted of one plant, which was received by Mr. Rucker, West Hill, Wandsworth, from a correspondent in New Grenada. This flowered the following year and was submitted to Dr. Lindley, who considered it a new species and named it C. quadricolor in allusion to the four colours in it, but no description of it was published in England till 1864. Previous to this, Professor Reichenbach had named it C. Trianaei in compliment to Dr. Triana, of Bogota. This was in 1860, when a description was published in Schlechtendal's *Botanische Zeitung*. A description of a pale variety was published in the *Gardener's Chronicle* for 1864 under the name of C. quadricolor, and in the same article, after mentioning C. Warscewiczii delicata, C. Trianaei was said to be another variety of the same species. Now, by right of priority, Reichenbach's name must be considered the correct one, and as all good botanists make it a form of C. labiata, the name should read C. l. Trianaei. The most common method of spelling the varietal name is Trianâe, and we have seen Trianôe used, but seeing that Trianæi was used as early as 1864, we cannot understand why that should not have been adopted by writers generally. Trianae would lead one to infer that the Cattleya was named after a lady, whereas it was named in compliment to Dr. Triana. We prefer to dispense with the dipthong and write the name Cattleya labiata Trianaei.

Catasetum splendens atropurpureum.—In a previous issue we expressed an opinion in connection with some forms of C. macrocarpum, that some of the recent introductions showed evidence of natural hybridisation between C. Bungerothii and C. macrocarpum, which is well known to be very variable in a state of nature. This opinion receives corroboration from M. Cogniaux in the *Lindenia* for January and February. The forms that are quite intermediate he considers should be distinguished by a special name as in similar cases. C. splendens is one of these, and he describes the scape as bearing eight to ten flowers somewhat smaller than those of C. Bungerothii. The oblong-spathulate sepals are membranous whitish green, and thinly washed with purple, while the petals are more ovate, finely spotted with purple except at the apex which is washed with purple, and they approximate the dorsal sepal. The lip is fleshy, rigid, membranous at the margin, suborbicular and saccate to the middle; this latter character is one of the strongest it possesses, and argues strongly for the botanical distinctness of the plant. The colour of the lip is white, with some faint purple spots at the base of the side lobes, and pale green inside the sac or large spur. The variety C. s. atropurpureum is very remarkable in colour, but otherwise agrees with the type. The narrowly obovate petals and the sepals are of a uniform, rich, dark purple, and the lip is a little smaller and purple heavily washed with red. The sac is wider and yellowish spotted with purple. The column is purple at the base and yellowish upward. There is a coloured plate of it in the *Lindenia, Pl.* 456.

Masdevallia Tovarensis.—In calling to see Mr. Salter, the able gardener at Woodhatch Lodge, Reigate, some ten days ago for the purpose, as we gardeners say, of having a look round, I was particularly struck with a fine batch of Masdevallia tovarensis I there saw in flower. The plants, about twenty in number, are grown in 7-in. pots and possess on an average twenty-five spikes on a plant and from four to five flowers on a spike. I was practically too late to see them at their best, but even at the time of my visit they made a remarkable display and were striking examples of good culture. —*H. Bailey.*

THE PLANT HOUSES.

The Stove.

The past week or two has been an excessively trying period for those who are responsible for the management of the plant houses, and this more particularly in respect to the stove. With the thermometer down to zero during the night, and its determined refusal to rise above freezing point during the day, it is manifest that those whose duty it is to attend to the fires will find their hands pretty full. But although the air continues cold and and keen all through the day, the sun when it condescends to make its appearance shines with a good deal of power, and therefore the temperatures of the houses must be watched very carefully to see that they do not rise too high. With so many parching and drying influences at work it is obvious that a corresponding amount of caution must be exercised to prevent the atmosphere becoming too dry and arid. The shelves and stages upon which the plants are standing should be damped morning and evening with a rose can, also the walls and paths, as it will not be possible to use the syringe while the severe weather holds. If the house can be kept up to 62° Fahr. by night without too vigorous application of fire-heat so much the better, and it may rise to 75° on sunny days with advantage.

The work of potting should now be actively carried on following out the instructions given in previous calendars. Where space is obtainable in the forcing pit any subjects, the roots of which are in a bad condition or that have been subjected to a severe handling, may with advantage be removed thither and plunged in a nice bottom heat in order to stimulate healthy and vigorous root action. The watering of all newly potted subjects must be conducted with great care, and on no account must a too free use of the watering can be tolerated or the soil will soon become sodden and sour, a condition of things that is certainly not calculated to invite the formation of new and healthy roots. It is very important also that a rose should be placed upon the can whilst watering, for if water be applied carelessly through the spout without this precaution being taken, the surface soil soon becomes washed over the sides of the pots and many of the roots laid bare.

Caladiums.—Tubers of these which are passing the winter beneath the stages in the stove may be looked over from time to time and a little water given them, for if they are allowed to get too dry, as is often the case, the tubers shrivel, and weakened growth is the result. A few tubers may now be shaken out of the old soil and potted up for early work, leaving, however, the bulk of the plants for a week or two later. This early batch will be found to come away best when plunged in a gentle bottom heat in a forcing pit, the surface of the soil being kept nicely moist by means of the syringe.

Gloxinias.—Preparations must also be made for starting a batch of these, the gorgeous flowers of which are everywhere such great favourites. The plants may be removed from their resting quarters and potted up into light rich soil, taking care not to bury the tubers too deeply. After potting apply water in a sparing degree until growth is pretty well advanced, when abundance of water will be necessary.

Greenhouse and Cool Conservatory.

Here the same difficulty of keeping up the requisite temperature without undue recourse to fire heat will be felt, and it is therefore advisable to employ it as little as possible. If any air is required during the middle of bright days it must be very cautiously administered so as not to cause cold draughts, still on no account must a close and confined atmosphere be permitted to exist.

Cinerarias.—Plants which are in flower at the present time will need occasional supplies of weak liquid manure. If it is desired to save seed from any particularly fine varieties, such plants should be marked in the way recommended for Primulas and Cyclamens. The plants should moreover be given sufficient room to show themselves off to advantage, and must on no account be crowded together.

Clivias (Imantophyllums).—These are certainly among the finest of our greenhouse flowering plants, and form most useful and effective subjects for the decoration of greenhouse or conservatory during the late winter and spring months. Although they usually grow more freely where an intermediate temperature is accorded them during the growing season, still they do very well in an ordinary greenhouse, their chief requirements being a liberal supply of water when growing and comparative freedom from disturbance at the root. Plants which are now throwing up their flower scapes will greatly benefit by a few applications of weak liquid farmyard manure.

Lapagerias.—These beautiful and popular greenhouse climbers will now be breaking into growth. Pruning should therefore be seen to without delay, as the points of the young growths are exceedingly tender. Remove the shoots that have already flowered during the past season together with the weaker and more spindly growths. Should any cleansing from insect pests be necessary this should then be seen to and the remaining growths tied neatly up in their places.

Pits and Frames.

On occasions like the present, when the mercury is below freezing point the whole of the day, it often happens that the covering cannot be removed from the frames for several days or even weeks at a time, the resulting loss of light being exceedingly injurious to their inmates. Every available opportunity for letting a little light into these benighted subjects must therefore be seized. As it will be much better for the plants that have to stand the winter in cold frames for them to be kept well on the dry side, little or no water should be given them as long as such Arctic conditions obtain. With the heated pits the same difficulty in the removal of the covering material does not of course exist, although not a little trouble will be met with in the shifting of forced plants to the greenhouse or conservatory.

The propagation of all kinds of bedding plants must be carried on as rapidly as the necessary cuttings can be obtained, so as to allow time for them to become nice-sized little plants by bedding out time (June, usually). Keep all pots of cuttings as near to the glass as possible so as to favour a sturdy short-jointed growth.

Hollyhocks.—Plants of these which were lifted from the open ground at the commencement of winter and laid in boxes with a light covering of soil may now be placed in a gentle heat to start them into growth. A good method of propagation is to take the cuttings when two or three inches in length and to graft them on to a small portion of the root, afterwards potting them up singly in small pots, making the soil around them moderately firm and plunging them in a propagating frame having a temperature of from 60° to 65° Fahr. In such a situation they root quickly and surely, and a good stock of nice young plants to flower during the coming season may be easily obtained.

Tuberous Begonias.—In most establishments these are held in great esteem as pot plants, and well do they deserve the attention they receive. Where it is desired to have a number of plants in bloom early in the season a number of tubers may be started now. A mixture of good fibrous loam and leaf soil with the addition of some well rotted and dried manure and a little sand may be recommended, whilst it is very important that in potting the soil should not be made too firm or the tubers will not start away so readily as they should do. Seed may also be sown as soon as convenient in well drained pans filled with light fine soil. Cover the pans with a piece of glass and place them in a temperature of about 65° Fahr. Double varieties or any good single sorts of which it is desired to increase the stock may be propagated by cuttings, which should be taken as soon as the young shoots are 2 in. or

3 in. long, inserting them singly in thumb pots, and covering them with a bell glass or placing them in a propagating frame having a temperature similar to that advocated for the seed pans.

CHRYSANTHEMUMS.—Rooted cuttings of these should be potted off singly as soon as circumstances permit, for if left too long the roots become matted together, and great difficulty and not a little danger is incurred in separating them. After potting keep them rather closer than before until they have recovered from the check consequent on shifting, subsequently keeping them cool and airing liberally to insure dwarfness and sturdiness of habit.

THE VEGETABLE GARDEN.

Forcing.

SELDOM have we had the winter hold out as it has done this season; fortunately the weather up till Christmas was favourable for pushing on with ground work, so that much of this was got well in hand before the frost set in, and a good supply of all kinds of roots for forcing was stored away for use. Knowing the difficulty we have experienced in this respect in previous years, due care was taken to get a good stock of Seakale, Rhubarb, Asparagus, etc., put in a cool cellar to be drawn from as required. Where room can be found for storing such roots in moist soil there is no danger of them suffering through getting too dry, and if the winter should be favourable these will be found very useful for a late supply when kept till spring, particularly the Seakale.

With the thermometer at zero it is not easy to lift such roots unless the ground were covered with litter so as to exclude the frost. Hot beds in such weather as that experienced during the past week do not bring things on very fast as the cold penetrates so far, and those who are depending on them for supplies have much difficulty in keeping up the necessary heat. Carrots, Radishes, and such like growing in frames on hot beds must have all the light possible, for the moist heat generated by the fermenting material would otherwise soon cause them to become drawn. Potatos whose foliage is near the glass must be well protected at night, for if the leaves are caught by the frost they will receive a serious check which will injure the crop. Asparagus will also require constant care as the young growth is very tender. All the light and air possible should be admitted, at the same time sufficient heat must be maintained to cause a free growth, otherwise it will be tough and of little use.

As soon as there is a change in the weather get in other batches for succession, or start some of the permanent beds in the open ground by putting temporary frames over them and covering the outsides with fermenting material to assist in generating a little warmth. Asparagus does not require a strong heat to induce it to start into growth, therefore if a frame be put over some of the beds the heat from the sun would soon warm the soil, and if the glass was covered at night to husband the heat generated in the daytime growth would thus be hastened.

French Beans.

THOSE growing in heated pits must have every care as red spider will soon make its appearance unless kept in check. It has been necessary to heat the hot-water pipes to a greater extent lately, and as such is always the means of producing these troublesome pests, due precaution must be taken to keep them under. The plants, unless in bloom, should be well syringed and the soil in the pots never be allowed to get dry. Keep the plants growing by supplying them occasionally with liquid manure, and should spider make its appearance dip those affected in soft soap water. Make another sowing to succeed those already advanced in order that there may be no blanks.

Stakes and Labels.

OWING to the long-continued abnormal weather much of the outside work has been brought to a standstill; but where Pea stakes have yet to be sharpened this work should be proceeded with. They should be tied in bundles of different sizes ready for use. Bean stakes should also be prepared, for by getting all such work done while the cold weather lasts less time will be taken up with it when that of a more pressing nature presents itself. Everything should be done in due season if a place is to be conducted in an orderly manner. Have a good stock of labels of different sizes ready; those to be used in the open ground ought to be at least 18 in. long so that they may not be lost sight of when the crops become fully grown. If the bottom part have either two or three coats of paint, or be dipped in boiling tar, this will preserve them so that they may be taken up with the crop, or stored away for future use. It often happens that labels are lost by being trod upon and the crop left without a name; this, however, should be avoided if proper care be taken.—*Kitchen Gardener.*

THE ORCHID HOUSES.

THE severity of the weather during the past week has put to the test the boilers in use, the fuel, and the watchfulness of the stoker. Never in my time have I experienced such cold weather as we had on Wednesday, Thursday, and Friday nights, and it was with great difficulty that we managed to keep the temperatures anywhere near the mark. On Tuesday night we registered 38° of frost, and at a place not a few miles from here 40° was recorded. Those that took the hint given in a previous calendar to cover the sides and roof where practicable with mats or blinds, must have found with what ease the temperatures can be kept right in comparison with houses fully exposed to the weather, especially so will this have been the case where the piping is inadequate. Unfortunately there are still plenty of structures insufficiently heated, necessitating hard driving of the fires all the night through—a state that can be anything but beneficial to plant life, for do what you will to counteract it, the atmosphere is bound to be arid, and consequently harmful to plant life.

FUEL.—There is no getting away from the fact that Anthracite coal is the best fuel, not only is it clean to use, but is far and away the best for keeping up the temperature besides being cheapest in the end. It requires a good draught, and the less it is stirred about with the poker the better. We use Anthracite cobbles which are of a suitable size and require no breaking; the first cost is a little more but you save it in labour alone, and there is no dust to it.

POTTING.—Until the weather becomes milder this work must be suspended, for it is asking the plants too much to disturb them just now when everything is against root action.

MASDEVALLIAS.—When possible this interesting family will be the first to be either top dressed or re-potted as the case may direct. They do not appreciate being turned out of their pots too often, for such a proceeding is sure to damage the points of a lot of roots, and as I have in a previous article pointed out, they do not like most Orchids throw out rootlets should the points get damaged. When potting elevate the plants as much as possible above the rim of the pots: they will probably require staking to keep them firm in position, which is very important, for if they are allowed to sway about the roots gets damaged, but only where absolutely necessary should stakes be used, for at best they are an eyesore.

COMPOST.—This should consist of the best possible to obtain—Good fibrous peat and live points of sphagnum moss should be used; for unless the moss grows the plants rarely do well. Bits of crocks or charcoal may be mixed with it as the work goes on.

TEMPERATURES.—East Indian house, 60°; Cattleya house, 50°; cool house, 45°. These are night temperatures whilst the severe weather lasts; should the welcome change come, of course, they may be allowed to rise a few degrees higher.—*C.*

Gleanings from the World of Science.

A New Constituent of the Atmosphere.—IT may be within the memory of some of our readers in reading the account of the doings of the British Association in August last, at Oxford, that Lord Rayleigh informally announced his discovery of a new element in the atmosphere. At intervals since then it has been pooh-poohed by various scientific writers, who endeavoured to laugh it out of existence, or to suggest that the discoverer had made a mistake by finding some obnoxious and gaseous impurity in the atmosphere formed by a hitherto unnoticed combination of other well-known gases. However, the discoverer, Lord Rayleigh, and Professor Ramsay have now introduced the new element to the scientific world, under the name of "Argon." This took the form of an elaborate communication to the Royal Society, which, contrary to the usual custom, held a meeting in the theatre of the London University, which was crowded to excess.

How it was discovered.—Professor Ramsay read the paper, in which he stated that Lord Rayleigh had been engaged for many years in redetermining the densities of the various elementary gases. During his experiments he observed that the atomic weight of nitrogen obtained from chemical sources was 13·995, whereas that taken from the atmosphere was 14·073. From this he argued that the former might be due to its being mixed with the lighter gas, hydrogen, but after mixing some on purpose, he found that the weight of nitrogen could not be altered in this way. Another theory for the discrepancy was that lightness of the chemically obtained nitrogen was due to the disassociation of its molecules into single atoms, but the discharge of electricity through that obtained from both sources failed to produce any alteration. Lord Rayleigh and Professor Ramsay, in considering other interpretations, thought that the simplest explanation was to admit a hitherto unsuspected constituent in the atmosphere, in short, that after the separation of oxygen, and such impurities as moisture and carbon dioxide, there yet remained something besides nitrogen. Against this was the improbability that a gas surrounding us on all sides should so long have escaped detection or suspicion. Professor Ramsay was, however, aware of the investigations of Cavendish in the early days of chemistry, when that experimenter was dissatisfied with the idea that atmospheric nitrogen was a pure gas since he failed to convert the whole of it into nitrous acid by means of the electric spark. Then, during further investigations, Lord Rayleigh and Professor Ramsay found that magnesium turnings at a bright red heat were the best to absorb the nitrogen. After obtaining a large volume of the gas by this means, the experimenters passed it through various other processes, subjecting it to great heat, till at last they reduced it greatly in bulk, and found that the density of the residue was 20·0. This they consider is Argon, and they rely upon spectrum analysis for the proofs as to its genuine character.

What is Argon capable of doing?—The most notable peculiarity of Argon so far is that it cannot be made to combine with anything. It cannot be combined with oxygen in the presence of an alkali even when an electric discharge is made to pass through it. An equal apathy is maintained by it when tried with hydrogen, chlorine, phosphorus, sulphur, tellurium, sodium, potassium, and many others. It is, therefore, more inert and idle than nitrogen itself, which a certain class of students declared should be hanged for doing nothing. Although the experimenters disclaim the idea of having exhausted the tests to which the Argon may be subjected, yet they fully believe that it is really a hitherto undiscovered constituent of the atmosphere, and that it is a new element to the scientific world.

Why it was called Argon.—The discoverers make up the name from the Greek *an* privative and *ergon* signifying energy, so that by joining the two we get the word "Argon" which would mean without energy, and in reference to its extraordinary inert nature. The word actually occurs in the Greek Testament and is translated as "idle." The Professor on another occasion gave it as his opinion that if Argon could be made to combine, it would prove the most powerful explosive known. The element is considered to be monatomic, so that, as the formula for the atmosphere used to be $N_2 O_2$, it will now be $N_2 O_2 A_1$. Though this is a great acquisition to the latest of human knowledge, we must for the present look upon Argon as quite useless beyond the fact that, in company with nitrogen it serves to dilute the oxygen we breathe, and that relation it holds to the vegetable as well as to the animal world.

Our Health in Winter.—Dr. Andrew Wilson, writing in *Lloyd's Newspaper* on diet, says: "The teaching of Nature should never be neglected, and in the matter of winter food let us see we are not wrong, and take sufficient fat, for the changes that result in the wear and tear of our bodies are lessened in intensity by the fat of food, and the need for flesh is always less when fat forms a due proportion of our diet." The Doctor proceeds to enumerate natural products that are admirable, among them "Cocoa" with its contained Cocoa Butter. Relatively to this it may be said that **Epps's Prepared Cocoa** retains all the constituents of the natural Cocoa, including the oil or butter, intact,

CHRISTMAS ROSES.

THESE are of all hardy mid-winter flowers the most universally esteemed, and blooming at a time when flowers are generally scarce they are particularly welcome. Helleborus niger, in its varied forms, is the best known and most widely cultivated, and with H. altifolius, the Giant Christmas Rose, will often give a supply of white flowers from October to March, when there is an ample supply of other flowering plants. In a batch of seedlings a considerable variety in the size of the flowers will be found, and the smaller flowered ones should be gradually weeded out as the plants increase in size. We have found some come with comparatively puny flowers, and so after blooming the one season have discarded them. There is no real difficulty in securing a crop of seed where facilities exist for flowering them under glass with plenty of air and a gentle heat. Some complain of never being able to save any seed, but we think they can never have tried this plan, and that their failure has been in connection with plants flowered outside, as we have never obtained any seed from outdoor flowers.

Considering that the common variety has for so long been a general favourite, and the length of time we have had it in cultivation being nearly 300 years, it seems a little strange that it is not more plentiful, for it thrives well in almost any ordinary garden soil. A rich sandy soil is generally regarded as the most desirable for them, and although this is, generally speaking, a pretty correct view, we have never lost the impression made on us many years back by the sight of a number of remarkably fine clumps of them growing on a chalky loam. They were full of flower at the time, and without any exception the very best we have ever seen. On whatever soil Christmas Roses may be planted, thorough drainage should be secured, for stagnant water is most destructive to them. With good drainage and partial shade they will succeed almost anywhere.

Those who have any doubt respecting the suitability of their soil, or have any variety considered choice, may form a compost for them of equal parts of good turfy loam and well decayed manure, to which add a half part of fibry peat and an equal part of coarse sand. Where planting expressly for a supply of cut flowers it is a good plan to do so in a frame placed in partial shade, protection only being required during the flowering time. For this purpose any spare lights from other frames can be used, and if made secure from frost by a good covering, the flowers will come cleaner than if exposed; and will always be fit to gather when required. Failing this, the protection of a handlight will suffice for isolated plants, or where the stock of plants is equal to the demands, they may be taken up and forced in a gentle heat. Plants subjected to this treatment, however, should have care taken of them after they have done flowering; they must not be exposed to violent changes, and should have at least one season's rest from forcing.

They are sometimes grown on in pots, placed out in a shady place and kept well supplied with water during the summer. There is much in this plan to recommend it, as it saves the disturbance to the roots in lifting them from the ground and the plants are always ready to place under cover if required. In the flowering season those plants allowed to flower without protection should have a mulching of some material placed around them to prevent the flowers being spoiled by heavy rains, and where slugs abound they must be dealt with in the ordinary way, as they will frequently disfigure many of the blooms.

We have purposely confined our remarks to white flowered Hellebores, as these are the most popular and best known of the family. Propagation is effected by division and seeds. The first method may be best put into practice during April, just when the plants commence fresh growth. Take the clumps up with care and wash the soil away from the roots, as this enables the crown buds to be readily seen so that the plant can be cut to pieces with a knife without injury to the other parts which a haphazard division effected with the soil adhering to them would occasion. Care should be taken in cutting up the plant that a leaf or two and some roots is attached to each portion. Pot them in a sandy compost, and place in a cold and close frame till well rooted, when they should be planted out in a border, the soil of which has been well worked and manured. Set the plants from six to twelve inches apart according to their size.

It should be remembered that they never flower very satisfactorily the first season after being disturbed, and that it requires at least two seasons after re-planting to flower them as profusely as they should be. When seed is obtained, sow it at once in pans under glass, and when the seedlings are large enough to handle, they should be potted into thumb pots and kept in a cold frame for a time. They may be planted out later on in the same season in rich sandy soil, or, if desired, may be kept through the following winter in their pots in a frame, where they will have some shelter from rough weather, planting them out early the following spring.—*W. B. G.*

ROYAL GARDENERS' ORPHAN FUND.

THE annual general meeting of the subscribers to this charity was held at the Cannon Street Hotel, E.C., on the 8th inst., Mr. John Harrison, of Leicester, presiding. Owing to the severity of the weather, the meeting was very thinly attended. The minutes of the previous annual meeting having been read and confirmed, Mr. Marshall, Chairman of the Committee, read the following report and statement of accounts for the past year, and formally moved their adoption.

"The Executive Committee, in presenting their seventh annual report, again have to congratulate the subscribers to the Royal Gardeners' Orphan Fund on the continued prosperity of the charity.

Nothwithstanding the intensity of the commercial depression of the country, which so greatly affects all that pertains to gardening pursuits and the cultivation of the soil, it is extremely gratifying to be able to record a success, and to feel that so far as this institution is concerned the tide of charity and benevolence flows on as freely and as fully as ever.

The receipts during the past year are somewhat higher than in 1893, while the ordinary working expenses remain about the same—two decidedly gratifying facts.

During the past year the Committee have been able to assist in the maintenance of sixty-one orphan children, at a cost of £787 10s., and the Committee recommend the election of six this day, thus raising the number of beneficiares for 1895 to sixty-four.

Of the number of orphans elected since the establishment of the fund in 1887, five having attained the age of fourteen years are no longer chargeable to it, two of these ceased to be recipients during the past year.

The Committee regret their inability to recommend that more than six of the thirteen applicants be elected at the annual meeting; the remaining cases—all of urgent necessity—have to be deferred for another year.

The Committee would again draw the attention of the gardeners themselves to the excellence and importance of this charity, and to solicit from them more help and assistance, which are urgently needed, as the whole object of the fund is for their exclusive benefit.

Among the local secretaries and others who are foremost in supporting the fund are many who by reason of earnest and successful work have earned the hearty thanks of the Committee. Grateful mention must on this occasion be made of the contribution of £50 10s.—proceeds of a concert given by the Altrincham Gardeners' Society, and to whom the special thanks of the Committee are hereby tendered.

For last year's annual festival dinner, the Committee were fortunate in securing as Chairman, The Right Honourable Sir Robert Tyler, Bart. (the Lord Mayor of London), to whom the warmest thanks of the Committee are due for his able advocacy of the claims of the charity.

The Committee have the greatest pleasure in announcing that Mr. Harry J. Veitch, Vice-President of the fund, and one of its most munificent patrons, has consented to preside at the next festival dinner, which is fixed to take place on April 5th 1895, when it is hoped that horticulturists and gardeners will attend and give Mr. Veitch their hearty support.

The members of the Committee who retire by rotation are Messrs. Assbee, Ballantine, Cannell, Cummins, Gordon, Lane, Roupell, and Wynne, who being eligible, all offer themselves for re-election—with the exception of Mr. Lane, who retires. Mr. McLeod, of Dover House Gardens, Roehampton, is nominated for election in the place of Mr. Lane. Mr. George Bunyard and Mr. J. Wright having resigned, Messrs. H. B. May, Edmonton, and H. J. Jones, Lewisham, are recommended for election to fill the vacancies thus created. The retiring Auditor, Mr. Fraser, is again nominated, with Mr M. Rowan, of Clapham, in the place of Mr. Sharp, who retires. The Treasurer, Mr. T. B. Haywood, and the Hon. Secretary, Mr. A. F. Barron, are again nominated by the Committee for re-election.

The motion was seconded by the Chairman (Mr. Harrison) who congratulated the executive on the continued success of their labours. It was most gratifying to find so young an institution in such a strong financial position, and so well holding its own in the midst of the trials and difficulties which at present affected all charitable institutions, more or less, and made it so arduous for the managers of many to maintain their annual revenue. That the fund in which they all took such a warm interest should have received so much support during the hard times was a fact of good omen for the future, and he sincerely hoped that the forthcoming annual festival, at which their good friend, Mr. Veitch, had promised to preside, would prove a greater success than any which had preceded it. The motion was carried unanimously.

On the motion of Mr. H. J. Veitch, seconded by Mr. John Laing, Mr. T. B. Haywood was unanimously re-elected treasurer. Mr. A. Outram moved, and Mr. Bates seconded, the election of Mr. John Fraser, of South Woodford, and Mr. Martin Rowan, of Clapham, as auditors, and this also was carried *nem. con.* On the motion of Mr. William Poupart, seconded by Mr. C. E. Osman, Messrs. Assbee, Ballantine, Cannell, Cummins, Gordon, Roupell, and Wynne, were re-elected members of the committee, and thanked for their past services. Mr. A. W. G. Weeks moved that the best thanks of the meeting be accorded to Mr. F. Q. Lane, who retired, and to Mr. G. Bunyard and Mr. J. Wright, who had resigned, for their past services, and on being seconded by Mr. Bates was also carried unanimously. On the motion of Mr. R. Dean, seconded by Mr. John Laing, Mr. H. B. May, Edmonton, Mr. H. J. Jones, Lewisham, and Mr. McLeod, Dover House Gardens, Roehampton, were unanimously elected to fill the vacancies thus created. Mr. Marshall moved, and Mr. Veitch seconded, the re-election of

ROYAL GARDENERS' ORPHAN FUND.—CASH STATEMENT FOR THE YEAR ENDING DECEMBER 31st, 1894.

RECEIPTS.

		£ s. d.
To Balance from last Account ...	£528 10 8	
,, On Deposit with Bankers ...	300 0 0	
		828 10 8
,, Subscriptions, General	341 2 6	
,, Ditto Collected by Local Secretaries	94 13 6	
		435 16 0
,, Donations, including proceeds of Sale of Flowers, Boxes, Entertainments, &c.	213 8 8	
,, Ditto Collected by Local Secretaries	78 10 5	
		291 19 1
,, Annual Dinner		620 19 3
,, Card Collection		27 6 11
,, Advertisements in List of Subscribers ...		35 9 3
,, Dividends on Stock and Interest on Deposit		189 9 9
		£2,429 10 11

NOTE:—INVESTMENTS, &c.

2¾ °/o Consols	£7,070 6 10
3 °/o Canadian Stock	500 0 0
	£7,570 6 10

EXPENDITURE.

		£ s. d.
By Allowances to Orphans		787 10 0
,, Postage, &c., General Card Collection ...		1 10 0
,, Annual Dinner		150 14 8
,, Printing and Posting of List of Subscribers...		35 12 0
,, Secretary's Clerk	£52 10 0	
,, Printing and Stationery	15 3 10	
,, Annual, General and Committee Meetings	11 17 11	
,, Postages	13 13 2	
,, Bank Charges...	0 2 6	
,, Sundry Expenses (Petty Cash) ...	19 4 9	
		112 12 2
,, Purchase of £500 2¾ °/o Stock		511 18 6
BALANCE, VIZ.:		
,, Cash at Bankers	524 19 5	
,, Ditto on Deposit	300 0 0	
,, Ditto in Hand	4 14 2	
		829 13 7
		£2,429 10 11

Having inspected the Securities, and examined the Books and Vouchers supplied to us, we hereby certify the above account to be correct.

(Signed) JOHN FRASER, LEYTON, M. ROWAN, CLAPHAM, } *Auditors.*

Dated, January 28th, 1894.

Mr. Barron as honorary secretary, which was carried by acclamation, with a most cordial vote of thanks for his past invaluable services.

Mr. A. J. Brown asked whether any of the five children who had ceased to be chargeable to the fund had derived any benefit from the fund under the rule which enabled the committee to contribute a sum of not more than £10 towards apprenticing or otherwise promoting the start in life of any beneficiare of the fund, to which Mr. Marshall replied, that the committee had exercised their powers in one case, but that none of the others had applied for any extra assistance. Mr. Brown also suggested as matters for the consideration of the committee (1) whether it would not be advisable to so alter their rules as to make canvassing for votes prohibitory; and (2) whether it was not possible to devise some scheme whereby votes might be allowed to candidates whose parents had been subscribers to the fund in proportion to the amounts paid.

Messrs. B. Wynne, R. Dean, W. Poupart, and A. Outram, having been elected scrutineers' of the ballot, the meeting was adjourned until the close of the poll, when the following six candidates were declared to be duly elected:—Rosa Emily King Ward, 535; Frederick Smith Parker, 517; Isabella Elizabeth Pratt, 489; Alfred Alexander Crafter, 457; Leonard Taylor, 276; and Felicia Barber, 228. The votes recorded for the other candidates were as follows:—Amy Farrant, 190; Frank L. Haycock, 145; Andrina Brown Ritchie, 216; Seymour Small, 209; Ruben Charles Stevens, 90; Fred Barson, 42; and William Clark, 29. Cordial votes of thanks to the Chairman and Scrutineers brought the proceedings to a close.

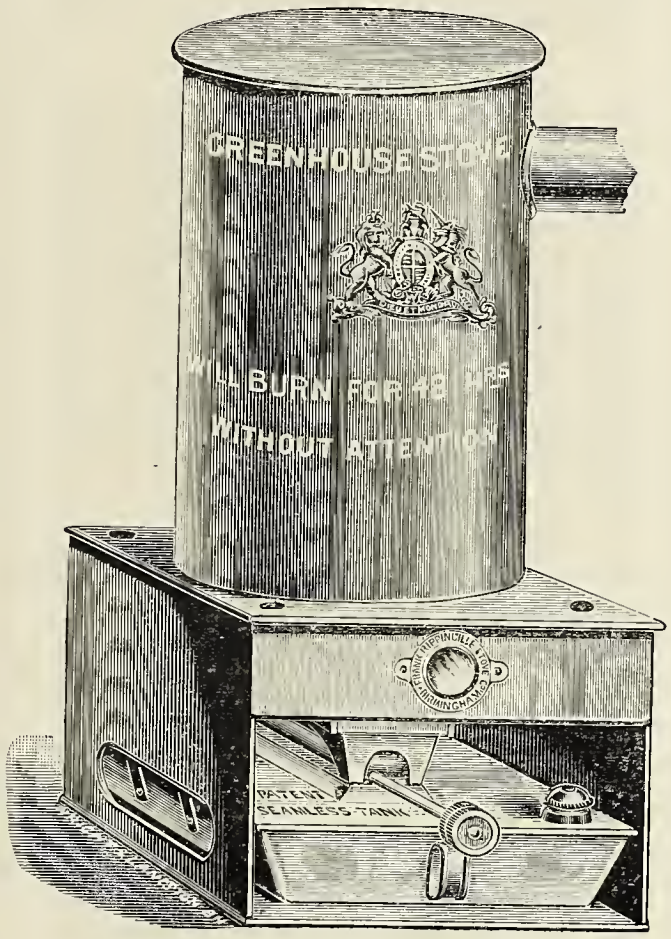
LOCAL HORTICULTURAL SOCIETIES.

There are happily scattered throughout the country very many of these excellent institutions which in the past have been and still are doing very good work in connection with their annual flower shows, in giving a stimulus to the superior cultivation of flowers, fruit, and vegetables. This being granted, I should be sorry to say one word which might seem to imply anything approaching disparagement, but the question has often occurred to me whether it would not be advisable to make an effort to extend the scope of their operations by doing something more than getting together one flower show during the season, the result of which too frequently is but a repetition of former displays which, however good in themselves, produce a feeling of satiety in the minds of many who frequent them.

I believe that those who most enjoy a visit to flower shows are to be found among the large class who love looking at flowers and plants, and have few opportunities of seeing such as are annually brought together at these local shows. To them they are a source of great enjoyment, and by whom the loss of this annual floral treat would be severely felt. They owe a debt of gratitude to those patrons of horticulture through whose good will these annual displays are brought together, and who are mostly enthusiastic supporters of gardening in its various branches, and among whom I think there may be found those who would willingly grant facilities for a new departure. The suggestion I would offer, by the way, is not strictly new, because it has been extensively put into practice in connection with cottage garden shows, and has been attended with the most satisfactory results. I allude to the prizes offered for the best cropped and kept kitchen and flower gardens.

There may possibly be some among those who from a variety of motives withhold their sanction to their gardeners showing any speciality at the flower shows, who would not object to their gardens being inspected by a small body of competent judges, who would award certificates or prizes to the gardeners in respect to the general keep and excellency of the culture of whatever may be under their management. There are many able gardeners who from being debarred from the show tables never come to the front and remain obscure and unknown, who would then stand some chance of letting their light shine. A few practical men, with a good knowledge of their own locality, would soon be able to frame a schedule suitable to its circumstances, which differ very widely, and no one set of rules would meet the exigencies of all places. In some instances it would be necessary, owing to the varied extent of the gardens and the number of hands employed, to offer several first, second, and third prizes, so that all competitors would be on as equal a footing as possible.

There is yet another point which I think should be a feature in every society's programme. I allude to the work carried on by the gardeners' mutual improvement societies, for as the interests sought to be forwarded are of the same character the work would be better carried on under the auspices of one body. It would lead to greater unity of action among those forming the gardening community, and the more frequent interchange of ideas and the bringing together throughout the year of objects of special interest in their season, would both quicken the interest and raise the interest of the members so meeting together.



This arrangement would widen the interest taken by gardeners in the affairs of the society, because at the weekly or first monthly meetings all would have an opportunity of expressing their opinions upon any paper which might be read, or any exhibit placed upon the table; whereas, when, as in most instances at the present time where the operations of the society are confined to the getting up of the annual exhibition, the work of which is necessarily carried on by a stated committee, from whose meetings outsiders are excluded, there are many who would be glad to meet their fellow workers in the same calling and discuss various questions in connection with their occupation in a friendly manner, which, in the absence of a mutual improvement society, they have no opportunity of doing.

For these reasons I think it is most desirable that where there is a mutual improvement society it should amalgamate with the horticultural, or, more properly, the flower show society, if there is one in the district, and where a "mutual" has not been started the local horticultural society should take the work up and blend it with its own, a course which I cannot help thinking would generally be much to its advantage. I may add that my own experience in connection with improvement societies has given me a decided aversion to granting either prizes or certificates for any exhibit brought forward at the meetings. I should much prefer to see members bring any fruit, flower, plant, or vegetable which they think meritorious for the pleasure of letting other members see it and hearing their opinion freely expressed upon it. And when in doubt respecting the name of anything they may have, bringing it forward. There will often be found some one or other among the members able to clear up a doubt upon this point, and many pleasant interchanges of opinion and experience will be elicited by these means.—*W. B. G.*

A NEW GREENHOUSE STOVE.

A Greenhouse stove is a seasonable subject just now, and we have particulars before us of a new one that should prove a boon to many at present who are at their wits' end to know how to keep out the insiduous enemy, frost, from their greenhouses and conservatories. Under ordinary circumstances and in average winters, the previous appliances which have been used have been quite sufficient to cope with the storms, and the frosts, with which we are generally assailed in the early months of the year. The duration and the intensity of the frost since Christmas has not been paralleled for fifty years or more, so that we are not at all surprised with the difficulty experienced in keeping up not merely the required temperature, but in actually keeping out the frost, so that in many cases plants of a tender nature must be lost. The accompanying illustration, for which we are indebted to the Frank Rippingille Stove Co., Plume Street, Aston, Birmingham, will give a general idea of the apparatus in question. Mr. Frank Rippingille, the son of Alexander Rippingille, the original inventor and pioneer of the Oil Stove Industry, is the inventor in this case, and we give the description of the apparatus in his own words:—

"The necessity of a greenhouse stove to burn thirty to forty hours without attention having been repeatedly pointed out to us, we have now, after a considerable amount of experimenting, produced a stove which is capable of heating a greenhouse or conservatory 20 ft. by 10 ft. by 9 ft. It is constructed on the condensing hot air principle, and the whole stove is made from lead-coated steel, thus preventing any rust taking place from the dampness in a greenhouse. It will burn forty hours without attention at the ridiculously small cost of sixpence, the consumption being one gallon of petroleum. This stove burns perfectly sweet, and gives off a soft moist heat which is beautifully suited for a greenhouse. It is fitted with one of our improved $4\frac{3}{4}$ sliding burners, and requires no fixing or piping whatever, being in itself complete."

GOOD TILLAGE AND ROTATION OF GARDEN CROPS.

It has been well said that the soil is a mine of wealth in the shape of plant food, so that it only awaits the skill of the good cultivator with good tillage, the application of manures, and well chosen rotations of crops to secure rich harvests at a minimum outlay. The soil can never become entirely exhausted, but under a state of nature and left to its own resources it tends to become more fertile from year to year. Plants really accumulate wealth in the course of generations, and the natural vegetation will give evidence of it provided all other conditions are equal. Nature sows broadcast, however, and in mixture so that a struggle for existence is always going on between the strong and the weaker, so that the latter are being continually displaced. Man sows the plants separately and in lines, so that every plant taken under his protection is encouraged to thrive, and under his fostering care, if skilful, is capable of attaining its best development. The most powerful agencies for renewing the fertility of the soil are air, rain, frost, and sunshine, so that the gardener does but avail himself of their aid to renew or restore the material that has been removed in the form of crops.

When relatively poor ground is covered with a few or even one kind of tree only, the soil becomes

richer annually by additional increments of the fallen leaves, fruits and twigs, which, not being removed rots upon the ground to the great advantage of the trees growing there. On the other hand the open ground may be covered with a mixed vegetation, which though it augments the fertility of the soil, makes it appear only that of mediocrity owing to the great competition amongst the plants themselves. The Americans at first were proud of their vast and fertile clearings, and removed heavy harvests of wheat for a considerable number of years without any return to the soil in the shape of manure. Then they began to get alarmed at the failing resources of the soil, the extreme fertility of which at first induced a spirit of recklessness that was bound to bring its own reward. The antidote to this is good tillage, compensation for crops removed in the return of manure, and a well planned rotation of different crops. This applies equally to old and apparently exhausted gardens that have been cropped for generations it may be with a return in the shape of manure, but accompanied with shallow digging according to the old principle, and perhaps a repetition of the same kind of crop annually in many cases according to convenience. Many small gardens and plots have been ruined by shallow digging once a year and constant cropping with Potatos.

Well ordered market gardens and others in the Thames Valley show that the fertility of the soil need not be impaired in a thousand years. The balance is maintained by double digging or trenching and heavy manuring. The deep digging practically gives the surface soil a rest every time it is turned down to a considerable depth beyond the influence of the roots of the crop, while the rested soil on being again exposed to atmospheric influences is in a fit condition to support and produce a heavy crop. Many cultivators are ever ready to state that their soils are too shallow, too clayey, or too poor generally to permit of trenching. Bad material need not be brought to the surface all at once, but gradually and in small quantity at a time. The poor soil may be loosened up or even trenched at once, but left in the bottom to be gradually incorporated with the surface material, which may have become lightened and surcharged with humus through generations of manuring and shallow tilth.

Many good gardeners now understand the principles of rotation, and endeavour to follow it as far as circumstanoes will permit; but limited space, and the particular kinds of vegetables most in favour in any given establishment, interfere with any uniform plan that might be laid down, so that the planning and arrangement of various crops to succeed those of the previous year devolves upon the skill and tact of the gardener at annually recurrent periods. With a plan of the garden before him the gardener should calculate the quantities of various vegetables required, and allot them to particular squares or compartments, taking care that no particular crop should occupy the same piece of ground at shorter intervals than three or four years unless it can be heavily manured or receive an application of some artificial manure, of which the intended crop stands in need. The object of rotation, however, is to minimise the expense for manures. Each kind of crop tends to exhaust the soil of certain ingredients of plant food, according to the requirements or predilection of the same. By allowing a lapse of some years before the same kind of crop is put on that ground, the latter regains what is lost by the decay of vegetable matter in it and by the disintegration of particles of soil and rock, whereby the indissoluble and inert is rendered soluble and fit to sustain plant life.

To facilitate arrangements, the cultivator should endeavour to group together, as far as possible or convenient, all those vegetables having natural affinities, so that one may not clash with the other in different parts of the garden. For instance, Peas, Broad, Long-pod, and Dwarf Beans, and Scarlet Runners constitute a very natural group. Their most important feature is that they require no applications of nitrogen, but leave the soil richer in that ingredient than it was previously. Carrots, Parsnips, Celery, Beet, Salsafy, and Scorzonera constitute another group, which though united together by no natural bond except the first three, yet they all draw food from a greater depth in the soil than the members of the previous group. They should be sown in soil trenched the previous autumn. Because a root crop, some would place Turnips with the foregoing, but they have more affinity with the Cabbage tribe, and on account of their requirements in the way of mineral elements should be associated with Cabbages, Cauliflowers, Brussels Sprouts, Broccoli, and Borecole. Potatos are entirely different, and they, as well as Onions, Leeks, and Shallots, constitute another group that do not clash with the foregoing. The four groups would make a rotation of as many years before having recourse to the same ground.

GARDENING MISCELLANY.

IBERIS INTERMEDIA.

In the *Bulletino della R. Societa Toscana di Orticultura* this is described as a new species from Spain under the name of I. Timoreyi. According to the description it must be an interesting and ornamental annual, so that the wonder is that it should not be better known in this country. It was described as I. Timoreyi in 1847, but the name above given dates back to 1841, and has therefore the right of priority. The plant is an annual, and in Italy flowers from February to August, probably from autumn sown seeds. It is an annual of the easiest culture, and produces very large umbels of white flowers tinted with a dusky copper-hue.

ERYSIMUM ASPERUM.

The general appearance of most species of this genus is that of a Wallflower, particularly in the case of the larger flowering ones. Some are annual, some biennial, and another group is perennial. That under notice comes from California, is of biennial duration, and differs considerably from the European species. It much resembles the habit of a Wallflower, and flowers from spring into summer, the blooms being of a lively orange-yellow and very sweetly scented. The Italians sow in August for flowering in the following summer; it is described as a new plant for that country. Although described many years ago by Decandolle, it does not seem to have been introduced to this country.

CHRYSANTHEMUM NIPPONICUM.

This judging from the specific name, is a new species from the Island of Nippon, Japan, and the *Bulletino della R. Societa Toscano di Orticultura*, an Italian journal, describes it as such, and considers it a beautiful and valuable acquisition to the garden, and which is bound to become widely disseminated when better known. It is perennial, evergreen, with rich green foliage and though dwarf in stature produces masses of very large white flowers. The latter are produced towards the end of September, and in the climate of Italy are prolonged through the whole of November, and if put in a vase or large pot may be kept through the winter. If sown in spring the seedlings flower in the autumn following. The species may be propagated from cuttings with the greatest facility, and is highly suitable for culture in vases if grown in good soil, rendered sufficiently porous by means of sand.

STOKING.

By far the best plan I have ever seen regarding cleanliness in stoking was that adopted by Mr. Ellam during his management at Bordorgan, and which is also very simple with saddle boilers, namely, he had the ash pits made watertight and insisted on having the pits filled with water after the ashes were removed in the morning; filled again before leaving off, and a large can of water placed in each stoke-hole for the young man on duty to put in when banking up for the night. By this means the ashes were wet when removed from the ash pit. This may prove a useful hint to many with a dirty job to do. It also effects a great saving in fire bars and is a plan generally adopted in gas works for that purpose.—*One Who Has Proved It.*

CARDAMINE PRATENSE FLORE PLENO.

Most collectors of hardy herbaceous plants are familiar with the pale purple flowers of the double variety in question. The profusion of bloom which well-grown plants produce make it a worthy associate for others in the front line of the herbaceous border, or even for the rockery when a suitably moist situation is chosen for it. Being a native plant it is perfectly hardy, but must be humoured in its peculiarities, otherwises it refuses to thrive satisfactorily. It must have an open situation not overhung by trees nor bushes and must not be overhung nor crowded with more rampant vegetation so as to shut out the light. A fair amount of moisture in the soil at all seasons is also essential to its well-being. In a state of nature it seems liable to many freaks, and is given to the production of several forms of double flowers, which are occasionally met with in widely remote districts of Britain. Thirty years years ago or more, a double white variety existed, but what has become of it is not very clear since the double, pale purple sort seems the only one in cultivation. A white flowered variety of similar form to the well-known and appreciated sort would be an acquisition and form a good companion to Saxifraga granulata flore pleno, which is about the same height and thrives in similarly open situations.

ERIOSTEMON CUSPIDATUS.

A large and fine specimen in full flower of the above plant is just now a very noticeable occupant of the greenhouse at Kew. It is planted out in a prepared border, a position which evidently suits it to perfection, if we may judge from its healthy appearance and profusion of rosy-pink flowers. Like the greater part of the rest of its congeners, it hails from Australia, and is no small acquisition to the list of hard-wooded winter flowering plants requiring a greenhouse temperature. It is an easily contented subject and young plants of symmetrical habit may soon be obtained, as it readily takes a close growing and compact bush form, either from cuttings or by grafting it upon other stocks. In the former case the cuttings should be taken in spring, inserted in a compost of peat and sand, placed in a gentle heat, and kept covered with a bell glass until rooted. Propagation by grafting is however usually practised by nurserymen, the closely allied plant Correa being used for the purpose. If grown on during the summer and autumn in cold frames it may be had in bloom at anytime during the winter months if the plants are introduced at suitable intervals into a warm greenhouse temperature, otherwise they stand the winter well enough if frost is merely excluded from them. Plenty of water at the root is at all times an absolute necessity to their welfare.

NEPHROLEPIS RUFESCENS TRIPINNATIFIDA.

Beautiful as many of the members of the genus Nephrolepis undoubtedly are, few, if any of them, are more worthy of cultivation than the above handsome plant. Although as it increases in age its fronds will grow to considerable lengths (we have noticed them exceeding 4 ft.), it is when the fronds range from 18 in. to 2 ft. in length that the plant is most useful as a decorative subject. The fronds are of a beautiful rich green colour, and the pinnae are borne in such numbers as to be quite crowded together, overlapping each other, and imparting a pretty double appearance to the frond, which is not as might have been expected, accompanied by any corresponding amount of stiffness, but only serves to impart a wealth of greenery that constitutes a great part of the charm attaching to the plant. With regard to propagation a method which is adopted at Chiswick with great success may prove helpful to some of our readers. The plants are stood on or plunged in a bed of Cocoanut fibre refuse in a warm propagating pit. The wiry-like runners thrown out by the plant root very readily in this, and produce nice little plants, which as soon as they attain sufficient size are severed from the parent and potted up. Very little check is experienced as the little plants can be easily lifted from the fibre without the least injury to the roots.

THE OLD MONTHLY ROSE.

The old monthly or common China Rose is well worthy of more attention than it receives. We have frequently gathered buds of this from a north wall during January, and it flowers almost without a break from June to November, and frequently into December and January, when a Rose of any kind is most welcome. Growing freely, as it will do when once planted in any out-of-the-way corner, in any soil it is worth planting extensively in shrubby borders, behind buildings, or wherever room can be found for it, as it gives no trouble beyond the gathering of the flowers when required.—*W. B. G.*

CLEMATIS INDIVISA LOBATA.

Among the list of easily grown greenhouse climbers the above beautiful plant holds a prominent position as being likely to give every satisfaction to those who essay to cultivate it. It is of additional value in that it flowers so early in the year (March and April usually), and this is no doubt in a great measure accountable for its popularity. The flowers are white or creamy-white in colour, about an inch in diameter, and profusely produced in long panicled inflorescences. The leaflets are ovate, smooth, and in fact only differ from those of C. lobata in being lobed, entire leaflets being characteristic of the species. In its culture the one great evil to guard against is mildew, which is very partial indeed to the plant, so much so that it is a comparative rarity to see a specimen which is not affected by it in a greater or less degree. The border in which it is planted should therefore be perfectly drained, and on no account must a draughty corner be allotted to it, while the water supply must receive the closest attention and most careful judgment, particularly avoiding a cold and wet condition of the soil during the winter months, which is of itself almost sufficient to cause an attack of mildew.

THE SEVERE WEATHER.

A few years ago a writer in one of the gardening papers wrote as follows:—"There is something remarkable in the peculiar wave of cold at present passing over the British Isles." That expression can be very appropriately repeated now. On the morning of the 4th inst. I registered 16° of frost; 5th, 22° of frost; 6th, zero; 30° of frost at 8 a.m.; 7th, 1° below zero, 25° of frost at 8 a.m.; 8th, 2° below zero, 30° of frost at 8 a.m.; 9th, lowest at 8 a.m., 24° of frost; 10th, 28° of frost. The ground is covered with snow, and bright sunshine has followed the above readings. The thermometer stands 4 ft. from the ground and in a sheltered position.—*Geo. Potts, The Gardens, Farming Woods, Thrapston, Feb. 10th.*

We have had a long spell of very hard weather in this locality since the commencement of the year, but more especially the last three weeks; the frost ranged from 14° to 28°, but the climax was reached last week. The thermometer on Thursday at 12 noon stood at 14°, at 6 p.m., 26°, and on Friday morning 40° of frost were registered, or 8° below zero; on Saturday, the 9th, 32°; and on Sunday (10th inst.) 38° or 6° below zero, Fahr. Such severe weather has not occurred since 1860. At Chatsworth, on the 8th, 10° were registered. It has been with the utmost difficulty that King Frost has been kept at bay.—*E. Austin, Berry Hill, Chesterfield.*

We have very severe weather here in Ireland, frost and snow for the last thirteen days in succession; the severest and coldest that was ever experienced by the oldest inhabitant. Practically, there is nothing doing in this country. The labouring classes are half starving for the want of work.—*P. B. O'K., Co. Cavan.*

The weather is very severe here. On the 8th we registered 34° of frost, on the 10th 34° again, and on the 11th 33°.—*John Forbes, Hawick.*

HOW TO TRAP ANTS.

As the season is approaching when these troublesome insects become very numerous and annoying to the gardener, it is a source of some pleasure to get rid of them as quickly as possible. After trying various remedies, such as pouring hot water on them, dusting with lime, placing saucers of treacle about, smoking, etc., I find the most effectual way of catching them is to save a few ripe Tomatos and just pull them a little apart on the underneath side and lay in their haunts, going round with a can of hot water into which I wash them out, as the bait will do for several times. In this way vast numbers may soon be got rid of.—*H. L.*

ERIA CINNABARINA.

Few of the Erias are of any horticultural value, though a good many of them at one time or other have found their way into collections, where Orchids of botanical interest are esteemed. Notwithstanding the many species known to science, in any particular genus, we may always live in hope that something better will turn up, for the unexpected nearly always turns up amongst fresh importations. That under notice is the most ornamental species of Eria known, and though of moderate size, the rich cinnabar-orange colour of the flowers, bracts, pedicels and scape, in fact of the whole inflorescence, contrasts beautifully with the dark green foliage. The pseudo bulbs are ovoid, surmounted with two or three leaves, which are persistent so that the scape proceeds from the axil of one of them; it is about 3 in. or 4 in. long and bears a raceme of six flowers or thereby. The bulb of the Erias in cultivation have short and stumpy stems, not unlike those of a Dendrobium shortened, thickened and excavated into cavities along the sides, so that in this case they more resemble those of an Oncidium. The species is a native of Borneo, from whence it was introduced by Messrs. Linden, L'Horticulture Internationale, Brussels, and with whom it flowered in April last. It will require the same cultural treatment as that accorded to East Indian Dendrobiums. There is a coloured plate of it in *Lindendia Pl.* 448.

SEEDS FOR EXCHANGE.

Before us is the list of seeds for 1895, offered for exchange by Mr. F. W. Moore, the Curator of the Royal Botanic Gardens, Glasnevin, Dublin. The list runs to 17 pages of names in three columns upon each page, representing a vast amount of labour in harvesting, cleaning, assorting and packing away the seeds. As might be expected from a botanic garden, a large number of the seeds are purely of botanical interest; but on the other hand there are many highly ornamental subjects worthy of a place in the most select collections and the most circumscribed gardens. Many of the more recent garden varieties or hybrids of Delphininms are enumerated, and though seedlings may not turn out true to the parents yet something good may be expected from them, and the bulk of them would doubtless prove useful for ordinary decorative purposes. The names are arranged according to the natural system, and alphabetically under each order. Amongst the rarer plants we notice Myosurus minimus, Caltha radicans, Althaea Hohenackeri, Geranium Lowei, Galega biloba, Pisum maritimum (Lathyrus maritimus) Gallenia stipulacea, Dipsacus fullonum, Cineraria gigantea, Primula Poissonii and others. The species of Veronica are very numerous and so are those of Salvia, Saxifraga, Hieracium, Iris, Carex and many others. The grasses are also remarkably well represented.

HINTS ON POTTING.

While reading the article of "G" on p. 380 of last week's issue it struck me that it savoured somewhat of the critic. If not so I apologise. However, there are two or three points in his otherwise able article that should in fairness be cleared up. "G" knows as well as I do that to treat this subject properly, he would at least need a full week's issue. This being so, there are certain regulations in reference to potting, regarding the use of the rammer, that must be left to the gardener himself. To lay down a hard and fast rule that everything should be rammed, is not what I intended nor even mentioned. Light potting, firm filling and ramming are three quite distinct things and are understood as such. It would be too long a proceeding to enumerate the different subjects that require the different and various treatments. This is left to be found out.

My belief is in firm potting for the generality of things; ramming is quite different as applied to subjects requiring the last shift. Spiraeas being now on the wing, seem to me as wanting a deal of hard work with the rammer. Every particle of soil that you can get round these should be utilised. Why? some will ask, To prevent flagging during hot sunshine, I reply. Concerning the soil, no material however good, should be used when wet. Young gardeners note this carefully. It is not ready for use, if, when you grasp a handful it holds together; it should be free, but not too much so. My idea of a very free material is very much like lime with too much sand.

To glance back to the subject of ramming, I recommend it for Tomatos, and quite agree with "G," but not till they are ready for their fruiting quarters in pots, boxes, or borders. To ram or even firm Tomatos whilst in a young state, and especially at this time of year, is quite a mistake. The result would be that they would not move at all. Again, as to crocking, something special is needed for those subjects that require good drainage. For instance, it would be complete waste of time to crock a pot for a clump of Spiraea as one would for Dracaenas superba, Crotons of all kinds and many thousands of stove subjects.

I can assure "G" that many things can be grown well without the moss. To convince him, in all good feeling, that there is such a thing as something special, I will recommend him to use "Porter's Crocks," which I have had submitted for my opinion, and I should say they are a first-class article. Different kinds of loam, river sand, silver sand, peat, leaf soil, Clay's, Thomson's, and silicate manures, light potting, firm, and ramming or heavy pottings are what plants require, some more than others. There are many little additions to things in our trade which occur to many when the job is completed which would be termed something special.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

PLANTS RECENTLY CERTIFICATED.

Anthurium Perfection.—The large, shield like leaves of this garden hybrid are oblong and cordate at the base, dark green and leathery. The spathes are cordate, of a brilliant vermilion scarlet, leathery in texture and 8 in. long by 5½ in. in diameter at the widest part. The cylindrical, straight spadix is yellow, changing to flesh colour as it advances in bloom. An Award of Merit was accorded it by the Royal Horticultural Society on the 12th inst., when exhibited by Sir Trevor Lawrence, Bart., (gardener, Mr. W. Bain), Burford Lodge, Dorking.

SOCIETIES.

Royal Horticultural, *12th February.*—As might have been expected from the severe nature of the weather the exhibits were few and small on Tuesday last, the occasion of the annual general meeting. They were pretty well divided between Orchids and greenhouse subjects, and consisted to a large extent of cut flowers. Orchids were, in fact, the principal features of the meeting and the most interesting. There were also some Apples and an interesting collection of Oranges. A small collection of cut flowers of Orchids was exhibited by Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, Cheshire. The Cattleyas were most conspicuous, including C. labiata Trianaei, C. l. Percivaliana and their forms, also Dendrobium Schneiderianum, some Odontoglossums and Phalaenopsis. Cattleya labiata Percivaliana magnifica was really splendid. Walter Cobb, Esq. (gardener, Mr. Howse), Dulcote Park, Tunbridge Wells, showed a finely blotched Odontoglossum named O. crispum La Gascogne, with fourteen flowers on a spike. Messrs. F. Sander & Co., St. Albans, also exhibited a collection of cut flowers of Orchids, including Laelia anceps Schroderiana. The Dell var., Phaius amabilis, P. Marthae, Dendrobium luteolum, and the elegant little D. Egertoniae. They also had five fine umbels of Haemanthus Kalbreyerii. Four fine Cypripediums, including C. Rothschildianum, also a fine spike of the rare and interesting C. Vanda (Stauropsis) gigantea with fleshy and tawny spotted flowers were exhibited by F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen. He also had fine blooms of Laelia pumila praestans. Some beautiful Cattleya flowers were shown by E. Ashworth, Esq. (gardener, H. Holbrook), Harefield Hall, Wilmslow. A Silver Banksian Medal was awarded to Mr. Hy. Chapman, gardener to R. I. Measures, Esq., Cambridge Lodge, Camberwell, for a collection of Orchid flowers beautifully dried and mounted on sheets of paper. The Cattleyas, Oncidiums, Cypripediums, Coelogynes, Dendrobiums, and others were splendidly done with their natural colours wonderfully well retained. A Cultural Commendation was awarded to Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, for a grand spike of Odontoglossum coronarium miniatum. A Bronze Banksian Medal was awarded to Mr. M. Seavy, Photographic Artist, Camberwell, New Road, for a collection of photographs of Orchids. A small collection of cut flowers of Orchids was shown by Walter C. Walker, Esq. (gardener, Mr. George

Cragg), Percy Lodge, Winchmore Hill. Conspicuous amongst them were Oncidium Cavendishianum, O. splendidum, Laelia harpophylla, and Dendrobium Dalhousianum. A plant of a large and well coloured hybrid named Cymbidium eburneo-Lowianum superbum, another of Calanthe Masuco-tricarinata with delicate pink flowers were exhibited by Messrs. J. Veitch & Sons, Chelsea. A grand spike of Laelia superbiens and another of Phalaenopsis intermedia Portei were exhibited by Lord Rothschild (gardener, Mr. Ed. Hill), Tring Park, Tring. Three hybrid Cypripediums were shown by Fred. M. Burton, Esq., Highfield, Gainsborough. Cattleya Trianaei Ashtoni, with a fine lip, was shown by W. L. Lewis & Co, Southgate. Laelia anceps Winn's var., Odontoglossum sceptrum, and some Cattleyas were shown by W. Thompson, Esq., Walton Grange, Stone, Staffordshire. A fine spike of a Phalaenopsis named P. Youngeana was exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. He also had noble racemes of Calanthe Regnieri, C. Stevensi, C. Schroderae, and some hybrid Phaius, as well as Arachnanthe Cathcarti, Cypripedium insigne Sanderae, C. Shuttleworthii, and several others. A Cultural Commendation was awarded him for Odontoglossum coronarium, of which he had a fine pyramidal spike. A Silver Banksian Medal was accorded for the whole group.

Mr. P. Euinton, gardener to Sir David Evans, Ewell Grove, contributed a number of plants of Primula Lady Evans. The plants were of vigorous habit, the leaves large and very dark green in colour, and the flowers of good size and excellent substance. A very meritorious display of hybrid Rhododendrons of the Javanico-Jasminiflorum section was made by Messrs. James Veitch & Sons, Chelsea. The trusses of bloom were large, and the flowers of fine form and brilliant colours, Ne Plus Ultra, Primrose, Purity, Conqueror, Monarch, and Imogene being some of the best varieties exhibited. Messrs. Paul and Sons, Cheshunt, had some nice sprays of flowers of English grown Azalea Mollis, whilst a well-flowered plant of the old Thyrsacanthus rutilans, sent by Sir Trevor Lawrence, Burford Lodge, Dorking (gardener Mr. Bain), was also worthy of mention.

Although like the flowers the exhibits of fruit were not numerous, they were of a particularly interesting character. Messrs. T. Rivers & Son, Sawbridgeworth, were awarded a Silver-gilt Knightian Medal for an exceedingly fine collection of oranges. Several varieties were represented, and the fruit shown was all in first-class condition. Major Thornbull, Stanton Hall, Bakewell, Derbyshire (gardener Mr. G. Harvey), also exhibited several dishes of Seville Oranges, for which a Silver Banksian Medal was awarded by the fruit committee. The fruit was of large size and excellent colour. Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., had a nice little collection of Apples in good condition for the advanced season; Hoary Morning, Annie Elizabeth, Newton Wonder, Golden Noble, and Belle de Pontoise being among the best varieties shown. Vegetables were represented by a solitary exhibit in the way of a quantity of Nichols' Favourite keeping Onion, which came from Mr. A. G. Nichols, Nunham Park, Abingdon. The bulbs were of medium size, good shape, and excellent keeping qualities, to judge from the condition of the samples exhibited.

Annual General Meeting.—The annual meeting of the Society was held on Tuesday afternoon, Sir Trevor Lawrence, Bart., President of the Society, in the chair. The report, which was taken as read, gave a gratifying account of steady work and progress during the past year. In addition to the great flower show at the Temple Gardens, the equally important fruit show at the Crystal Palace, and the Forestry Conference at Chiswick, nineteen meetings had been held at the Drill Hall, at which flowers and fruit were exhibited and lectures given on various subjects connected with horticulture, The general work of scientific experiment and investigation, and the trial of plants was conducted in the Society's gardens at Chiswick, under the superintendence of Mr. A. F. Barron. By deaths and resignations the Society had lost 163 fellows, but 339 members had been added to the roll during the year. The Journal issued from time to time had given reports and papers of special interest to horticulturists. An examination for certificates of efficiency in the principles and practice of horticulture was held in May, when 126 candidates presented themselves, and a similar examination will be held this year. The Council had appointed a Committee to draw up rules and regulations for judging at fruit and flower shows so as to secure some kind of uniformity in the principles adopted. It was also urged that members might make a more extended use of the services of the Scientific Committee in regard to diseases of plants or injuries affecting plant life. The income for the past year amounted to £5,550, and the expenditure to a little over £5,000, carrying forward a balance of £472.

The President in moving the adoption of the report, said it was the most satisfactory the Council had presented for a long time past. The Society was making steady and continuous progress in numbers and finances, as well as work accomplished. For this their thanks were largely due to the labours of the Rev. W. Wilks, notwithstanding the fact that during a great part of the year he had been suffering from serious illness. The Temple show last year had proved more popular than ever, and had resulted in a small profit to the Society. There were difficulties attending the continuance of the exhibition over three days, especially in the case of rare and valuable plants needing special cultural attention; but the large numbers of the public who came on the third day was a great inducement to adhere to the plan. He was glad that the Benchers had consented to another exhibition being held in next May. After alluding to the valuable reports published in the Journal of the Society, the President said that a catalogue of the Lindley Library was in preparation, and would be completed and printed as soon as sufficient funds were forthcoming. Several valuable works had been added during the past year. The Council were determined to maintain the practical work carried on at Chiswick in the highest state of efficiency, being thoroughly convinced that it was of essential service to horticulture. They had expended £1,900 upon the gardens during the year; but that amount had been redneed by £450 received from the sale of surplus products. The best thanks of the Council were due to the members of the Standing Committees and to the various gentlemen who had read papers to the Society. Mr. F. R. Parker seconded the motion, which was supported by Mr. Ranger Johnson, Mr. P. C. M. Veitch, the Rev. Professor Henslow, and others, and carried unanimously.

Mr. Sydney Courtauld, Mr. Henry Williams, and Mr. Thomas Statter were elected members of the Council in the room of the Earl of Annesley, the Hon Walter Rothschild, and Mr. Charles J. Lucas. Forty-one new fellows were also elected. A cordial vote of thanks to the President closed the proceedings.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

NAMES OF PLANTS.—*R. G.*: 1, Coelogyne cristata; 2, Gymnogramme calomelanos; 3, Davallia sp. not in fruit and hardly in character; 4, Selaginella Braunii; 5, Onychium japonicum; 6, Aspidium angulare var. *S. H.*: 1, Laelia cinnabarina harpophylla; 2, Dendrobium bigibbum; 3, Coelogyne speciosa; 4, Maxillaria picta; 5, Odontoglossum crispum Andersonianum. *H. W.*: 1, Tsuga canadensis; 2, Eupatorium riparium; 3, Thyrsacanthus rutilans; 4, Eranthemum nervosum. *G. Russell*: Epidendrum Stamfordianum.

COMMUNICATIONS RECEIVED.—C. L. G.—J. G. C.—C. E. O.—G. J. I.—R. D.—W. C.—E. M.—P. B. o'K.—J. F.—Con.

TRADE CATALOGUES RECEIVED.

F. SANDER & Co., St. Albans.—Sander's New Orchids for 1895.

PITCHER & MANDA, Short Hills, New Jersey.—Catalogue of Flower and Vegetable Seeds and Bulbs for Spring Planting.

LOUIS VAN HOUTTE PERE, Ghent, Belgium.—Plants and Flower Seeds.

JOSEPH MOCK, Trier, Germany.—Seeds and Roses.

LOUIS VIEWEG, Quedlinburg, Germany.—Seeds and Plants.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.—Flower and Vegetable Seeds.

LONDON SEED TRADE.

February 12th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed market, Mark Lane, report a slow market for Clover and Grass seeds owing to severe weather. Values unaltered.

COVENT GARDEN MARKET.

February 13th, 1895.

Market at a standstill owing to rough weather.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettnces ...per dozen	2 0	0 0
Beans, French, per lb.	1 6	2 0	Mnshrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per buncb	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bnncb	0 6	
Carrots ... per bnncb	0 6		Radishes... per dozeu	1 6	
Caulliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Smallsaladlng, pnnnet	0 4	
Cucumbers .....each	0 3	0 9	Splnacb per bnsbel	6 0	
Endlve, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnlps .....per bun.	0 6	
Horse Radlsh, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistras, per doz	18 0	42 0	Evergreens, Invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Cbrysanthemums, per doz.	6 0	8 0	Follage Plants, doz.	12 0	60 0
Cyclameu, per doz....	9 0	18 0	Marguerltes, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena vlrldls, doz.	9 0	18 0	Palms in varlety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Speclmen ...	15 0	63 0
,, gracilis per doz.	10 0	12 0	Primnlas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lllles, 12 blms.	4 0	6 0	Narciss (French) doz. bcb.	4 0	6 0
Azalea.....doz. bchs.	6 0	10 0	Orchld Bloom in var. per bloom, from	0 3	1 0
Bouvardlas, per bun.	0 6	1 0	Pelargoulums 12 sps.	0 6	0 9
Carnatlons...per doz.	2 0	3 0	Pink Roses...per doz.	3 0	6 0
Cbrysantbemums, doz. blooms	2 0	6 0	Pyretbrum doz. bnn.	2 0	4 0
,, doz. bunches	4 0	12 0	Primula, double, bun.	0 6	0 9
Double Daffodils, doz. bcbs.	15 0	18 0	Roses, yellow, dozen	2 0	4 0
Single Daffodils, doz. bchs.	24 0	30 0	— Red..... doz. blms.	3 0	6 c
Eucbarls ...per doz.	4 0	6 0	— Tea ..... per dozeu	0 6	2 0
Gardenlas 12 blooms	2 0	4 0	Scarlet Geraniums, doz. bcbs.	5 0	9 0
Hellotropes, 12 sprays	0 6	0 9	Tnberoses, per doz	0 6	1 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Violets (French) Parma, per bch.	5 0	6 0
Lilac (Freuch) per bcb.	6 0	6 6	Violets (Freuch) Czar, per bch.	1 9	2 0
Lllium Harrisll, doz. blooms	6 0	10 0	Violets (French) doz. bch.	4 0	6 0
Maldenhair Fern, 12 bs.	4 0	6 0	Violets (Englisb) doz. bcb.	1 6	2 6
Marguerltes, 12 bun.	1 6	3 0			

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THE "CHARLES COLLINS" FUND.

At a meeting of representatives of the Horticultural Press held at the Hotel Windsor, Victoria Street, S.W., on January 11th, the following resolution was unanimously passed:

"In consideration of the services rendered to horticulture in his journalistic work by the late Charles Collins, of the high respect in which he was universally held, and of the fact that owing to the long-continued ill-health of himself and his wife he was unable to make adequate provision for his family, who are in deep distress, a fund be opened for their benefit."

On the same occasion a General Committee, comprising a number of horticultural journalists, together with the following gentlemen who form the Executive Committee, were elected to carry the above resolution into effect, viz.:

MAXWELL T. MASTERS, M.D., F.R.S. (Chairman), 41, Wellington Street, Strand, W.C.

BRIAN WYNNE (Vice-Chairman), 1, Clement's Inn, Strand, W.C.

GEORGE GORDON, F.R.H.S. (Treasurer), Endersleigh, Priory Road, Kew.

T. W. SANDERS, F.R.H.S. (Hon. Secretary), 57, Cressingham Road, Lewisham, S.E.

For the information of those who are not fully acquainted with the facts of this sad case, it may be briefly stated that the late Charles Collins was for some few years engaged on the editorial staff of the *Journal of Horticulture*, and prior to that filled similar positions on the *Gardeners' Chronicle* and *Amateur Gardening*. He was returning home on the evening of December 26th from a visit to some friends at Forest Gate, and, just as he was about to enter the train, was suddenly taken ill and expired almost immediately. He leaves a widow and two little girls, aged three and four years respectively.

Mr. Collins, having only attained the age of thirty years, had been unable to make adequate provision for the support of his wife and family, and hence the Committee and Executive have resolved to make an earnest appeal to those who knew him to subscribe to the above fund, and thus enable them to alleviate in some measure the pressing needs of the widow and family.

Subscriptions may be sent to either of the gentlemen named above; or to the editors of the various gardening journals. The amounts received will be duly acknowledged in the Gardening Press.

	£	s.	d.
Dr. Masters	3	3	0
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C. T. Druery	0	2	6
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G. Gordon	1	1	0
W. P. Wright	3	3	0
E. Molyneux	1	0	0
S. Mortimer	0	10	0
C. H. Curtis	0	10	6
Rev. H. D'Ombrain	0	10	6
C. E. Shea	1	1	0
R. B. Brotherston	0	5	0
H. Richards	0	10	6
W. H. Divers	0	5	0
W. Wells	0	10	6
E. D. Smith	0	5	0
Dobbie & Co.	0	10	6
T. Humphreys	0	5	0
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W. Iceton	0	5	0
B. Wynne	1	1	0
Laing & Sons	1	1	0
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Mrs. H. J. Jones	1	1	0
H. T. Wooderson	1	1	0
T. W. Sanders	1	1	0
Proprietors of *Amateur Gardening*	1	1	0
R. Weller	0	10	0
H. C. Prinsep	0	5	0
D. B. Crane	0	5	0
A. F. Rendell	0	2	6
H. Stevenson	0	2	6
H. Shoesmith	0	5	0
W. Dipper	0	2	6
J. Norton	0	2	6
Mrs. J. Norton	0	2	6
C. E. Diggle	0	2	6
G. W. Comfort	0	2	6
Mrs. G. W. Comfort	0	2	6
J. Mallendar	0	5	0
E. K. Dublin	0	10	0
G. Trinder	0	2	6
Ladywell Horticultural Society	0	13	6
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A. Pettigrew	1	1	0
W. L. T. Chelsea	0	2	6
E. T. Cook	0	10	6
W. Robinson	1	1	0
G. Bunyan	0	10	6
W. Paul & Son	1	1	0
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A. Sympathiser	0	10	6
A Reader's offering	0	5	0
S. Deadman	1	0	0
R. Dean	0	10	6
W. Strugnell	0	3	0
J. B. Riding	0	10	6
G. Macleod	0	5	0
W. H. Cox	0	2	6
G. W. Cook	0	10	0
H. A. Needs	0	5	0
Member of N.A.G.A.	0	5	0
Miss L.	0	2	6
A. J. Foster	0	2	6
Ladywell Horticultural Society (Sec. Subs.)	0	4	6
H Burbidge	0	5	0
S. Reece	0	5	0
"A Friend" per S. Reece	0	2	0
Colonel Page	1	0	0
An Admirer	0	10	6
H. W. Ward	0	5	0
E. Beeton	0	2	0
W. Igguldem	0	5	0
E. H. M.	0	10	0
Fleet Street Compositors	0	10	0
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G. H.	0	2	6
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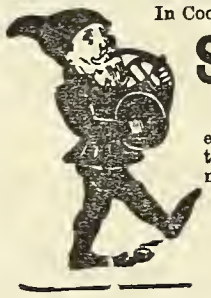

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For Index to Contents see page 413.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Feb. 25th.—National Chrysanthemum Society. Annual Meeting at 7 p.m.

TUESDAY, Feb. 26th.—Sale of imported Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, Feb. 27th.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Feb. 28th.—Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, March 1st.—Sale of established Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, FEBRUARY 23rd, 1895.

THE SEVERE FROST AND THE LESSON IT TEACHES.—Snow-storms and low temperatures have been general all over the northern hemisphere and as far south, at least, as the Mediterranean. It seldom happens that frost and snow endure for such a period in the south of England and, independently of temporary inconvenience to gardening, other important points at issue will have to be taken into consideration. Frost has indeed been more severe in the midland and northern counties than in the south; but the fact that large flocks of gulls above London Bridge have become sufficiently tame to come near enough to be fed by crowds of people from the Victoria

Embankment, shows that they have been deprived of their natural means of subsistence round the coasts. Their feeding grounds around the muddy shores have become frozen over. From 20° to 30° of frost have been common, and 4° below zero have been recorded from the neighbourhood of Leicester. Even this has been much exceeded at Braemar, if the readings have been properly taken, for a minimum of 15° below zero or 47° of frost has been tabulated. From different parts of Aberdeenshire we hear of 8° and 21° below zero. The minimum for Sweden last week is put down as 18° below zero. From many different stations we get almost as many intermediate temperatures according to local situations and surroundings.

One of the first questions a gardener will ask, is, what amount of harm has been done in gardens by the intensity and duration of the frost. That cannot be answered until the storm has entirely disappeared, and perhaps not fully till growth is resumed in spring. It may be that a sharp frost of a week's duration, followed by a sudden thaw, would work as much havoc amongst tender subjects as a storm of greater duration; for it must be remembered that the atmosphere has been particularly dry, more so than that to which we are generally accustomed in the south. Various ponds and lakes have been covered with a depth of 5in. to 8in. of ice, and in one case where the ice was flooded with water on the top, it froze to a depth of 13in. In estimating the intensity of the frost and the harm it is likely to effect, we must remember that up till Christmas the prevailing mildness had kept vegetation in a growing and flowering state which was altogether unnatural as unexpected. Not only must the different parts of the country be taken into consideration, but the altitude, the influence of sea breezes, the direction of the wind generally, shelter, and exposure, when reckoning up the amount of damage by frost of a certain intensity. All these things may be noted daily, as they occur, and, though the entries need not be lengthy, yet they should be done with sufficient care to make the notes useful for reference at any future period of the writer's life.

Comparison may be made between the suitability of evergreen and deciduous trees and shrubs for certain positions, sheltered or exposed. Damage done to plants of low stature or short duration may soon be repaired; but it becomes more serious when a plantation of something is destroyed or gaps made in it that cannot be restored for years to come, and then only with uncertainty. Here comes in the value of habituating oneself to the making of correct observations; and to none does it apply more forcibly than to the younger members of the profession. Only the hardiest of trees should be planted as wind-breaks, for screening unsightly objects or shutting out undesirable views. Whether evergreen or deciduous the more tender species should be planted in the most suitable positions according to their kind, and where their destruction would be less keenly felt if that undesirable occurrence should take place. Here it must be remembered that Cherry Laurels, Magnolia grandiflora, and similar objects may, and often do get stripped of their foliage during winter, owing to their being exposed to gales of wind, while their leaves are in a stiff and frozen condition. Deciduous subjects and many Conifers would be more appropriate in such positions. Many intrinsically beautiful subjects will get planted notwithstanding the fact that their tender character is well known. They should not, therefore, be allowed to interfere with those plantations whose permanence is one of their most valuable features. There will, doubtless, be a great mortality amongst Roses, particularly those belonging to the Tea class; but losses in this quarter, however undesirable, can soon be made good. Hardy subjects in frames are sometimes killed by excessive kindness in keeping them permanently covered up during severe weather, and their destruction is not infrequently attributed to the severity of the frost, but erroneously so, seeing that continued darkness is at the bottom of the mischief.

The destruction of vegetables will undoubtedly cause a greater amount of uneasiness amongst certain gardeners, than the loss of more permanent subjects. Where the covering of snow has been shallow and the frost severe, such things as Brussels Sprouts, Savoys, and Broccoli are already seen to be in great distress. On the other hand, a heavy covering of snow proves no better protection, after a lengthened period, especially after being subjected to alternate freezing and thawing. Happy are they who have a good stock of Seakale, Asparagus, and Leeks by way of green vegetables. Dwarf Curled Greens and various kinds of sprouting Borecole are generally tolerably hardy, and cultivators would do well to grow a breadth of them against severe winters in the future. If not already accomplished, sowings should now be made of Cauliflower, Cabbages, and other necessary subjects to compensate for the destruction of the autumn sown ones by frost, wood pigeons, partridges, pheasants, and other starving birds. Potatos in store should be well covered with straw if in sheds, and those in the open air in earth pits should be secured in the same way after taking out the necessary supply. Heating apparatus will be tested to the uttermost, and the lessons to be learned concerning the exclusion of frost from them and keeping up the necessary temperatures will not be the least important during the present severe winter.

The Kew Guild.—The Annual General Meeting of this Association will be held in the Garden Library at Kew on Thursday evening next, February 28th, at eight o'clock. Members who are unable to attend are requested to send any contributions for the Journal, to be published in May, or any suggestions they may desire to make with respect to the Guild to the Secretary, Mr. J. Aikman, Whitestile Road, Brentford.

Seed Potatos Supply (Ireland) Bill.—In the House of Commons, on Monday, Mr. J. Morley brought in a Bill to provide for the supply of seed Potatos to occupiers and cultivators of land in Ireland which, he said, was, with a comparatively unimportant alteration, a copy of the Bill of 1890 introduced by Mr. A. J. Balfour. The Bill was read a first time, and a second time on Tuesday.

Preserving Fruit with Lime.—More or less attention has been paid for some years past to the subject of the preservation of fruits and roots by means of powdered quicklime. An interesting communication has recently been made by Mr. Monclar to the Agricultural Society of Albi on the subject of the results of his experiments in this direction. He exhibited, in support of his assertions, some Chasselas Grapes, which were perfectly preserved, and were as round and plump as on the day they were gathered. The taste also was the same, except, perhaps, it was a little more saccharine. Unfortunately, despite the fact that they had been washed, some traces of lime remained upon a few of the berries. They had remained embedded in the lime for seven months. Mr. Monclar stated that after they had remained only four or five months therein, a washing caused the whole of the lime to disappear. He added that his Grapes had been perfectly preserved during the entire winter in two different years. About the middle of March, only a tenth were spoiled, and a month later about half of them. In order to have perfect success, it would be prudent not to put off the consumption of the fruit beyond the beginning of March. M. Monclar also exhibited some Apples that had been preserved in the same way for a long time, and that were found to be in a perfect state.—*Le Génie Civil.*

Shirley and District Gardeners' Improvement Association.—An extra meeting was held at the Schoolrooms, Highfield, Southampton, on the 15th inst., the Rector, the Rev. E. Silver, M.A., presiding, but it being a wild cold night the attendance of members was smaller than usual. Mr. E. Molyneux, Swanmore Park Gardens, gave a lecture on "The Salient Points of Vegetable Culture," more particularly addressed to the owners of cottage gardens and allotments. The salient points were preparation of the soil, manuring in plenty, then sowing the seeds, and regular attention during the period of growth. Taking each point in order, Mr. Molyneux, by the aid of numerous diagrams, described how best to carry out each detail. As an example of what is possible he gave a list of the vegetables growing on a prize allotment in his own district last summer. A hearty vote of thanks was accorded to Mr. Molyneux at the termination of his lecture. The ordinary monthly meeting was held on the 18th inst. at the Parish Room, Shirley, the President presiding. Mr. F. Bartlett opened a discussion on "Frost and Snow: Its Advantages and Disadvantages to Horticulture." A vote of thanks was accorded to him at the close of the meeting.

National Chrysanthemum Society.—At a meeting of the Committee on Monday evening, Mr. R. Ballantine presiding, six new members were elected and the Windsor, Eton, and District Chrysanthemum Society admitted into affiliation. The Annual General Meeting will be held at Anderton's Hotel, on Monday evening, at 7 p.m., when Mr. C. E. Shea will take the chair.

Seed Orders and the Seed Trade.—A Seedsman's Assistant writes:—"You will confer an everlasting blessing upon us poor seedsmen's assistants if you will kindly find room for a few words in your columns urging the advantages to be derived by purchasers of seeds from sending in their orders at once instead of holding them over, as is the prevailing custom, until the frost breaks, which means an enormous pressure and very hard labour for us who are practically standing idle now for want of the work which will overwhelm us directly the weather changes. I do not write for the benefit of my firm in particular, but for the whole of the assistants in our trade, who are in the same condition, and who would, I am sure, welcome any change from the present stagnation." The wisdom of the old maxim, "First come, first served," is so obvious, that no recommendation in such a matter as making out and sending in seed orders should now be necessary; and yet it is the universal experience of the seed trade that immediately a frost sets in the orders fall off to zero, and in the case of long spells of frost like the present, what is once lost in this way is seldom regained during the remainder of the season. The tendency of late years has all been in the direction of earliness, and if things go on at the present rate of progress, we may soon expect to see the seed catalogues issued with the Christmas annuals in October and November, and mayhap, by the end of the century we shall have them to take with us to the sea-side. There would seem to be a fashion in ordering seeds, as in most other things. March and April used to be the months that tested the mettle of the seedsmen's assistants: now it is January and February in ordinarily open seasons: but this year the "frost" in the falling off of orders up to the present has been as keenly felt by our seedsmen as the frost outside. Why is this? If seeds were perishable things in the same sense as tender plants are, one might be able to understand the almost universal disinclination to send in orders during frosty weather. As it is, the cause at present remains somewhat of an enigma, and we can only beg of our readers that they will show the seedsmen's assistants some little consideration, not to say a merciful one, by sending

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The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

in their orders at once, and not waiting until all will want their seeds together. By so doing they will confer a benefit on a laborious and painstaking class of men, and get better served themselves.

RANUNCULUS ASIATICUS.

THE Ranunculus asiaticus, although so seldom seen in these days amongst the collections of florists' flowers and not frequently in ordinary gardens, is one of the most beautiful and ornamental varieties of florists' flowers anyone can grow, either for exhibition purposes or for the decoration of a flower border, and it is as simple to cultivate as it is beautiful to behold when in bloom.

Philip Miller, in his "Gardeners' Dictionary" (third edition), published 1768, in speaking of the double varieties produced from seed taken from semi-double flowers, says, "From these there are such prodigious varieties of new flowers annually obtained which are so large and of such variety of beautiful colours as to exceed all other flowers of that season, and the roots when strong generally produce twenty or thirty flowers upon each, which, succeeding each other, continue in beauty a full month or longer, according to the heat of the season or the care taken to defend them from the injuries of the weather."

Thomas Hogg, in the sixth edition of his "Practical Treatise on the Culture of Florists' Flowers," says, "It is very seldom you have the opportunity of beholding this flower in any great perfection, but if you are fortunate enough to meet with a bed of the choicest sorts growing in full health and vigour and bearing a profusion of splendid blossoms of all colours, plain and variegated, you will be forced to admit that it is an admirable sight, and one of the grandest displays of nature in vegetable life. A bed of fine Ranunculuses is esteemed by many in no degree inferior to a bed of the richest Tulips."

Tyso and other great florists who have passed away proved every word of Hogg's to be true, as to the glorious appearance of a well-cultivated bed of these charming flowers when in full bloom!

The late Samuel Barlow and the Rev. F. D. Horner purchased the last of Tyso's great collection, but I fear that most of these, if not all, have gradually dwindled away.

Forty years ago I had a fine collection of Tyso's best strain, but, consequent on change of residence, I placed my roots in the hands of a friend to grow for me the following season, but he unfortunately put the box containing them in the corner of his greenhouse, where they all rotted from water dripping upon them before the planting season. I have never been able to meet with so fine a strain since, but I some years ago purchased a few hundred roots from Messrs. Barr & Sons, London, at 5s. per 100, and I was much gratified by the bloom which they produced, and have continued to cultivate them ever since from seed I collect yearly from semi-double flowers, and when the plants are in full bloom they are a gorgeous sight, and consist of all the colours and shades one can imagine, and my bed is always the admiration of my friends who witness it in all its beauty. Of course I take the precaution of covering the flowers in the bed with a calico awning so as to protect them from the heat of the sun and rain.

I plant the surplus stock in the open borders, and they, in an ordinary season, are not only beautiful to look at, but are exceedingly useful for cutting purposes.

I make a rule of planting them the first available fine day which presents itself in the month of March, and I plant the roots in drills 3 in. deep, and place them about 4 in. apart each way, so that when covered with the soil the crowns will be about 2½ in. below the surface. Before planting I put a little coarse sand in the drills. "Sea" sand I avoid, being under the impression that the salt it contains will cause many of the small seedling plants to rot. When the plants begin to show their buds or blooming stems, which will be towards the end of June, I give them regular daily supplies of water, both morning and evening, and I give them a good supply, as scanty watering is next to useless.

Every person who is fond of flowers will be thoroughly compensated if they will give the Ranunculus a trial, either for exhibition purposes or as cut flowers, and roots can be obtained from any of the large London bulb importers at a few shillings per hundred.—*James Thurston, The Green, Cannock.*

OUR GARDENING CHARITIES.

THERE can be no doubt whatever that much of the success that attends the labours of the managers of our gardening charities is due to the kindly interest that is taken in them by the conductors of our gardening papers, and the liberal manner in which valuable space is given up to the promotion of the good cause. To men like myself, who are from necessity compelled to carry on our vocation far from the "centre of civilisation," the notices concerning either of the charities, and especially the reports of their meetings, are of the greatest interest. We like to know what is going on at headquarters, and especially to read the speeches of the good men who preside at the annual festivals and plead the cause of the deserving poor amongst us in such warm-hearted and generous terms.

You are always a willing worker, Mr. Editor, in aid of our charities, and it is the knowledge of this that tempts me to beg a little space for the discussion of one or two ideas that have recently occurred to me. I note with pleasure what is being done in various parts of the country to add to the funds of our charities, and very much like the business ideas promulgated at the recent meeting at Worcester. In populous places like Worcester, no doubt, a great deal could be done by unity of action and combined efforts, and at no great expense as regards time and money; but in outlying country districts this is not so easy of accomplishment, still I hope the day is not far distant when every gardener in the land will feel it his duty to contribute something to one or both of our splendid charities.

I think a good deal might be done by Gardeners' Mutual Improvement Associations making occasional collections at the close of their meetings, or at quarterly meetings specially organised in aid of the charities. These might be made very popular gatherings by engaging the services of one or more lecturers on subjects likely to prove attractive to amateurs and cottagers, and by the local gardeners exhibiting examples of the subjects lectured upon. A small charge could be made for admission to such meetings, or a collection made during the evening, whichever might be thought the most desirable. I have found that taking specimens to evening meetings and inducing others to bring some that much more interest is created in the subject matter of the paper read, or the lecture delivered. Recently, when lecturing in Devonshire on hardy plants, I took with me a goodly number of species and varieties, and the experiment answered admirably. I believe that if the ontside public only knew of such meetings, many would attend and gladly give something for the privilege.

I have recently suggested to one of these Associations, that if they would arrange to hold a meeting on these lines in March or April, with Apples and their culture as the subject dealt with, I would contribute as many samples as possible, and do all I could to make the meeting a success. I am waiting a reply. I think every Association might well admit other than members to their meetings, making a small charge in aid of the charities.

As regards the auxilliary branches of the Gardeners' Royal Benevolent Institution, I hope they will increase in number until there is one in every important centre. Could not one be established at Exeter, for instance? I have read Mr. Bruce Findlay's letter with regard to a memorial to the memory of the late Mr. William Thomson, and, no doubt, there are many who would subscribe something to such a fund, but I am convinced that a great many more would contribute if the proposition took the form of a "Thomson Memorial" in connection with one or both of the charities. No better means exists for perpetuating the memory of a good man than associating his name for all time with some noble charity, and I hope this may yet be done.—*John Crook, Forde Abbey.*

HINTS ON POTTING.

AFTER reading Mr. Pettinger's continuation of the above subject, which appears on p. 395 of the last issue of the GARDENING WORLD, we must hasten to assure him that the artifice which has caused him once again to enter the field of discussion was most emphatically *not* written in a spirit of criticism, and we are very sorry that Mr. Pettinger should have so understood it. By criticism, we of course assume that fault-finding is really meant. With regard to the higher order of criticism, which in this case really means the stating of an individual opinion which may not be exactly at one with somebody else's ideas, every one possesses the right to criticise, and no one would, we imagine, take exception at any fellow-gardener claiming this right and acting accordingly—Mr. Pettinger, perhaps, least of all. Still, the misunderstanding on his part of the spirit that prompted the writing of the article in question which we again assert was not intended to be a *critique* of Mr. Pettinger's—has not been an unmixed evil, as it has caused him to take up the sword of discussion, (as he believed in his own defence), thereby favouring us with another of his articles which we all so much appreciate from their great practicability and good common sense.

As we stated before, it does not follow that opinions with regard to the treatment of the same plants in different districts that may appear contradictory when compared the one with the other are necessarily wrong in those points, wherein the seeming contradictions are exemplified, for there are many roads that lead to London. We are also aware (a knowledge with which Mr. Pettinger kindly credits us), that it is impossible to adequately discuss the "pros" and "cons" of potting in a single article or in a series of them, so it should be very evident that it is not at all likely that we should criticise him for incompleteness as this would indeed be finding fault for fault-finding's sake, a procedure that would be unworthy of any member of society in general and of the horticultural profession in particular.

With regard to the question of firm versus loose potting. This is one of the most disputable points in the whole of the domain of gardening, in fact it is a very good illustration of the old saw "that mankind was not made to agree." As we mentioned in the article which has caused Mr. Pettinger to take his coat off, the free use of the rammer in the potting of some subjects is a necessity, but in multitudes of other instances it is most certainly not so—nay it is a positive evil. It is quite possible to work the soil about the roots of the plants operated on without the use of the rammer at all. The firmer that the soil in the pots is made the greater difficulty do the roots of the plant experience in penetrating it and hence the greater the check placed upon root action. Now, as everyone knows, there is an inseparable connection between the growth of the root and that of the stem and leaves, if one suffers so does the other in the exact proportion of the injury to the one. Hence it follows that where a plant is required to grow freely, too much check should not be put upon its root system. In the case of Tomatos, very luxuriant growth usually means a corresponding reluctance on the part of the plants to fruit, hence we pot firmly when shifting the plants into the fruiting pots, to check the too rampant vegetative growth. But in the case of very tender plants every inducement must be given them to grow away strongly, therefore we pot lightly. As an instance that this is the right method of treatment, take a sickly plant with little or no roots attached, knock it out of the pot in which it has been growing (?) and place it in a bed of cocoanut fibre. Note how quickly roots will be produced in a substance which from its springy nature it is impossible to get very firm.

Mr. Pettinger says "that to lay down a hard and fast rule that everything should be rammed was not what he intended or even mentioned." Precisely so! We quite agree with him, but did anybody say that he did? In ordinary cases the soil in the pots may be made sufficiently firm by the use of the fingers, excepting, of course, when large pots are being used, as for instance, in the case of Chrysanthemums. Spiraeas, it is true, do not need every particle of soil about their roots that it is possible to give them, or they will almost need some one to stand over them with the water-pot during bright weather to prevent flagging. We are still of opinion, however, that when instructions are given to pot firmly it is often taken to mean the free use of the rammer.

With regard to the question of drainage, there is no need to discuss its importance as affecting the health and vigour of the plants. The quantity necessary will of course vary with the kind of plant that is under treatment. Still, we would emphatically state that whether a large or a small quantity of crocks are placed in the pot, precautions should be taken to keep what drainage is given free and unobstructed, by placing a layer of moss or rough

soil between it and the compost. "Porter's Patent Crocks" are undoubtedly a first class article, but their chief value lies in that they serve to exclude worms from the pots, mischievous little pests which are often responsible for the choking up of the drainage of many a pot.—*G.*

ASPARAGUS PLANTING.

The Asparagus is one of the most useful, most profitable, and most neglected of vegetables, and as the season is now coming round for planting, a few remarks may not be out of place. I should advise intending planters to have a piece of land trenched about 3 ft. deep, adding a good quantity of manure and good sprinkling of salt, soot, and burst ashes, and if the soil is heavy and stiff, the addition of road scrapings or sea sand, if at hand, would be a good thing in helping to keep the soil open. We know that the Asparagus is a sea-shore plant in many parts of England and other countries, and this tells us that it likes rather a light, open soil and plenty of manure and moisture, so that by adding a good quantity of manure, salt, etc., in the first place, better results may be looked for hereafter. With the land well trenched, leave the surface as rough as possible for a time so that the March winds may well pulverise it, after which a forking over again a good spit deep will be needful about a week before planting time, and in digging this time the soil should be broken properly fine in readiness to receive the plants.

As to the time for planting, much depends on the season, but I find the best time is just when the plants are starting to grow, therefore it is as well to have the land ready, and one-year old plants, in my opinion, are the best to plant. Next comes the question of planting in beds or on the flat. I am in favour of the beds, only on the flat. So far, my system has been to plant in beds, and I should advise those planting to plant in beds, and to do themselves justice and their plants as well to give them plenty of room. I recommend the beds to be 5 ft. wide for three rows, one row down the centre of the bed leaving 18 in. clear between the outside rows and 1 ft. clear from the edge of the bed, planting the plants 1 ft. apart in the row. Some plant four rows at 15 in. apart, but this leaves only 7½ in. outside the row to the edge of the bed. In either case, an alley should be left 2 ft. wide between the beds.

In planting, the less the soil is trod the better. Some people plant in some way, some in another. My system is to draw a drill about 4 in. wide and 1½ in. deep, and take my plants fresh from the beds, holding the crown between the finger and thumb of the right hand and the roots of the plant loose in the palm of the hand so that they lay out properly and not in a bunch or matted together. When the plants are all placed in the drill, take the back of a rake and draw the edge of the drill carefully over the plants before drawing another drill and leaving your plants to dry before covering them up. This done, draw another drill and plant the same and so on till the piece is finished, then take your line, mark out your beds properly, edge them down, and with a spade or shovel clean out the alleys to their proper width to form the beds. Place the soil carefully on the beds, and with an eye to neatness, fill up any holes, etc. Should the soil be dry and light a gentle tread over the same will do good, and then a slight scattering of Lettuce or Radish seed on the bed will do no harm, and a row of Cabbage or Cauliflower up the alleys will not rob the land much and will keep the same at work while the Asparagus is getting settled and ready to grow to perfection which will be in two years from planting. Some of your readers may exclaim, "Oh, I have to wait two years for a bit of Asparagus!" And I say, "Yes, it will pay you well to do it." If you can keep it clean and give it a good coat of manure every year you can, with proper attention, have a good supply for thirty or forty years after without planting again. But you can cut year after year from a bed such as I have mentioned, and say 20 yds. long will give a good supply three or four days a week for a month or five weeks straight away, and what can be better and more wholesome than this much sought-for vegetable.

I don't believe in the system of growing Asparagus on rounded up beds, although I like to plant in beds in the first place, as they are easier kept clean, and there is always a clean path to walk on without treading on the crowns. Neither do I believe in digging out a deep trench between the beds, but to keep the alleys and beds as near level as you can, then in the spring and summer you can help your beds with manure water, a little salt, etc., and if the beds are all on the round the rain and manure, all runs off the beds into the trenches or alleys, leaving the plants on the bed as dry as dust. I have seen a grand lot of "grass" grown the last year or two where the beds have been soaked once a week with manure water and soot. The grower said—"I like to see these fine fat-looking chaps, there is something to eat in them" and he was right. In the autumn let the soil be carefully pricked over and as much as possible be taken off and placed in the alleys, then place about two to three inches of good manure all over the bed and let it remain open till a good rain comes, when the manure should be covered over with the soil from the alley or pathway, digging the same as deep as possible with a fork or spade, adding some good manure at the same time, leaving the whole as rough as possible all the winter, the frost will pull the soil to pieces and kill thousands of weeds. In the spring, rake the bed properly and any rough rakings off the beds can be dug in the alley and all made tidy.

If the Asparagus has been properly attended to the second season, cutting may commence, but not too sharp or you will weaken your beds and stop the growth for another season. The practice I recommend is to cut all small heads leaving one strong one to each plant to encourage the plants to grow; this done all others may be cut for a week or two the second year, then let it all go away and grow which will strengthen the bed for the next season. In the autumn cut it down and manure it the same as before and treat it in every way the same. When the next season comes you may cut away for weeks and you will have a good supply, and many a person who has a garden, either cottager or (amateur)—which is hard to find nowadays in my parts—but if he were to make a bed for Asparagus, as I have recommended, it will prove the most profitable part of the garden.

For forcing no doubt, three year old plants are the most suitable, and to have a good supply of this ready to hand, a sowing must be made every year on a piece of well-trenched land about fifteen inches from row to row. Sow thinly, for the more single plants you have the stronger they will be. The spring following have another piece of land ready and thin out the plants to about nine inches apart, and planting the other land with those taken from the bed the quantity depending on the demand. But to keep a supply of forced Asparagus up it will take some quantity and some little study for a time till you get a good stock, and once got into rotation it can be taken up and forced at almost any season, and in almost any common old two-light frame placed on a little steady heating manure in ordinary seasons. But this will not do in a time when we are getting 20° to 30° of frost and lasting sometime with bright sunshine and cold winds in the daytime, but at other times about three old two light frames will keep up a good supply for a long time, and I have found that these old rough broken frames often prove useful at this season of the year. Things do well in them simply because they do not want so much attention; so, with the aid of the plants and an old frame or two and some few cartloads of good leaves and a little covering, we may have Asparagus from Christmas away till we get it outside. This in many places would be much appreciated and much easier grown than many things that are looked for in the gentleman's garden.—*J. L., P.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids were exhibited at the meeting of the Royal Horticultural Society on the 12th inst., and received awards according to merit:—

Cymbidium eburneo-Lowianum superbum, *Nov. var.*—The name of this Orchid sufficiently explains its parentage. A second plant having flowered, it turns out to be much finer than the first and has been honoured with a varietal name. There were four flowers on the spike, of larger size and better colour than the type. The oblong sepals are creamy-yellow tinted with flesh, but are darker and almost pink on the back. The petals are narrower, more decidedly of a yellow tint, and less suffused with flesh. The three-lobed lip has the side lobes creamy-white; but the terminal has a large, angular, crimson-purple blotch fading to white at the margin. The crest is yellow, and the face of the column spotted with purple. Altogether it is a distinct and showy variety with massive and conspicuous flowers. First-class Certificate. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Calanthe Masuco-tricarinata, *Nov. hyb.*—As in the case of the Cymbidium, the name of this hybrid indicates its parentage. The habit of the plant is very similar to that of C. Masuca, and the broad, lanceolate-elliptic, plaited evergreen leaves are arranged in a tuft round the base of the erect scape, which is 18 in. long, bearing a raceme of flowers on the top. The flowers are of medium size with elliptic sepals washed with pink, but more distinctly on the back. The petals are much smaller and obovate, but similar in colour. The shallowly three-lobed lip is purplish-violet and often very faint, but variable in this respect, at least at this season of the year. The evergreen foliage and the delicately coloured flowers of this hybrid will commend it to the attention of all Orchid growers, but particularly to those who have a leaning to Calanthes generally. Award of Merit. Exhibited by Messrs. J. Veitch & Sons.

Phalaenopsis Youngeana.—A raceme of this beautiful Phalaenopsis, bearing eight large flowers, was exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. The flowers are similar in size to those of P. Aphrodite, but very different in colour. The oblong sepals are pale, rosy purple, fading to white towards the edges. The roundly obovate petals are white with a pale, rosy-purple centre. The lateral lobes of the lip are obovate and white with several deep purple lines towards one edge; the terminal lobe is triangular with rather acute basal points, but narrows considerably towards the apex, and is finely spotted all over with warm rosy-purple. The antennae are incurved and cirrhose. The bifid crest is spotted with purple and shaded yellow at the tips. Altogether it is a very handsome and desirable form. First-class Certificate.

Phalaenopsis intermedia Por ei.—The cut inflorescence of this supposed natural hybrid, shown by Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring, was the finest we have seen, and the largest. It had four or five very large branches of moderate sized but very numerous flowers, in accordance with the supposed parentage of the type, and which has been proved artificially. These parents were P. Aphrodite and P. rosea. The variety under notice has the sepals and broadly rhomboid petals, white with a pale purple spot at the base of each. The side lobes of the lip are suffused with tawny-yellow and spotted with red, while the terminal lobe is amethyst-purple with very short, incurved antennae. A First-class Certificate was accorded the variety, and a Cultural Commendation by way of recognition for its undoubted evidence of cultural skill.

Orchids from Perth.—For some time past it has been demonstrated that Orchids can more than hold their own during the winter months, even against all the stress of weather with which we have been visited. Just as we were going to press last week a boxful of flowers arrived from Mr. James Lindsay, gardener to John M. Fraser, Esq., Rosemount, Perth, who has within the last four years got together a fine collection of these exotic favourites. Those sent are flowering for the first time since their introduction. Amongst them was a bloom of Coelogyne cristata maxima, of large size, with rich orange-yellow fringes. The rich cinnabar hue of Laelia cinnabarina harpophylla, with its wavy and nearly white lip, is always acceptable, and worthy of a place in the most select collection. Dendrobium Wardianum was richly coloured, and will always hold a place amongst its congeners. The Odontoglossums were more varied, and included the elegant and beautifully marked O. Cervantesii. O. crispum could hardly have been omitted, and it may here be stated that this and other cool house species are promising well for a display later on. Some of the forms of O. crispum have already commenced to bloom, including a fine yellow O. c. Andersonianum.

Another, apparently between this and O. c. Ruckerianum, is remarkable for the shortness of its segments, and triangular suddenly-pointed lip. A number of flowers of O. maculatum, all of large size and rich colours, had the ground colour of the lip creamy-white in some cases and bright yellow in others, heavily blotched with purplish-brown. Besides some houses of these and their allies, and fine forms of Lycaste Skinneri, Mr. Fraser has a houseful of Dendrobiums, Laelias, Cattleyas, Cypripediums, and others, all in healthy, thriving condition.

Epidendrum atropurpureum roseo-purpureum.—The typical form of this conspicuous and showy Epidendrum has a white lip with pale purple streaks on the side lobes and a purple blotch near the base of the terminal lobe. The variety under notice has the lip wholly of a bright rose contrasting beautifully with the dark purplish-brown hue of the sepals and petals that are incurved at the tips, but particularly the former. The anther cap, in close proximity to the base of the lip, is yellow, and forms a conspicuous central spot to the flower. There are several healthy and vigorous pieces in baskets in the Orchid house of E. H. Watts, Esq, Devonhurst, Chiswick. In one case the flowers are expanded while the other plants are pushing up their flower scapes. Several pseudo-bulbs in the different baskets are of remarkable strength, showing a great improvement upon what prevailed before Mr. Gibson took the place in charge. The type was first flowered in this country in 1836, but the variety under notice did not appear till much later. A figure of it was given in the *Illustration Horticole* 1868, t. 541.

FRUIT UNDER GLASS.

Vines.—Pot vines are at best very ticklish subjects to deal with, and at no time more particularly than at the present. The heat of the fermenting material in which the pots are plunged must not be suffered to decline too low, which, after it has been in use for some time, it is very liable to do. Where possible, therefore, some of the old fermenting matter may be replaced by new, both old and new being well mixed together, as by this means a steadier and more genial heat is obtained. Attend to the pinching out of laterals at the first leaf as before advised, and see that the berries are not too crowded in the bunch. Generous treatment should be accorded with regard to manurial stimulant, Thomson's Vine Manure being excellent, as is also fresh liquid farmyard manure where it is obtainable. Here, as well as in the succession houses, the usual routine of dampings may be kept up, except when the plants are in flower. We assume that the necessary cleaning and pruning in the later houses is all brought to a conclusion, as it will not be long before it will be time to start them. It is not advisable to defer this until too late, for in the event of our experiencing a sunless autumn, as fell to our lot last year, the berries do not receive sufficient sun to colour them properly, their value of course being correspondingly reduced. No time should be lost in starting Muscat varieties, as these will need all the sun they can get to develop their peculiar flavour.

Figs.—Plants in pots that are required to produce early fruit must also receive a renewal of the fermenting material around them when required, as at this particular time root action with them is especially vigorous and should not on any account be allowed to sustain a check. Feed them generously with manure water and keep the syringe pretty well at work, maintaining a night temperature of between 65° and 70° Fahr. There should be no delay in starting any later houses that have not yet been shut up so as to allow the second crop plenty of time to ripen during the autumn months. Keep up a night temperature of not less than 50° Fahr., as the Fig usually takes a higher temperature to start it into growth than does the vine.

Peaches and Nectarines.—Having paid due attention to the removal of all unnecessary shoots look after the proper tying and training of those that are left. It is a great mistake to leave the growths until they touch the glass before they are tied, as, besides the injury done to the leaves, it is a matter of great difficulty to bring the shoots down underneath the wires. Ply the syringe vigorously twice a day, in the morning and at shutting up time, which should be early in the afternoon, thus utilising a large quantity of the sun's heat as well as allowing the trees sufficient time to dry before nightfall. Green-fly will often make its appearance at this stage of growth. Should it do so, light fumigations should be given for several consecutive days with tobacco, tobacco paper, or rag, to check it in its unwelcome attentions. When fumigating, however, it is important to notice that the atmosphere of the house is as dry as possible. After the fumigations are complete a thoroughly good washing should be given the trees from the syringe to complete the total destruction of insect pests. The temperature at night should not fall below 55° Fahr. as soon as the fruit has reached the size of marbles.

THE FLOWER GARDEN.

For the last few weeks work in this department has been at a complete standstill, and it is evident that it will continue to be so as long as the present spell of Arctic weather stays with us. There can be no doubt that the long continuance, as well as the great severity of the frost will prove exceedingly trying to very many of our ornamental trees and shrubs. The wisdom of those gardeners who have had the forethought to afford some protection to the tender class of subjects at the commencement of winter will now be abundantly manifested. It only shows that to British weather all things are possible, when we contrast the exceptional mildness of the latter months of 1894 with the present inclemency of the opening periods of 1895.

As soon as the frost breaks, the operations calling for attention in the flower garden will be multitudinous. Walks must be rolled, lawns freed from worm casts, swept and rolled also, and any work of a heavy character completed in readiness for the ensuing spring. It can at least be said for this intensely cold spell that we are enjoying (?) that it is keeping things back in their proper place; but it is more than likely that vegetation will move, when it does commence to make a start, at a very rapid rate. Everything that can be done now to forward matters should be done to save as much time as possible when the rush comes. See that the supply of stakes, tying materials, etc., is adequate to the demand likely to be made upon them during the coming season. Tools, also, should be thoroughly overhauled, to see that they are in working order when required: any repairs that are necessary and which were forgotten last autumn should be looked after without delay. Plans for the bedding-out arrangements should be elaborated now, as by this means much trouble and worry will be saved presently. The probable number of the plants required should also be roughly estimated, as this will serve to guide the propagator in working up a sufficient stock of suitable plants, an operation that will now be in full swing.

HARDY FRUIT GARDEN.

As in the flower garden so in this department to "bide a wee" is the only possible thing to do whilst the frost holds; any pruning or planting that remains to be done must be left over until the weather breaks. See that all newly planted trees are afforded suitable protection at the root, for where the soil has been disturbed the frost will penetrate to a considerable depth to the no small discomfort of the roots. Such protection may be best afforded by a thick mulching of manure, and if this has not been already given no time should be lost in seeing about it.

The advancing year has well nigh brought round again the blooming season of outdoor Peaches, Nectarines, and Apricots, and once the milder weather appears it will not be long before their flowers commence to expand. With the glorious uncertainty of our climate the visitation of spring frosts seems of late to have been the rule rather than the exception, therefore these early blooming subjects must be protected if hopes are to be entertained of securing a crop. Advantage may be taken therefore of the present season of comparative inactivity to obtain a stock of covering materials in the way of branches of Cupressus, Laurels, or even Heather. These should be chopped up into a handy size for inserting between the branches of the fruit trees, where they afford an effectual screen against nipping frosts or cold biting winds, which work so much havoc with the fruit crops when allowed to have their own way.—*A. S. G.*

Gleanings from the World of Science.

Beef Tea for Roses.—Travellers describe Rome as the city of Roses owing to the vigour and profusion with which they grow in gardens and on the walls of the houses. The garden walls of the old Roman palace in the Via Sistini, and in which the famous epicure Lucullus once lived, are covered with Roses that produce a display as magnificent as the Roses are vigorous. They are practically said to run riot, and are equally noted for the intensity of their odour. Evidently a great variety of kinds are grown, judging from the colours which are described as deep crimson, almost black in the centre, cameo-pink, changing to cream in the centre, bright yellow melting into gold, and of that shade of white said to be like melted moonlight in the cup of the flower. The gardener's love for his Roses is said to be almost pagan, whatever that may mean; and he waters them frequently with a dark coloured liquid. On being asked the nature of this mysterious libation he said it was beef tea which was made from fresh cuts of beef and strained. He also asserted that the idea was his own invention. The nitrogen in the beef tea, after undergoing nitrification, would doubtless assist the Roses, but the same thing might be more cheaply effected by the use of various nitrogenus manures. In this country, gardeners well know that certain manures, such as liquid manure, guano, deer and sheep droppings, are highly beneficial to Roses, and all of them contain a good percentage of nitrogen if in good preservation and not too much washed by rain. The old Romans used to water some of their notable Plane trees with wine, which was extremely plentiful in those days, but the beneficial effects of such a manure is much less evident if not illusory.

Fertility of the Caucasus.—Before the conquest of the Caucasus by Russia, that province had a population of 200,000 Circassian families, but during the thirty years that have elapsed since the country was entirely subjugated, the population has dwindled to 20,000 families occupying only two stanitzas and about fifty scattered villages. The rest of the people have gradually passed over into Turkey in Asia. An attempt was made to re-people the abandoned territory with Cossacks of the Kuban, but this proved a fruitless measure. Professor Batalin describes in glowing terms the rich and magnificent vegetation of the slopes and valleys of the southern Caucasus. The flora of Italy does not approach that of the luxuriant vegetation either in quantity, quality, or variety. The valleys are like so many gardens of Eden running wild with a rank vegetation which only needs proper cultivation to direct their fertility to the support of a teeming population. Instead of this the country is in a chronic state of impoverishment. The Russian emigrant settlers possess neither the knowledge nor the energy of the former Circassian inhabitants to turn their fertile soil to good account in the production of cereals for the manufacture of bread, nor in the raising of fruit crops.

Altitude and Cultivation.—Accurate observations have been made at 1,090 stations over the great plain of Russia, and show a remarkable and and deadly flatness over this vast area. The highest point was only 1,086 ft. In winter this is a cold region owing to its proximity to Siberia, to its flatness and absence of shelter, and to its inland position. The heat in summer is considerable, and the prolonged absence of rain in some seasons, as is well known, has the effect of producing a famine owing to the failure of the crops. The elevations are much greater in the Caucasus, and cultivation ascends to a remarkable height. For instance, M. Pastukhoff has been visiting several villages in those regions, and which lie at elevations of 5,935 ft., 7,032 ft., and 8,175 ft. Kurush is situated at the latter elevation, the highest inhabited place in the Caucasus. Cultivation, such as it is, extends to a greater altitude even than this, and patches of arable land are sown with Barley, Rye, Oats, and Lentils between elevations of 6,440 ft. and 8,500 ft. In bad seasons the crops at this elevation do not ripen, and they have to be cut down as fodder for the cattle. Notwithstanding this, and the fact that scarlet fever, rheumatism, and diphtheria are prevalent, old age is common, and instances of 120 years are on record, and it is said that hale, old veterans of 90 marry for the twelfth or thirteenth time. In Scotland, amongst the outskirts of the Lammermuir range of hills, it takes a fine season to ripen the crops properly at elevations of 800 ft. to 1,000 ft.

THINKING GARDENERS.

This is essentially an age of education, and the fiat has gone forth and is by most people obeyed and believed in that the education of the average Briton is behind the standard of what the best authorities consider as a fair and proper degree of merit. In past days it was only the children of the wealthy who were fortunate enough to receive anything like an education, the poorer classes were kept in comparative ignorance, generally from lack of the wherewithal to defray the expenses of such a training. Although as a nation our slowness of movement and tardiness and reluctance to adopt measures of improvement are notorious, we have moved surely if slowly in the right direction. Most thinking men are unanimous in saying that any system which educated that portion of the social community only who after all stood least in need of it and completely ignored and neglected the training of those classes who had to gain their living by work, whether manual or mental, was a mistake—a mistake, too, that after a deal of unneccessary beating about the bush we are proceeding to rectify.

It is just a matter of conjecture, however, if in this rage for improved educationary arrangements we are not forgetting that the best educated man is most emphatically not the man who has had the most expensive schooling in his young days, but is ever the man who thinks most, and the one who uses his powers of reasoning to the best and greatest advantage. In other words, the man who applies in the best and most practical way any theoretical knowledge which may have been instilled into his mind in the schoolroom during his earlier years. There can be no doubt that if a man really wishes to rise to the top of his profession, whatever that profession may be, he must, to use an American phrase, "keep his eyes skinned," and should be always on the look out for opportunities for adding to his store of knowledge.

There are many individuals who, more's the pity, go about the world with their eyes shut. Not for them are the beauties of Nature, nor the improvement in mental tone or the enriching of the treasures of the mind which the study of Nature ever brings to the careful and zealous student. Other men, on the contrary, are for ever acquiring knowledge, each field, each lane and hedgerow are full of information, which to their educated and enlightened minds are both interesting and instructive. All the professions are calling out for thinking men, who, not content to follow slavishly in the paths which have been trodden by their forefathers for so many years are capable of planning and devising new and improved methods.

In no one calling, however, is the need for thoughtful men so apparent, or the call for them so urgent, as in the profession of horticulture. A gardener has to depend principally upon his faculties of observation to improve himself in the practice of his profession. It may be said to be characteristic of this age that of the making of books there is no end. Now while we would not for a moment decry the knowledge that may be derived from the careful and systematic perusal of suitable literary material, it is very certain that the reading of books alone will not make a man an efficient gardener. It is the individual who exercises his power of observation, of thought, and of reason, that will be, ay, the most ready and resourceful, capable of meeting altered or modified circumstances with the greatest ease to himself and advantage to those for whom he is working.

In far too many instances the young gardener of to-day is too apt to become a mere machine, and to go about his work from day to day with the thought in his mind, even if the words are not upon his lips: "Oh, well! I must stop in this place for so much longer so I may as well take things as easily as possible." In fact, he does his work from sheer force of habit and not because he takes any interest in or derives any real pleasure from its practice. It is an undeniable fact that the best gardener is he who takes the greatest interest in his work, and such men are always studious and thoughtful individuals.

The question of amusements may be touched upon disparagingly by some who would fain have us believe that a gardener must not be a lover of sport. It has already been decided by certain classes of the community that a gardener must not have children—we beg pardon, encumbrances they are usually called—but it would be exceedingly hard upon him to debar him from any enjoyment whatever. Of course, we do not for a moment intend to convey the idea that indulgence in amusements should be allowed to interfere to any extent with the prosecution of the necessary studies. It is true that in some instances this does occur, a fact that is certainly to be deplored, but what is really necessary is not that sports should be sweepingly condemned, but that a due sense of proportion should enter into the calculations with regard to the portioning out of the gardener's spare time when it will be found that there is a time to play as well as to work.—*H.*

PLANTS FROM SEEDS *VERSUS* CUTTINGS.

Nothing is more desirable in a garden than good, strong, healtty plants of all kinds. The importance of vigour cannot be over estimated, for when a plant is strong and healthy it is capable of warding off many ills that weaker examples readily succumb under, and therefore we should avail ourselves of all possible means to secure such a desirable end. It may not be out of place to ask whether, as cultivators, we are doing right in propagating by means of cuttings, grafts, or buds, so many things that may with great advantage be raised from seeds. Propagating by means of cuttings, layering, grafting, etc., has its advantages, no doubt, but it is equally true to say that these various processes are often greatly abused, and the aim of the cultivator thereby defeated. To give instances of this would be superfluous, and so I will endeavour only to show the advantages of renewing stock by means of seeds instead of by cuttings.

First I would point out the fallacy of supposing that plants will not fruit or bloom so freely from seeds as from cuttings. In some cases seedling plants are certainly not so quick in coming to maturity, but they are certainly the best in the end. Take Tomatos as an illustration. To keep the stock of a certain variety true, I have propagated it from cuttings for several years, but I could never see any advantage in the cutting plants over those raised from seed in the matter of fruiting, and much prefer the latter. In my early days we used to propagate our stock of Cinerarias from cuttings, but we do not do so now. The practice I should think has almost died out, and certainly is not to be compared with the grand results obtained in so short a time from sowing a packet of seeds of a good strain.

Many bedding plants grown for summer use are much better obtained from seeds than otherwise, and instances of this may be named in the case of Begonias, Verbenas, etc. Again amongst hardy plants we have a striking illustration in Lobelia cardinalis and its allies. To keep up a vigorous stock of this beautiful plant I find the best way is to sow a little seed every two years and destroy the old stock. The same remark also applies to Campanula pyramidalis and many other members of the same family. Pyrethrums also, among many other border plants may also be included in the same category; and with equal force also the remark applies to many bulbous and tuberous rooted plants, such, for instance, as Gloxinias, Freesias, Cyclamens, etc. Chionodoxas come very strong from seed, and Gloriosas soon make flowering bulbs from seed. Gloxinias I notice lose the greater portion of their vigour in three or four seasons.

If we turn into the vegetable garden, note the Thyme and many other herbs how vigorous they come from seed. What has not raising Potatos from seeds done for that invaluable esculent? But for the continued raising of new varieties, where should we be now? According to my experience, extended over a long period and on many soils, do what one will, one cannot keep up the heavy cropping qualities of any given varieties after they have been in cultivation a few years. All observing cultivators know that Nature favours seedlings; then, I ask, why try to get away from natural laws? Everyone who has had much to do with plant life must have noticed how many plants drop their own seed in rough, and what might be thought uncongenial, soil, yet the seedlings thrive in the most remarkable way. It cannot be contended that cuttings are cheaper than seeds when all things are considered. Often such propagating has to be done at the expense of keeping the stock over the winter, entailing a lot of room and labour, which could easily be avoided by sowing seeds in spring. Seeds are also cheaper now than they were in the years gone by, so that the question of cost cannot be argued against them.—*Con.*

LAPLAND STOCKINGS.

The numerous species of Sedge (called by botanists Carex) are applied to a variety of useful purposes. In Herefordshire, for instance, Sedge is used for tying young hop plants to the poles: in Cambridge lighting for fires; and everywhere for making common chair bottoms. In Lapland, however, it has a much more important office, as will appear from the following passage translated from Linnaeus by Mr. Curtis. The great Swedish botanist is speaking of the Carex acuta:—"Thou wilt wonder perhaps, curious reader, in what manner human beings are capable of preserving life during the intense severity of a winter's frost in Lapland, a part of the world deserted on the approach of winter by almost every kind of bird and beast. The inhabitants of this inhospitable climate are obliged to wander with their reindeer flocks continually in the woods, not only in the daytime but through the longest winter nights; their cattle are never housed, nor do they eat any other food than Liverwort, hence the herdsmen, to secure them from wild beasts and other accidents, are of necessity kept perpetually with them. The darkness of their nights is, in a degree, overcome and rendered more tolerable by the light of the stars reflected from the snow, and the Aurora Borealis, which in a thousand fantastic forms nightly illumines their hemisphere.

"The cold is intense, sufficient to frighten and drive us foreigners from their happy woods. No part of our bodies is so liable to be destroyed by cold as the extremities, which are situated furthest from the heart; the chilblains of the hands and feet, so frequent with us in Sweden, sufficiently indicate this. In no part of Lapland do we find the inhabitants affected with chilblains, though, in respect to the country, one would expect them to be peculiarly subject to this disease, especially as they wear no stockings, while we clothe ourselves in one, two, and even three pairs.

"A Laplander preserves himself from the violence of the cold in the following manner:—He wears trousers made of the rough skin of the reindeer, which reach to his ankles, and shoes made of the same material, the hair turned outward: this grass (the Carex acuta), cut down in the summer, dried, rubbed betwixt the hands, and afterwards combed and carded, he puts into his shoes, so as not wholly to enwrap his feet but the lower parts of his legs also, which thus defended never suffer from the severest cold; with this grass he also fills his hairy gloves to preserve his hands; and thus are those hardy people enabled to bear the frost. As this grass in the winter drives away cold, so in the summer it checks the perspiration of the feet, and preserves them from being injured by stones in travelling, for their shoes are extremely thin, being made of untanned skins. It is difficult to learn on inquiry what the particular species of grass is which is thus in request with these people, as some use one sort, and some another. It is, however, always a species of Carex, and we understood chiefly this."—The Liverwort mentioned in this quotation is the reindeer lichen, the Lichen rangiferinus of Linnæus, but now called Cenomyce rangiferinus.—*J. Lofthouse, The Gardens, Bilton House, Harrogate.*

EDIBLE FUNGI IN SURREY.

In the January number of *Science Gossip*, Mr. Charles A. Briggs discusses the question of edible fungi other than the common Mushroom (Agaricus campestris), which, through ignorance or prejudice, are allowed to rot and waste instead of being utilised. He contends that instruction of some kind or other should be given in schools whereby the children would be enabled to discern the difference between edible and poisonous fungi to be met with in the lanes, fields, and hedges. There must be, he imagines, someone in every parish, whether schoolmaster, clergyman, or doctor, who is sufficiently acquainted with botany to be able to point the distinguishing characters by which the larger species of Mushrooms and allied edible fungi, may be recognised.

This, it is to be feared, is pure supposition and altogether illusory. Some there probably are in every parish and many in the more populous districts possessed of a knowledge of botany in varying degrees; and some are well versed in it; but their knowledge in most cases is confined to flowering plants. To the larger number of them, fungology

is an unknown science, and agarics to them are merely agarics; but which is Mushroom and which is toadstool, are matters beyond their ken and often outside their interest. On the other hand, there are a few fungologists scattered about the country, some of whom do what they can to disseminate knowledge of their favourite study or pastime amongst their fellow-men. The greater number of them are relatively quiet and uncommunicative outside their own fellow workers in the science. This may be due as much to the lack of interest amongst the general public as to the reservation of the fungologists. More recently a certain amount of interest has been created in the subject by vegetarian societies, and some of the well-to-do classes of society with plenty of spare time on their hands, find it a wholesome means of recreation to collect what fungi they can find in the course of their daily walks in rural districts, particularly when enjoying holidays of greater or less duration.

Mr. Briggs is of opinion that this knowledge will spread "until this blot upon our national thrift is removed." That it will spread there is little room to doubt, particularly in populous districts; but the crop of edible fungi or indeed of agarics generally is too precarious and uncertain to be of much value to the nation as a food supply, unless some of the more valuable kinds are taken in hand by cultivators. Epping Forest used to be a good hunting ground for fungologists, but the field is already pretty well played out; and in dry seasons the crop of fungi is disappointing and practically a failure. The vicinity of the forest to London is doubless telling against the Mushrooms on account of the number of collectors who may or may not utilise what they find to any good purpose. Supposing, then, that fungus collecting were to become general, the spores that serve to propagate the species would be carried away and thus tend to the extermination of their kind.

No fear of such an event seems to occur to or trouble Mr. Briggs, who gives a record of fourteen edible species which he has collected in Surrey, and which he has not only eaten and enjoyed, but his family and whole household have also been partakers of the said luxuries. Besides the common Mushroom (Agaricus campestris), he has also collected and eaten St. George's Mushroom (A. gambosus), the horse Mushroom (A. arvensis), the blewit (A. personatus), the blue cap (A. nudus), the warty cap (A. rubescens), also A. prunulus orcella and A. vaginatus. To retain the flavour and aroma of Boletus lutens, it is baked in some of the enamelled dishes now in common use and another is inverted over it during the whole time of cooking and till placed on the table. Mr. Briggs does not relish the flavour of the beefsteak fungus (Fistulina hepatica), but Morchella esculenta, when stewed in good gravy he considers delicious. The same may be said of several of the puffballs, including Lycoperdon plumbeum and L. bovista, which should be gathered when young, fresh and solid, cut in slices and dipped in egg and crumbs before being fried. The largest of British fungi (Sparassis crispa), is sometimes as large as a man's head or even larger, and this gigantic fungus is wholesome eating. Edible kinds are really more numerous than is generally imagined.

GRANARD GARDENS, PUTNEY.

Some twenty years ago the present proprietor of the nursery establishment at Putney, known far and wide as Granard Gardens, and the subject of the accompanying portrait, Mr. William Iceton, commenced business at Barnes, primarily as a grower of Palms, and so successful has he been as a cultivator that wherever dealing in Palms is a business the name of Iceton, of Putney, is a household word. When Mr. Iceton began to grow Palms for the trade, these beautiful plants were a luxury of the rich, there were comparatively few extensive growers of them in this country, and we were large buyers from Belgium; they were quoted at fashionable prices in the leading catalogues; they were not grown by the acre as they are now, and such a thing as a coster's barrow full of Kentias and Latanias was a sight that had not then been seen in London streets. But the popular fancy was strongly tending in their direction, and Mr. Iceton was one of the first in this country to fan the flame of popular favour. What an important function the Palm plays to-day in our household and garden decoration, we need not now stay to discuss, it is sufficient to know that notwithstanding falling markets, and "wrecking prices," they are produced by millions, and the annual output increases rather than diminishes. Mr. Iceton still grows Palms to perfection, and other things as well, but not at Barnes. Eleven years ago he acquired his present nursery in Putney Park Lane, a most rural spot, though easily reached from Putney, Barnes, or Roehampton. Granard Gardens form a portion of the ancient Putney Park Estate, so long in the possession of Lord Granard, and known to have been a royal shooting box in the time of Charles I. The nursery is walled in and very compact, and the houses, large and small, but mostly on the large side, are fifty-four in number, and all, needless to say, stocked to repletion. Palms are still "a big line" with Mr. Iceton, and splendidly he does them, his plants being the picture of health, and warranted to stay, for they are "grown hard."

Mr. William Iceton.

Among the larger specimens are some very handsome plants, notably a Kentia Fosteriana robusta, 18 ft. high, with twenty fronds, and perhaps the finest example of Kentia australis to be seen anywhere, the plant being about 9 ft. high, and having twenty-three fronds; this is indeed a beautiful specimen. Kentias of smaller sizes are very plentiful in the large Palm-house, and these in the season are largely used for furnishing. A very striking Palm that we had not previously known bears the name of Cocos Datile, and it promises to become a great favourite, being dwarfer, bushier in habit, and hardier than any of the other species of the genus, and having the reputation of keeping a good green colour out-of-doors in the hottest sun. Mr. Iceton has a nice stock, from 6 ft. to 8 ft. high, but none too many of so good a plant. In other houses we noted splendid batches of Liristonia rotundifolia in 48's., Thrinax elegantissima, and a grand lot of Cocos Weddelliana, of which there never seems to be too many anywhere. But our mission, when we called at Granard Gardens a few weeks ago, was not so much to see the Palms, as to enjoy the sight of the forced flowers, of which Mr. Iceton does such large numbers for marketing, and making our way to the forcing houses, we note some interesting features of the nursery *en route*. Thus, in one of the houses we are shown a grand decorative plant which stands London work well in a Bamboo, Arundinaria falcata variegata, with the underside of the leaves of a clear glaucous hue, and which throws up fine clean stems. In another, a lean-too, 115 ft. long and 18 ft. wide, is a remarkable instance of the successful cultivation of the sweet-scented Stephanotis floribunda, two grand plants of which cover the roof, and to the delight of their owner are absolutely free from mealy bug. In a third we note one of the finest batches we have ever seen of the beautiful Hymenocallis macrostephana, one of the most useful of white flowering subjects, continuing in bloom for a long time, and the flowers lasting when cut two days well: and in two or three other houses are splendidly developed plants of the fruiting form of Asparagus plumosus nanus, of which valuable subject Mr. Iceton may be congratulated on being the lucky possessor. The profusion with which the plants bear seed is truly remarkable, and Mr. Iceton kindly pointed out a curious trait of the species in the branches bearing in different stages of development the seeds of three successive periods of flowering. Another matter of interest in connection with the plant is the prevailing fashion amongst the florists which gives preference to yellow-tinted sprays over the more natural green ones, and which are ousting the Maidenhair out of the market. Fine foliaged plants in small and medium sizes are grown in great quantities, and everything is tried by Mr. Iceton that gives promise of becoming a plant that will sell readily. He is going in strongly for Caladiums, and propagation of all the best sorts in cultivation we noted was being carried on to the utmost extent.

Lily of the Valley forcing is a most successful culture in Mr. Iceton's hands, and it was a real delight on a cold winter's day to pass through the forcing houses and inhale the delicate perfume of this prime favourite, while admiring the perfect growth of leaves, spikes, and bells, the handsome 48's. made up for marketing, and the admirable system of rotation in cropping that is carried out. We counted as many as seventeen bells on some of the spikes, and this will be admitted as good work for a single stem. Whether for potting or bunching the crowns are first boxed, and some idea of the extent of the culture may be gained from the fact that the bill this season for the small, shallow, second-hand herring boxes, in which the crowns are placed for forcing, amounts to close upon £60. We understood Mr. Iceton to say that two million crowns would pass through his hands this season and he hoped to have blooms to sell for ten months out of the twelve, there being no call for "Valley" in July or August.

Earlier in the season Roman Hyacinths are forced in enormous quantities, and these are followed on by Tulips in great numbers, and done equally well. These are also forced in shallow boxes, but one of the difficulties of this particular trade would appear to be in hitting upon the particular colour that there will be a run on in any particular season. This season Mr. Iceton explained the bright scarlets had had the run so far, and scarlet Duc Van Thol was the sort most favoured. Whites, pinks, scarlets, and yellows, are the most favoured colours grown; and among whites, Pottebakker and L'Imaculi stand high; while amongst yellows, the scented Yellow Prince is much appreciated.

We are unable to-day to allude to a tithe of the good things that Mr. Iceton always has to show his visitors, but there is one feature of a visit to Granard gardens that does claim a word in conclusion, and that is the enthusiasm of our genial friend himself for the plants he grows so well. Possessing a keen eye for quality in everything, and a genuine love, above all things, for a good plant, it is not possible to spend an hour with Mr. Iceton without catching the spirit oneself, and what an amount of pleasure such a feeling affords—well only a true plant lover can tell.

THE CORAL ANIMALS.

In his discourse at the Royal Institution on Tuesday afternoon, Professor Charles Stewart described some of the vast family of coral animals and the means by which these creatures build up the strange rocky skeletons upon which they are found growing in the depths of the salt water. It need hardly be explained that the pretty red "coral" used for bracelets is the product of only one particular species of coral animal. There are hundreds of different types of coral "polyps," and they produce the widest variety of form and structure in the skeletons they leave behind. The most familiar "corals" are elaborate skeletons of white or whitish-grey limestone, something like petrified sponges. Many of these are of great beauty, but it is the beauty of form and not of colour. The activity and energy with which the coral colonies elaborate their limestone houses is best appreciated by considering the share they have taken in building up the great coral reefs that form so important a part of the earth's crust. For countless ages these industrious animals have been at work in the blue waters of the ocean, ceaselessly piling up reefs and rocks and islands, and they are carrying on the work just as energetically to-day as ever. The mariner finds this to his cost when some unmarked reef that has been growing unperceived tears the bottom out of his ship in the Pacific.

But this process of building up a grotto to grow in is a highly complex business. The lime is deposited by the surface cells of the "ectoderm," or outer lining of the polyp, and as the walls of the building grow and envelop the base of the builder's body, that base accommodates itself to the shape of the rockwork it is sitting upon. In most cases the growing stonework seems as if pushed up like a series of plates set on edge into the jelly-like body of the animal. Meantime the walls are growing all round and forming a cavity into which the creature can retreat if danger threatens. But we must still remember that this only describes the course of events with regard to one particular individual owning a mouth and tentacles, whereas there are millions of such individuals all growing more or less joined together, and forming a great colony of compound sea anemone which covers the coral rock beneath as with a mass of living, prey-capturing, feeding, stinging, budding, growing jelly. Add to this conception that the limestone skeleton underneath is growing together with equal complexity at the same time, and some idea may be obtained of the life-processes going on in a coral reef. The actual result of such a fine confused business is generally a continuous animal structure which grows on the whole in certain definite ways, according to its character and species.

Coral, from the scientific point of view, consists not only of these myriad-chambered mansions of limestone, but of the inhabitants that dwell in them. Both the dwellings and the dwellers are very complex in their structure, and to storm the stronghold of their complexity we must approach by degrees. Last week the professor described some of the hydra and medusa families—comparatively simple structures of living jelly that catch their prey by long fingers arranged round their mouths. The coral animal is a similar creature, but is more closely related to the sea anemones. A sea anemone, in fact, is a large coral animal which does not build a stoney mansion to dwell in, but prefers to remain an apparently unprotected lump of jelly sticking to the surface of the rock. As every seaside visitor knows, it is something in shape like an inverted pot hat with fringe of petals round the rim. The "petals" are really fingers armed with cruel stings, by means of which prey is captured and thrust into the mouth, whence it passes into the recesses of the "hat" for digestion. Inside the hat is stiffened by a number of ribs of jelly (called the sarco-septa) radiated outwards to the walls. Like most of the polyp family, these creatures throw out "buds," and split up and exhibit a variety of forms of growth, besides having a true sexual method of reproduction. Now if we can picture somewhat minute animals of this sort which have a habit of depositing particles of lime under their base so that they build up around them a sort of grotto to dwell in, we arrive at a rough conception of the coral animal.

But it may be objected, if the limestone skeleton is thus continually being added to the individual polyps must soon be buried in pits of their own digging. And this is precisely what would happen if the polyp, when it gets uncomfortably deep down, did not draw itself out of the cell and start to build a new floor across higher up. In this way we find the coral structure consisting of myriads of tubular galleries divided up at intervals by cross partitions, each cavity representing an old dwelling-place discarded by its former tenant. The shapes and ramifications of these galleries vary, of course, with the kind of coral constructing them. Professor Stewart had on view many striking types of these calcareous coral growths, some of great beauty, others of curious form. In one case the skeleton grew as a stony plate, with the polyps all on one side, and it was pointed out that wherever the plate was folded and brought together, it was two dead sides that approached each other, and not the living faces. In the millepore corals the galleries and the polyps inhabiting them are almost microscopic in size. Here, however, the polyps are widely different from the sea anemone type, being practically branching "hydræ," like those described last week. But all the coral animals possess the peculiar weapons of offence of the polyp family, namely, the poisonous stinging organs, which render the race terrible to the finny tribes of the deep.—*Daily Chronicle.*

ORNAMENTAL SPECIES OF PHYLLANTHUS.

Few genera of so vast extent as Phyllanthus are so poorly represented in gardens, yet a number of exceptional interest and ornament are more or less widely cultivated and cherished by those who understand their merits and know how to utilise them to the best purpose. Some 450 species are known to science, and so varied are they in the structure of their leaves, stems, and branches that botanists have described them under forty-eight genera. Natural affinity is now, however, better understood, and notwithstanding the dissimilarity prevailing amongst them in general characters the structure of the flowers and fruits is closely identical in all. The differences in the foliage and branches are due chiefly to the physical conditions surrounding them in their native habitats consequent upon geographical range. Most of them require stove treatment, particularly during the colder period of the year, and as the foliage and its substitutes constitute their most important and ornamental character, they may simply be treated like other fine foliaged plants and used for similar purposes. As a rule they are not particular in the matter of soil, but a mixture of good fibrous loam, peat, and some charcoal about the size of marbles, with sufficient sand to render the whole porous and open, will constitute a suitable compost for the most of them. Small plants are in the majority of cases best suited to the requirements of private establishments, and a stock can easily be maintained by propagation from cuttings. The latter should consist of shoots that have completed their growth and become matured, and should be firmly inserted in sandy soil in pots and placed in a propagating frame.

Phyllanthus speciosus.—This is at once the neatest and the most ornamental of a group best known in gardens under the name of Xylophylla, which means woody leaves, in allusion to the flattened branchlets usually regarded as leaves by those unacquainted with structural botany. This illusion is still further heightened by the fact that the lanceolate, dark green branchlets are arranged in two ranks or rows upon the branches which thus simulate compound leaves, arranged in a sort of loose crown around the ends of the leading stems. Young plants confined to a single stem are the most ornamental, and in that condition may be usefully employed to furnish variety amongst the plants, that however excellent in themselves, lose somewhat in interest by their exceeding commonness. The species was introduced from Jamaica in 1818.

P. angustifolius.—Nothwithstanding the fact that this species belongs to the same sectional group as the above, its general habit is considerably different. The leaf-like, flattened branchlets are dark green and lanceolate or linear lanceolate, greatly elongated, and assume a sharply ascending direction. For the latter reason the species appears to best advantage when allowed to grow into a bush of some size. It is a native of the West Indies, from whence it was introduced to this country in 1789. Specimens may occasionally be seen in gardens under the name of Xylophylla elongata and X. montana, though the latter is by some considered a distinct species.

P. epiphyllanthus.—This was brought from Cuba in 1699, and forms a dwarf branching shrub, with narrowly, sickle-shaped branchlets about 4 in. to 5 in. long. The small, brownish-red flowers are borne in clusters from the notches all along the edges of the flattened branchlets, as in the two previous cases, and should dispel the notion that they are leaves. It is also known as P. falcatus.

P. glauscescens.—Totally unlike either of the above in general aspect, this is, perhaps, the most popular of the genus in cultivation. Its dwarf habit and neatness in every respect entitle it the proud position it holds. From the short, upright stems, slender branches are given off horizontally, and bear two rows of ovate and real leaves, but their arrangement on the sleuder shoots gives the latter the appearance of compound leaves. To add to this graceful character, the clusters of brownish-red flowers hang down beneath the horizontal branches with their leaves, and present an appearance of so many miniature tassels dangling beneath the same. In most species the flowers are so small and inconspicuous as to attract no attention whatever, and herein lies the exceptional merit of P. glaucescens, a Mexican plant, that well deserves a place in every collection of plants. It usual height is 12 in. to 15 in.

P. nivosus.—The foliage is here again the most ornamental part of the plant, but for a different reason. The leaves are ovate, and in their arrangement of an ordinary character, but they are variegated, splashed, mottled and lined with white, so that in well-coloured specimens we have a highly ornamental plant indeed. Neatly-grown and bushy specimens 18 in. to 2 ft. in height are well worthy of a place in any well-kept and well-cared for stove or warm conservatory. The specific name refers to this variegation, which has a snowy effect against the dark green of the rest of the leaves. It is a native of the Islands of the Pacific, from whence it was introduced in 1873. A high temperature and a moist atmosphere suits it well, but on the whole it is a very tractable subject.

P. Chantrieri.—In habit this may be compared to P. speciosus, but is altogether larger in all its parts and possesses true leaves. The stems are upright, stout, and in plants of a useful size are solitary; from these long, horizontal or drooping branchlets are given off, each bearing two rows of lanceolate-elliptic leaves. Owing to the length of these shoots, the plant has the appearance of a single stem furnished with a handsome crown of pinnate leaves. Small plants are both useful and ornamental.

P. juglandifolius.—As the specific name implies this species bears no small resemblance to a Walnut tree. The stems are stout and the lateral branchlets bear relatively large ovate leaves in two ranks. The plant has the same general appearance as P. Chantrieri, but in every part is on a much larger scale, and attains a considerable height, so that to be seen in its best character it requires a tall roofed conservatory or one in which there is ample room for development. The correct name of it is considered to be P. grandifolius, and it comes from South America.

HEDGE PLANTS.

For a long time past those who have had to make new hedges have invariably chosen the White-thorn (Hawthorn) for that purpose. In well cultivated fertile soils, and in suitable situations as regards climate, fine hedges of White-thorn may be raised if attentively cared for and regularly trimmed. But there are many conditions of soil and climate which make it impossible to obtain good White-thorn hedges even if the experiment be tried without regard to cost. Neither in a dry soil, in a gray sand, in gravel, or in heath land, nor yet in bog land, cold flat land, or on steep, sun-burnt slopes, can a good hedge of White-thorn be accomplished, much less in exposed northern regions where the continued duration of cold for long periods is a bar to the progress of vegetation. Hence it is that we see so many failures when attempts are made to make use of the White-thorn. Yet it is the desire of every assiduous proprietor to see his estate well fenced in.

In Sweden the upright growing Box-thorn is a tougher and much more reliable plant, as even in

the most barren ground in three to four years dense and durable hedges may be obtained of it. The home of the Box-thorn is in the northern parts of Denmark, Sweden, and Norway, where we see the farms surrounded by stately hedges of this plant, even where the climate is of the most uncongenial character. The inhabitants of the districts named therefore set great value upon the Box-thorn, which is most advantageously propagated by layering in the months of March and April.—*P. B. Christian, Engineer of Plantations, Tondern, North Germany.* [We presume our correspondent refers to Lycium barbarum, a plant well-known in this country.—ED.]

NOTICES OF BOOKS.

TRANSACTIONS OF THE ENGLISH ARBORICULTURAL SOCIETY. Vol. III., Part IV. Carlisle: G. and T. Coward, The Wordsworth Press, Carlisle. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1893-94.

The transactions of this society are printed in octavo size volumes, and the part before us extends to 157 pages. Prizes were offered for essays on forestry, and the leading award was made to Mr. John Maughan, Jervaulx Abbey, Bedale, who has since been elected as president of the Society. His essay is entitled "How Trees Grow," and is mostly treated from a scientific point of view, and he introduces his subject with statements to the effect that the man who is an expert both in the theory and practice of his profession, deserves the most success, and that he who takes forestry as a profession must, in the near future, do so with some higher aim than simply for the purpose of earning his daily bread.

The structure as well as histology or minute anatomy of all parts of a tree are discussed with a view to the ultimate improvement of the practice of forestry, by inducing attention to the habits and peculiarities of various kinds of trees, and the planting of them in situations and under conditions most likely to be suitable to their welfare, and to ensure their future success as far as lies within the bounds of science or human knowledge to determine or foresee the same. Under "Root Structure," the leading forms of the roots of forest trees are described, and the root systems of given examples of trees are tabulated with a view to indicate the adaptability of various kinds of trees to soils and situations. Much sound and valuable information is given in the lengthy paper, but there are some points in it that require explanation. For instance, it is said that a gardener, when pruning a fruit tree, never leaves a terminal fruit bud, because the fruit proceeding from it would never mature, as it can only receive crude sap for want of leaves above it. If the fruit can swell at all it must receive something more than crude sap, if the latter, as generally understood, is only water with the elements of plant food in it. Peaches do actually ripen at the end of shoots devoid of leaves. Interesting, however, is the statement that modern authors on forestry advocate well considered mixtures of trees instead of the rotations advocated by older writers on the subject.

A paper follows on "The Best Method of Thinning Mixed Plantations," and shows the advantages that would accrue to the production of timber and forestry in general, if planting and thinning were carried out on scientific principles, instead of the haphazard method that is allowed to proceed from generation to generation under the usurped name of forestry. Unless the mixture of trees is planted with a certain regularity, it is impossible to properly thin the trees so as to leave the most suitable, according to the nature of the soil in particular spots, to finally occupy the ground. There is a full, elaborate, and illustrated paper on the "Disease of the Larch," and which must prove exceedingly interesting to all concerned in the theory and practice of forestry, but especially to those who have to deal with the production of Larch timber, even if it only shows the helplessness of the forester to check the ravages of the disease.

The numerous excursions organized by the Society to visit different estates shows an energy of endeavour to acquire and disseminate a wide knowledge of the science of forestry by inspecting the work being carried on under varying conditions. One of these was to Studley Royal and Fountains Abbey; on other occasions they directed their steps to North Tynedale, Welbeck, and Worksop Manor. The two latter places lie in the "Dukeries," a term applied to the district situated within and around the celebrated Sherwood Forest in Nottinghamshire. The forest itself has a history extending back to Roman times, and even to-day some thousands of majestic trees are still standing which have braved the storms of centuries. Lengthy reports of all these excursions furnish readers with an idea of the principal features of each estate that are worthy of inspection.

GARDENING MISCELLANY.

PENTSTEMON ANTIRRHINOIDES.

THIS curious species has just been introduced to Italy as new, but was introduced to Britain in 1824. In all probability, however, it never at any time became common, and to all appearance will never attain anything like the popularity of the fine florists' varieties which have descended from P. Hartwegii. The flowers are large and lemon or sulphur yellow, and much inflated with large lips. They have been reckoned to bear some resemblance to those of an Antirrhinum on account of their form and colour; hence the specific name. The species is a native of the mountains of California, and in Italy flowers from the first year of seed. Summer is its period for flowering in this country, and it forms a dwarf, very much branched subshrub with small spathulate-lanceolate or oval leaves, having a generally grayish hue, indicating, it would seem, a dry climate. A light and dry, well-drained soil would be most suitable to its welfare and enable it to pass through our fickle and generally humid winters. Some young plants established in small pots should be kept in store against loss in severe winters like the present.

HIBISCUS CRASSINERVIS FLAMMEUS.

NEITHER the type nor the variety under notice have been introduced to this country, though the former at least has been known to science for many years as a native of tropical Africa, and is described amongst the plants native to Abyssinia. It has been introduced to Italy and is figured in the *Bulletins della R. Societa Toscana di Orticultura* for January last, from which it would appear to be a highly ornamental subject well fitted for culture in pots and vases. It is described as a dwarf and very beautiful shrub, very much branched, evergreen, and flowering from May to December. The flowers are of moderate size compared with those of H. rosa-sinensis, but they are produced in clusters or short, somewhat leafy racemes at the end of the flowering shoots, and well above the foliage. The plant prefers a situation well exposed to sunlight, in light or sandy fresh loam. Stagnant humidity and the shade of tall trees are very hurtful to it. Considering the country from which it hails, it would doubtless require stove treatment in this country.

GARDEN FUEL.

I HAVE read with great interest the remarks on this subject by "Gamma" at p. 389 and I think with him that gardeners, when allowed, ought to use the best fuel as no doubt it is the cheapest in the end. If good fuel was more generally used, I have no hesitation in saying, that there would be fewer complaints made by the gardener to his men of the fluctuations of temperature. But gardeners are not always allowed to choose or even order their garden fuel. I know of several places where the factor or estate manager does it, and some of them seem to think, as "Gamma" says, that "anything is good enough for the garden;" in fact, I believe some of them would have the gardener to burn road scrapings if they could. At one place at which I had the charge of the glass department the gentleman, not being an enthusiastic horticulturist, always grudged the coals, and, as there was a lot of sawdust at the sawmill, he gave orders that it was to be burned at the gardens instead of coal, with the result that we got nothing else to burn all the winter but sticks and sawdust I may say that sticks and sawdust burn well enough, but, what are they as compared with coal. Most of the sawdust is taken out again in the form of ashes or powder. We had three furnaces, and it took a man, doing scarcely anything else but putting on the fuel. In the case of hard frost it became critical, and it was no use to think of banking the fires and going to bed, as we could easily have done if burning coal, so one had to sit up all night, and keep the fires going. In this case the head gardener was of course entirely blameless; he tried to reason with his employer, but all to no purpose, so we had to make the best of it.—*Cameo.*

A FLORIFEROUS HYACINTH.

THOSE who grow Hyacinths for exhibition are quite satisfied when each bulb throws up one good spike, and dissatisfied when favoured, or rather disappointed, with the plurality of spikes. It is not uncommon for a bulb to throw up two or three spikes if allowed, but uncommon for it to produce half a dozen. We think it rare, however, for one bulb to develop fourteen flower-bearing scapes, and that is what has actually occurred in the hothouses of E. H. Watts, Esq., Devonhurst, Chiswick. The variety in question is Vuurbaak, and is grown in a 32-size pot without any special treatment beyond the fact that it was placed in heat with a batch of others to bring it into flower earlier than the general collection. It has now been flowering for some time, and will prolong its season for some time, as several of the smaller spikes pushed later than the rest. There are two fair-sized and twelve smaller ones set round them with an arrangement that reminds one of a bunch of cut flowers gathered on purpose. The flowers are single and dark rose in bud and when they first expand, but they soon assume a brilliant red hue when fully developed. A very similar instance to this in the case of a double Tulip has occurred in Germany, and a wood-cut illustration of it is given in the *Allgemeine Deutsche Gartner Zeitung*, of the 15th of February. Eight flowers are shown in the illustration, and the bulb is said to bear twelve to sixteen blooms.

PORTER'S INVINCIBLE CROCKS.

WHEN reading Mr. Pettinger's article on potting in THE GARDENING WORLD, p. 395, I notice that he mentions Porter's Invincible Crocks, but though he speaks of them as if he had only just made their acquaintance, he evidently thinks they are a first-rate article. Well, as I have used some hundreds of them during the last three years, I am able to say from experience that they are a first-rate article in every sense of the word. They are very cheap, very durable, and do their work thoroughly, not only worms, but every other kind of vermin being kept out of all pots in which they are used. They save their cost over and over again the first year, and as they last for a great many years it brings the cost of them to the merest trifle. I know several gardeners who use them, and, like myself, they think very highly of them. There is not the least doubt in my mind that they will in time be looked upon as quite an essential commodity to the proper potting of a great many kinds of plants when they get better known. To Chrysanthemum growers they are simply invaluable.—*W. K.*

THE SEVERE FROST.

THE degrees of frost recorded here from the 6th to the 16th inst. inclusive are as follows:—6th, 25°; 7th, 34°; 8th, 28°; 9th, 24°; 10th, 35°; 11th, 14°; 12th, 22°; 13th, 18°; 14th, 20°; 15th, 14°; 16th, 12°.—*Joseph Lane, Palgrave, Suffolk.*

THE ROMANCE OF FLOWERS.

THE motive of all science is the attainment of truth. The only merit of fairy tales is that they are the image of the truth—a simulacrum invented to stimulate the intellects of children not yet robust enough to sift truth from error. Yet of the thousands of grown persons in this country who are not obliged to toil or spin, how great a proportion seek their mental amusement in fairy tales, or fiction, which is the same thing! How few ever think of turning to science as a source of recreation! Some titillate their ambition by the collection of old postage stamps; others by field sports and competitive games; and these may be held as harmless palliatives of much leisure—the last-named, indeed, being valuable, inasmuch as they develop the limbs and brace the constitution.

But many a man's life might be turned to better account, many people would become conscious of a motive for living, were they to turn their faculties to unravelling the secrets of Nature. To the majority —far the greater majority of educated persons— Nature is a closed book; but a book which anyone who has leisure may learn to open. Some of its pages, indeed, have never yet been traversed by mortal eye; but patient hands are at work year after year, opening new pages; anybody who chooses to

turn his hand resolutely to the work may live in good hope of prevailing to open a new chapter, and some of these chapters are far more wonder-stirring and exciting than any artificial fairy tale.

Let us glance at few that have been deciphered already. We will take the volume of botany first, being perhaps that in which the ordinary mind would least expect any stirring passages.

In olden time, when books were few and readers not over-critical, travellers and would-be philosophers stuffed their pages with prodigies. The appetite for "eye-openers" was insatiable, and the grossest falsehoods were copied from one writer to another, and accepted with wonder indeed, but without doubt. But it is your patient, plodding student of science who is the true "eye-opener," in the better sense, revealing to his fellows the wonders of the world in which we have our being. It is not very many years since the true meaning of flowers was made plain to us. Formerly they were supposed to have been prepared for the glory of God and the pleasure of man. That they contribute to both no one will care to deny, but how greatly both these functions are enhanced when their primary function is understood!

Now, in order to show that the truths of science are no whit less strange than the fairy tales recounted by ancient writers, here is one of the latest veritable "eye-openers." Many years ago an Italian botanist discovered in the mountains of Sumatra a gigantic Ariod, a plant of the same family as the lords and ladies of our hedgerows and the beautiful Ethiopian Lily of our greenhouse. The tuber was so large, measuring many feet in circumference, and emitted such an overpowering odour, that he could hardly persuade men to the labour of uprooting them. However, after many days he succeeded in getting a brace of entire plants, which he directed to be placed on a kind of hand-barrow for transport. The bearers turned sick with the stench, and, whether by accident or design, both of the enormous bulbs were lost over a precipice. The botanist sent home a description of the plant, which was so startling as to receive very dubious acceptance among men of science. Travellers' tales they thought, for the leaf-stalks were said to be 10 ft. long and the leaves nearly 50 ft. in circumference. The spadia of the flower—that of the central column rising out of the spathe—measured 6 ft. in height. No such arum was ever known. Luckily for the traveller's reputation he sent some seeds home to Europe. They were red and about the size of olives. Some of these were sent to Kew Gardens, where, about ten years ago, they were sown in a high temperature. They grew and grew till at last there was only one place capable of holding the plants—the Victoria Regia tank-house. [Finally, great excitement in the scientific world was caused, in 1822, one of them showed signs of flowering. The signs were fulfilled; the great spathe expanded, revealing the monster spadia, and discharging an overpowering stench. Amorphophallus titanum stood revealed, and the good faith of the Italian botanist was vindicated.—*Sir Herbert Maxwell in "Lloyd's News,"*

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

LEAVES TURNING GRAY.—*Begonias*:—The reason for the leaves turning gray is no doubt accounted for by your own explanation. When plants are over-watered, independently of liquid or any other manure, before they have taken good hold of the soil, they are very liable to behave in the way you mention. The excessive amount of water in the fresh soil not only retards growth but destroys the roots more or less, according to the degree and duration of the evil. Many plants are entirely killed in this way, and others recover by slow progress. Of course there are many side issues to be taken into consideration. The soft tissues of Begonias render them more readily susceptible of harm when subjected to sudden changes and checks to growth, and the age of the tubers should not be overlooked. In a high temperature Begonias might show but little injury from over-watering, but in a low temperature and immediately after being re-potted they should be watered with great moderation till they begin to grow away freely.

NAMES OF PLANTS.—*G. H.*: 1, Thyrsacanthu, rutilans; 2, Cyperus alternifolius variegatus; 3. Carex brunnea variegata; 4, Aralia elegantissima, *W. C.*: 1, Viburnum Tinus; 2, Ruscus aculeatus; 3, Pinus Laricio austriaca; 4, Cotoneaster microphylla; 5: Phillyrea angustifolia; 6, Berberis japonica. *P. M.*: Hippeastrum aulicum.

RAFFLESIA ARNOLDII.—*A. K.*: Several parasites have been cultivated in gardens with a fair amount of success. It is necessary in the first instance to know what the plant naturally grows upon, then to get this established, after which you may sow the seeds of the parasite close to the plant upon which you intend to grow it, and there is a possibility that the parasite will attach itself to the host plant if the seeds are good and capable of germination. All this, as you must know in the case of Rafflesia Arnoldii, would entail a considerable amount of expense in the first instance to obtain the necessary materials to work upon, although the difficulties are not insurmountable.

MELIANTHUS MAJOR.—*T. Menzie*: It may be propagated readily either from seeds or cuttings. The former may be obtained, we presume, from some of the larger seed houses. It flowers in this country when grown in a tall conservatory and allowed to attain considerable size, and may be made to fruit by artificial fertilisation, although we are not aware that it has ever done so in this country. Cuttings may be taken from the side shoots that are getting moderately firm at the base; insert them in sandy soil under a bell glass, or in a frame in the stove. Bottom heat will make them root all the more quickly.

COMMUNICATIONS RECEIVED.—J. C. E.—W. H. W.—F. S. & Co.—C. T. D.—J. L.—H. J. H.—H. B. J.—S. & S.—S. C.—W. K.—E. D. H.

LONDON SEED TRADE.

February 19th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed market, Mark Lane, report a slow trade in Agricultural seeds. New English Red Clover is in short supply, quality medium. No change in values of Red Clover, White Clover, and Alsike. Trefoil easier. Ryegrasses neglected. Rape seed higher.

COVENT GARDEN MARKET.

February 13th, 1895.

Market at a standstill owing to rough weather.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale...per basket	2 0	2 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 9	Spinach per bushel	6 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistras, per doz	18 0	42 0	Evergreens, Invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar.. per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
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Bouvardias, per bun.	0 6	1 0	Pelargoniums 12 sps.	0 6	0 9
Carnations...per doz.	2 0	3 0	Pink Roses...per doz.	3 0	6 0
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THE "CHARLES COLLINS" FUND.

At a meeting of representatives of the Horticultural Press held at the Hotel Windsor, Victoria Street, S.W., on January 11th, the following resolution was unanimously passed:

"In consideration of the services rendered to horticulture in his journalistic work by the late Charles Collins, of the high respect in which he was universally held, and of the fact that owing to the long-continued ill-health of himself and his wife he was unable to make adequate provision for his family, who are in deep distress, a fund be opened for their benefit."

On the same occasion a General Committee, comprising a number of horticultural journalists, together with the following gentlemen who form the Executive Committee, were elected to carry the above resolution into effect, viz.:

MAXWELL T. MASTERS, M.D., F.R.S. (Chairman), 41, Wellington Street, Strand, W.C.

BRIAN WYNNE (Vice-Chairman), 1, Clement's Inn, Strand, W.C.

GEORGE GORDON, F.R.H.S. (Treasurer), Enderslelgh, Priory Road, Kew.

T. W. SANDERS, F.R.H.S. (Hon. Secretary), 57, Cressingham Road, Lewisham, S.E.

For the information of those who are not fully acquainted with the facts of this sad case, it may be briefly stated that the late Charles Collins was for some few years engaged on the editorial staff of the *Journal of Horticulture*, and prior to that filled similar positions on the *Gardeners' Chronicle* and *Amateur Gardening*. He was returning home on the evening of December 26th from a visit to some friends at Forest Gate, and, just as he was about to enter the train, was suddenly taken ill and expired almost immediately. He leaves a widow and two little girls, aged three and four years respectively.

Mr. Collins, having only attained the age of thirty years, had been unable to make adequate provision for the support of his wife and family, and hence the Committee and Executive have resolved to make an earnest appeal to those who knew him to subscribe to the above fund, and thus enable them to alleviate in some measure the pressing needs of the widow and family.

Subscriptions may be sent to either of the gentlemen named above; or to the editors of the various gardening journals. The amounts received will be duly acknowledged in the Gardening Press.

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NEXT WEEK'S ENGAGEMENTS.

TUESDAY, March 5th.—Sale of Orchids, Bulbs, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, March 6th.—Sale of Lily Bulbs, Plants, &c., at Protheroe & Morris' Rooms.

THURSDAY, March 7th.—Sale of Hardy Border Bulbs and Plants at Protheroe & Morris' Rooms.

FRIDAY, March 8th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MARCH 2nd, 1895.

ALLOTMENTS FOR THE PEOPLE.—There are still amongst us many well-meaning people who doubt the advantage of allotments to working men and others, but the fact that it is of material advantage is rapidly gaining ground. We have often been described as a nation of shop-keepers, and many years may elapse before we are spoken of as a nation of gardeners, but there is still plenty of room for a wider diffusion of the "art that does mend Nature," and to put it into practice land is necessary, but more particularly in the neighbourhood of large towns, where population is congested, often under unfavourable conditions to health. This fact has

COMMON SENSE APPLIED TO A SEED ACCOUNT.

TO buy Vegetable and Flower Seeds at low prices is unwise, as evidently the seller must buy or produce those seeds cheaply although doing so involves a poor quality. Cheap seeds are not rogued and picked to the extent those are for high-class trade; and plants producing high-class strains are seldom free seeders like ordinary types. To buy seeds at high prices in very many cases is not only paying for undoubted good quality, but also for reputation or expensively illustrated and printed catalogues, with their temptations of so-called Novelties, which so often disappoint us. Considering the reduced rentals from estates and profits from trade, common sense condemns either plan, and urges buyers to trade with firms whose standing is high enough to ensure quality with moderate prices. Few retail firms go the trouble and expense we do in testing seeds. We test the percentage of growths of all the seeds we sell before we put any in packets, those not satisfactory are destroyed. We also, every summer, at our seed trial grounds test many hundreds of kinds of seeds to see they are true to name, and it is these efforts to ensure quality combined with moderate prices, which have increased our business started twenty-five years ago, with about £50 wages per annum for one labourer, to its present extent of about 200 men and boys, with a labour account annually of £8,000.

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received ample recognition at the hands of the London County Council, particularly after the scheme was initiated by Mr. McDougall in a private capacity. Some years ago there was a mud-flat in the Isle of Dogs, consisting of twenty-two acres of waste ground belonging to the Millwall Dock Company, and intended for the extension of the docks when that should become necessary. Mr. McDougall became the tenant of the company; the land was cut up into 180 patches of 20 rods, that is, of ⅛ acre each, and let at 6s. per annum. The whole of the allotments were let in a short time, and at the end of the year the surplus money in hand was placed at the disposal of a committee of the men for the improvement of their property. Since then applications for plots have been made by hundreds, and any that may become vacant are immediately taken up, while the supply is inadequate to the demand.

The London County Council could not, under the Allotments Acts, undertake the management of allotments, but Mr. McDougall discovered a sub-clause which permitted them to work a distinct plot on co-operative principles. The first land let by the Council was thirty-five acres round the pumping station at Abbey Mills, and this was laid out in 350 plots at 8s. each per annum. Applications for this land soon outstripped the supply, and several pieces in different localities were taken up and disposed of with the same success, while the acquirement of other fields is now in view. Flower and vegetable shows have been instituted at Abbey Mills and elsewhere, at which prizes are offered for the best grown produce. The value realised for the produce of each plot at Abbey Mills varied from £7 to £5 and £4, so that, taking the average at the lowest figure, it would amount to £40 annually per acre.

The example thus set by the London County Council is well worth imitating in various parts of the country, but particularly in the neighbourhood of populous districts where it is possible to get land with easy access to the working classes, so as to put it within their power to cultivate their plots during the short evenings and upon Saturday afternoons by those who can command that advantage. It is impossible to estimate the value of the moral of allotments, not merely to the workers themselves, but to the community at large. To the former it affords wholesome amusement, and a priceless reward in the form of stores of fresh vegetables of all kinds, and the means to supplement them with other necessaries by the sale of produce, and the blessings of plenty in homes where it is but too frequently a stranger. Employment of this sort during the summer evenings is not only wholesome and advantageous in itself, but it is a fence against those dangers which continually waylay and not infrequently beset well-intentioned men and lead the young into habits of intemperance and irregularities that are too well known to require definition. The mere fact of tending upon flowers and vegetables is a liberal education in itself, and teaches men to observe and to think. It is, for all practical purposes, an introduction to new friends that are full of instruction and ever ready to part with it to those who lend a willing ear and eye, and never betray.

The industrious citizen who undertakes the cultivation of fruits, flowers, or vegetables, soon finds himself led away into a practical study of birds, beasts and things, and all the tribe of insect and other enemies that wage war against his crops; and he who sets himself to surmount these difficulties not only succeeds, but comes through the ordeal with all the advantages that accrue to the simplicity of the earliest forms of civilised life. He derives pleasure from the health, vigour and cleanliness of his crops, and by such occupation acquires habits of thrift combined with plenty. This leads to independence and to a knowledge of his own status in society whose advantages and privileges he has a right to enjoy. The possession or use of a piece or plot of ground gives him an interest in the land upon which he lives and a desire for the progress, peace, and general prosperity of his fellow men for the common weal of his country. Health and plenty bring content in their train, and always make men better citizens than when struggling with poverty, misfortune, and indigence. Furthermore, this question of allotments, together with its sister scheme of small holdings, and similar institutions, will make more than one link in the chain that is to turn back and bind people to the land as well as the land to the people. There has been ample evidence that allotments pay both the landlord and the tenant, and these facts should go to prove that there is yet wealth in land, and wealth to the nation to have a frugal, healthy, and contented peasantry upon it.

A Contrast.—About this time last year some people were enjoying a picnic at Plym Bridge, rambling about in the fields and collecting Primroses and Ferns; and returning home through Plympton, they were loaded with bunches of those enjoyable wildings. This was on the 22nd February, 1894, but at the same period this year no flowers of any sort were obtainable, on account of frost and snow.

Crystal Palace Flower Shows.—The shows of flowers, plants, and fruit at the Crystal Palace during 1895 will be as follows:—Spring Exhibition of Plants, Flowers, etc., Saturday, March 16th; the National Rose Society's Grand Exhibition of Roses, and the London Pansy and Violet Society's Show, Saturday, July 6th; the National Carnation and Picotee Society's Show, Wednesday, July 24th; the National Co-operative Flower, Fruit, and Vegetable Show, August 17th or 24th; the National Dahlia Society's Grand Show, Friday and Saturday, September 6th and 7th; the Royal Horticultural Society's Great Exhibition of British-grown Fruit, September 26th, 27th, and 28th; Grand Chrysanthemum Exhibition, Friday and Saturday, November 1st and 2nd.

The Battle of Flowers at Nice.—The Battle of Flowers took place at Nice on the 27th of January in dull but mild weather. The town and suburbs were crowded with visitors, and hundreds of carriages were in the streets, but, owing to the dearness and scarcity of flowers, few of the vehicles were as profusely decorated as usual. The battle, however, was carried on with great animation. Prizes of honour were awarded to Madame Otero, who was seated in a car representating a tambourine, and covered with yellow Jonquils and red Camellias; and to Miss Van Huren, of New York, whose Victoria, almost lost in a profusion of white Hyacinths, Anemones, and Lilac, and trimmed with green ribbons, was received with loud cheers. The chief other prizes went to Madame Fricker, whose carriage was decorated with Carnations and Roses; Madame Sapovnikoff, in the decoration of whose carriage Mimosa and Lilac were principally employed; and to the officers of the Sixth Regiment. There were eight minor awards.

Scottish Pansy and Viola Association.—This Association has been formed in Glasgow to meet monthly during summer, to consider new varieties of Pansies and Violas, and to award Certificates to them if deemed worthy. The following seven gentlemen have been appointed judges:—Mr. J. Baxter, Daldowie; Mr. W. Cuthbertson, Rothesay; Mr. M. Gray, Glasgow; Mr. M. Campbell, Blantyre; Mr. J. Stewart, Lennoxtown; Mr. W. Maxwell, Glasgow; Mr. H. Hamilton, Lochwinnoch. The judges are to give their verdicts by ballot. Varieties which receive three-fourths of the total number of points shall receive a First-class Certificate, and those receiving one-half or more of the total number, a Certificate of Merit. Another special feature will be the granting of Special Certificates for Constancy, to varieties which obtain a First-class Certificate at three meetings. Such Certificates and decisions, it is hoped, will prove valuable guides to the public, and tend to set up a standard for new varieties. The membership of the new Association is open to all on the payment of a nominal subscription of one shilling, and provision is made for the reception of flowers by post, which shall be as carefully handled and ajudicated, as if they were personally staged by the exhibitors. The following are the office bearers, any of whom will be glad to send a copy of constitution and rules of the new Association to interested parties:—President.—Mr. W. Cuthbertson, Springfield Rothesay. Vice-President.—Mr. Jno. Baxter, Daldowie. Treasurer.—Mr. Jas. Robertson, Turnerfield, Crow Road, Partick. Secretary.—Mr. Jno. Smellie, Pansy Gardens, Busby.

Royal Gardeners' Orphan Fund.—The first meeting of the Committee after the "annual" was held on the 22nd ult. when there was a good attendance of members, notwithstanding the fact that several were prevented from attending by illness. The first duty of the Committee was to appoint a chairman for the ensuing year, and though Mr. William Marshall was one of the unfortunates unable to be present, he was again unanimously re-elected to the office. The Hon. Secretary announced the following special receipts since the last meeting:—Tunbridge Gardeners' Mutual Improvement Society, per Mr. G Fennell, £3 12s. 6d.; Twickenham Flower Show, per Mr. Green, 6s. 2d.; Mr T. Newbould, Cragg Royd, Rawdon, Leeds, £1 8s. 6d.; Mr. O. Thomas, Royal Gardens, Frogmore, £1 1s.; Mr. H. Eckford, Wem, 11s. 6d.; Mr. T. Capp, Wexham, Slough, 10s.; and Miss E. Rogers, Frimley Park, 5s.

SHRUBS WITH COLOURED BARK.

The bulk of these when deprived of their foliage in autumn are comparatively devoid of interest, because they are as a rule devoid of any characteristic effect. There are exceptions however, and several of them that under ordinary conditions and in mixed plantations are almost lost sight of could be brought into marked prominence by growing them in masses in contrast to others more highly favoured in having a brightly coloured bark. Foremost amongst these are the species of Dogwood with red shoots of greater or less intensity and brilliancy. One of the best is Cornus alba, having a wide range of distribution in North America and Siberia, and consequently perfectly hardy in Britain. The bark of the young shoots is of an intense coral red, and to secure the best effects, the shrub should be planted in masses and pruned back pretty hard every spring with the object of getting it to throw up as strong and as much young wood as possible, for the young bark is always the brightest and most effective. The specific name refers to the colour of the fruit, which is white and in its season very interesting, but can only be produced in any quantity by plants that are allowed to attain some size and age.

Another of this class is C. tatarica, a fine species, better known in gardens as C. sibirica. The young shoots are quite as bright though lighter in hue, and have been described as orange-red. The variegated varieties are undoubtedly the most useful and ornamental, because of the variegation which renders them serviceable for the planting of mixed beds of variously coloured shrubs in the pleasure grounds, when fine weather invites the owner and the various members of his household to enjoy a walk on the grass. The winter effects of the same plants need not however be under-rated. Our own native species (C. sanguinea) may be utilised for the same purpose as the above; but notwithstanding the specific name, the shoots are not so bright as those of C. alba, and hard pruning must be resorted to in order to get a vigorous growth of young wood. The bark and leaves have a strong, unpleasant smell, yet notwithstanding this the former is said to taste like Apples.

Totally distinct from any of the above is the yolk-of-egg-yellow-coloured or Yellow Willow. This was described by Linnaeus under the name of Salix vitellina, but good modern authorities prefer to regard it as a variety of the White Willow, and

name it accordingly Salix alba vitellina. It used to be very frequent in many establishments, but has been rather neglected of late years. Unlike that of the type, the young bark is pleasing and effective when leafless on account of the clear and polished yellow hue of the twigs which are as slender and as peculiarly graceful as those of the Babylonian Willow, though not so decidedly pendulous. The most natural position for the yellow-barked Willow is in the neighbourhood of water. Specimens grafted standard high and planted on the banks of miniature cascades or waterfalls in the pleasure grounds of an estate, and so placed as to overhang the water, are no mean features in a winter landscape, when deciduous trees are mostly very dusky in hue and uninviting. For association and contrast with the Dogwoods, it should be planted in masses and treated much in the same way. Although all of them may be grown in tolerably dry situations, they may be associated with water. The Willow may be placed next the latter on the wet margins of a lake for instance, while the Dogwoods may be planted on slightly higher levels in proximity, however, to the same.

The stems of Lonicera Xylosteum are grayish-white, and sometimes the species is planted in masses for the sake of contrast with those already mentioned. The flowering Currant (Ribes sanguineum), with reddish-brown bark, and the brown-barked Neillia opulifolia, are other kinds that may be introduced for the sake of variety and contrast. Any gardener with an eye to effects of this kind, might select various other subjects that come under his notice; and provided the same are naturally of twiggy habit, they can be made to produce combinations of a peculiarly pleasing character, even in the depth of winter. Several other Willows not mentioned are well adapted for the purpose.—*Arbor.*

HOME GARDENING.

Most amateurs have a greenhouse, which is the joy of their hearts at first, but often, after a couple of years, it becomes more and more neglected, and sometimes is a mere playground for children on wet days, or a rubbish receptacle. The owner says, disconsolately, "Things won't grow for me" and all the time, perhaps, the twin-greenhouse next door is gay all the year round. The fact is, that inexperienced folks try too much. Better be content with common plants in full blossom than rare ones with a poor starved flower or two and no leaves.

If correspondents will write to me, and give rough ideas of shape and aspect of house, and also of the heating apparatus, I can give advice as to what is likely to thrive in it. Many pretty things require but little heat, and others only need frost to be kept out; but some little structures, opening out of rooms, are singularly ill-fitted to grow many flowers in, and then I should always try to make them gay and smart, with a little artistic decoration, bright matting, bead curtains, and well-chosen paint, so that the plants should blend as part of the decorative scheme, and the whole appear as a pretty, quaint, little nook, or extra sittingroom, rather than a regular greenhouse.

The great drawback often is the want of regular attention. Plants, like children, require as little coddling as possible, but do not like neglect. Watering copiously one week, and leaving them dry as dust the next; letting them be kept from all sun one day, and then allowing the full blaze to scorch them another day; over-potting, and starving in tiny pots, are all sources of mischief. Weakly, often-checked plants become very liable to mildew, and blight, too, and rarely thrive, giving more trouble in the long run. Leaves thick with dust cannot be healthy, and few plants do well in a very dry atmosphere. This may sound complicated, but, really, it resolves itself into a little attention daily, and the plants soon repay your care.

Where there is no feeding-house, I advocate pretty groups of such things as can be arranged to make a permanent foundation, to which, as occasion serves, additions can be made. For instance, a good background of tall Ferns, a couple of Palms, and a variegated Aspidistra, and two or three bronze-leaved Begonias, can be relieved by a few well-placed pots of Hyacinths and early Narcissi, followed by white Colleen Bawn Daffodils, Freesias, and double creamy "Codlins and Cream" Narcissi, Primulas, Cinerarias, and any other favourite, in succession. A wonderfully small number at a time will produce a great effect thus managed, though four times the quantity would probably have a very poor appearance without the background.

There is another great secret in good management of a tiny house, which is forethought. Amateurs often fail in this, and the house is alternately overcrowded or bare, while the experienced hand has always something coming on, to take the place of those flowers now in full glory. Bulbs are a capital stand-by, as they can be planted in succession; and, in ordering Chrysanthemums, it is most desirable to secure some very late ones. Intermediate flowers I will write about later, but Chrysanthemums should be ordered at once.—*Flora, in "The Lady."*

NEW VARIETIES OF AMARYLLIS BELLADONNA.

The Belladonna Lily is a native of South Africa, notwithstanding the fact that some books say the West Indies. It may have been imported from thence to British gardens after having been cultivated in the West Indies for a time. It is naturally a variable plant within certain limits, but the variations are confined chiefly to those of colour in the flowers of bulbs raised from seed. The species is relatively hardy, and when planted near the south and west coasts of England succeeds admirably, and there are instances of great success with it more inland when planted in warm situations close to the sides of hot-houses but in narrow borders in the open. The culture of it is not half so common as it might be considering the beauty of the flowers during September and October. It well deserves more attention for the sake of ornamental effect in the open, but may be utilised to a greater extent as cut flowers for house decoration. Cultivation in pots is even more neglected, possibly for the same reason that many other bulbs of a half hardy nature fail to enlist the sympathies of cultivators sufficiently to give the necessary attention and trouble to ensure success.

The species was first introduced in 1712, and has probably been cultivated to a greater or less extent ever since, but doubtlessly at times only sparingly. In pots it may be treated similarly to the Hippeastrums, except that less heat will be necessary; even in this respect, however, a higher temperature during the period of growth would ensure better foliage and consequently better bulbs and flowers. The custom of setting the pots aside to take their chance after the flowering period is over is responsible for much of the neglect into which Cape bulbs generally have fallen. Open-air cultivation gives most satisfaction where practicable, because it gives the greatest quantity of bloom with the smallest amount of trouble. Sheltered positions should be selected for them at the foot of the walls of stoves and other hot-houses, where the warmth from the same exercises a distinctly beneficial effect. The borders should be well drained, if not so naturally, and the natural soil replaced, if unsuitable, with good loam, leaf-soil, and sand in equal proportions. The flowers are produced in autumn, as already stated, but they are unaccompanied by leaves, which are produced later on in winter or early spring according to the state of the weather. They not infrequently get more or less injured by severe frost in spring, but this gets partly repaired by subsequent growth.

The bulbs should be planted in June or July because they commence fresh root-action about that time, and to delay them much beyond that period would endanger a good harvest of bloom by making the flowering season late, and at the same time preventing the bulbs from becoming duly established before winter. It will be a greater security to the safety of the bulbs against severe frost if they are planted 6 in. or 8 in. below the surface. They may also be surrounded with sand, and the compost made firm about them. They should be left undisturbed for a number of years till the bulbs get overcrowded, or the soil gets worn out and requires fresh material added to it to impart fresh vigour to growth. This should, of course, be accomplished after the foliage has perfectly died down. Some advise the covering of the borders with some creeping plants, such as Sedum or Saxifraga, for the sake of a neater appearer; but no advantage would accrue to the Amaryllis bulbs by allowing them to struggle for existence with another set of plants. Nothing better can be used than a mulch of well-decayed, farmyard manure or old hot-bed material. This will supply the bulbs with nourishment, and protect them against the effects of drought in summer. Should the appearance of the manure be an objection, then it may be covered over with a coating of cocoa-nut fibre, or the latter may be used alone to great advantage in economising the moisture. Keep the surface clean and tidy, and during dry weather give the border a good watering with liquid manure, which will impart vigour to growth; even clear water would be highly beneficial, more particularly if the bed is covered with manure.

The Italians evidently give the Belladonna Lily more attention than we do, doubtless because their climate is more suitable. They appear also to have got it to sport into more numerous and decided varieties than we possess. Four of these are brought together in a coloured plate with the January number of the *Bulletino della R. Societa Toscana di Orticultura.* That named Amaryllis Belladonna alba is white with a yellow tint in the throat, and very sweet-scented. The variety A. B. stenopetala has rather narrow segments, but white and beautifully ornamented with whitish-rose towards the apex, and yellow in the throat. It is therefore delicately beautiful and interesting. A. B. magnifica has the reverse of the segments white and the interior of a lively carmine, while the throat is very pale, and the style, curiously enough, is rosy-brown. A. B. carminea is very similar to the previous one, except that the stamens are purple. Bulbs may be raised in quantity from seeds, but to preserve the above varieties true to name, they should be increased solely by offsets, which are produced in tolerable abundance. They will the sooner reach full size if removed from the parents and planted separately.

FRUITS OF THE CAPE OF GOOD HOPE.

The English colony of the Cape can be considered as pre-eminently a fruit region; it corresponds pretty closely with the Mediterranean region. It comprises two distinct parts, that of the east and west; the latter has its maximum rainfall during winter, while the eastern region has rain in summer, that is to say in November and in autumn, which is in February, since the seasons at the Cape are the inverse of ours—with this difference, that at the Cape it never freezes. In the western part, fruits succeed one another without interruption. In January there are Strawberries, Apricots, Grapes, Pears, Apples, Peaches, Plums, and Figs. February is the season of the best Apples, Peaches, and Nectarines; in March come the first Oranges; in April again there are late Pears, Citrons, and Guavas. In May the Loquat of Japan is harvested; in June there are Shaddocks. From June to October there are Pomegranates, Lemons, Citrons, and Pears again; then in October the best Oranges; in November, Figs, Strawberries and Black Mulberries; then the Apricots re-commence, accompanied very soon by Strawberries and Grapes.

In the eastern region the cultures meet one another with greater difficulty, by reason, doubtless, of the greater humidity and the presence of parasites. In both districts there yet exists a great negligence from the standpoint of the harvest; besides, the most elementary knowledge of packing goes entirely by default. They yet already speak of important exportations to England; nevertheless, the education of the producer must yet be accomplished before the fruits of the Cape can clash seriously with those of Europe. It is good not to lose sight for the present that the instalments and the forced products in England and of our country are menaced in their existence by the probable introduction of the products of the Cape, where the plantations make good progress every year. It is convenient not to forget that Bechuanaland is in a measure to produce the same fruits as the Cape; Pomegranates there are already an excellent product. The colony of Natal, on its side, furnishes its superb Bananas, Pineapples, Guavas, and its Mandarine Oranges that it sends upon the markets of Europe. The number of vines planted at the Cape already in March, 1893, exceeded the figure of 90,000,000. A year before there existed in Cape Colony, in round numbers, more than 1,000,000 of Peach trees, 300,000 Apricots, 300,000 Apples, 250,000 Pears, 60,000 Plums, 160,000 Oranges, not including the *naartjes*, a sort of small, very savoury Orange, the skin of

which easily detaches itself. The following year additions to those figures count by thousands, which do not comprise the plantations of the territories of the indigenous population.—*Em. Rodigas* in the *Bulletin d'Arboriculture.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Oncidium maculatum.—At first sight one is doubtful as to what genus the species belongs. It has some resemblance both to Oncidium and Odontoglossum, but is not strictly characteristic of either. Doubtlessly for this reason Lindley created a new genus to receive this and a few others. That under notice he described in the *Botanical Register*, 1838, *t.* 44, under the name of Cyrtochilum maculatum, in allusion to the curved or bent character of the lip. The specific name refers to the spotting of the flowers. The habit of the plant very much resembles that of an Odontoglossum, and the flowers are produced in arching spikes in a similar way, and are each about 2 in. in diameter. The ground colour of the sepals and petals is sometimes yellow, but is yellowish green in the case of a plant now flowering in the cool Orchid house of E. H. Watts, Esq., Devonhurst, Chiswick; but the surface is so heavily blotched with chocolate-brown as to be almost entirely covered, so that the ground colour is reduced to netted lines. The lip is kneed above the base and white, with one or two brown spots in front of the crest which is lined with purple. The species is by no means common in collections at the present day. Mr. Gibson, the gardener may well be proud of it.

Saccolabium violaceum.—Anything that tends to increase the supply of flowers in winter is acceptable, particularly if those flowers are of pleasing colours and fragrant, as in the case of S. iviolaceum, S. giganteum and others. In the matter of colour there is a considerable amount of variety amongst the species of Saccolabium, and though the flowers of S. violaceum are neither brilliant nor highly conspicuous, yet they are pretty, pleasing and fragrant. They are produced in pendulous racemes from amongst the leaves and have oval-oblong sepals and smaller petals, all of which are white, finely spotted with purple. The lip is spreading, slightly curved and concave along the centre, and slightly three-lobed at the apex. It is almost wholly of a purplish-violet hue and therefore beautiful by contrast with the other parts of the flower. It recalls the lip of Rhynchostylis coelestis, though the blue tint is less decided. It was first introduced to this country in 1840 from near Manila, but is now known to be common throughout the Philippine Islands, growing on trees We noted it the other day in the warm division of the Orchid house in the garden of E. H. Watts, Esq., Devonhurst, Chiswick. Mr. Gibson grows it in a basket suspended from the roof, and consequently always well exposed to light.

Dendrobium Ainsworthii with four segments.—Irregular behaviour is pretty common amongst Orchids generally, but none are more liable to malformation than hybrids, and some of the latter have given frequent instances of it. We received a flower of Dendrobium Ainsworthii the other week from Mr. A Wright, gardener to J. McMeekin, Esq., Falkland Park, South Norwood Hill. As is well known, this is a hybrid between D. aureum and D. nobile, the former being the seed parent. It consisted of four segments instead of six; but close inspection showed that all the parts were present, though they had developed in such a way that three of them remained inseparate, or in a state of combination. The upper piece was almost as large as the lip spread out flat, and consisted of the dorsal, sepal and the petals combined. It was unequally divided half way to the base, the smaller half representing one of the petals, while the larger represented the sepal and remaining petal completely united to the apex and only betraying their true nature by the difference of texture and venation. The outer or right-hand side of it had the principal veins oblique and the rest much branched laterally, like those of a petal, and the texture on this side was more thin and papery than on the other.

Catasetum splendens album.—Numerous varieties have turned up, having so much of a general resemblance except in colour, that it has been considered most convenient to group them under the first that flowered and conventionally may be regarded as the type. All of them are supposed natural hybrids between C. Bungerothi and C. macrocarpum. That under notice flowered about the end of December last and bore nine flowers on a raceme. The sepals are white, slightly shaded, while the petals are purer, but tinted with green. The lip is fairly well expanded, finely toothed at the margin, and entirely of a beautiful creamy-white, except at the bottom of the short spur or sac, which is lightly shaded with green. There is a beautiful plate of it in the *Lindenia Pl.* 455. Its ornamental value will be best seen by contrast with some of the darker varieties.

Catasetum Lindeni.—The remarkable variety of form and colour that has turned up amongst the importations of C. Bungerothi, and C. macrocarpum, has been a veritable surprise to Orchid growers and all that have any acquaintance with them. The subject of this note, like several others, combines the characters of the two species in such a manner that it is considered a natural hybrid between them. The flowers have the size and general aspect of those of C. Bungerothi, but the colours are those of C. macrocarpum; the lip in form and consistency, does, however, partake of that of the latter, though much more expanded. It occupies the same habitat as both species, and hitherto only a single specimen of it has turned up. The sepals and petals are yellowish or whitish yellow densely marked all over with transverse blotches or bands of no great size but of a lively purple. The lip is yellow, lightly shaded with green externally and of a more lively yellow internally, but blotched on the basal portion in a similar manner to the sepals and petals; there is also a series of small blotches towards the apex of the same. It is one of a group of about twenty new forms of Catasetum quite recently introduced by Messrs. Linden, L'Horticulture Internationale, Brussels. There is a figure of it in the *Lindenia Pl.* 453, and an Award of Merit was accorded it by the Royal Horticultural Society in November last.

Catasetum splendens Aliciae.—Like several other forms of the supposed natural hybrids that have been placed under C. Splendens, this differs considerably from the type, as indeed most of the rest do from one another. C. s. Aliciae has a strong leaning towards C. Bungerothi judging from the size and general structure of the flower. The latter is considerably larger than that of C. splendens, the lip is more reniform and more expanded, while the spur is relatively small and shallow. The sepals and petals are sharply acuminate, much longer than those of C. splendens, almost by half an inch, and they are entirely of a lively rose shading towards purple. The petals are similar in form and colour and closely approach one another under the upper sepal. The lip is of a beautiful white, finely and irregularly toothed round the margin and concave, but well flattened out. The sac or spur is pale yellow in the bottom, and is the only hue that contrasts with the general purity of the lip. The variety flowered about the end of December in the hothouses of L'Horticulture Internationale and is dedicated to S. A. S. Madame the Princess of Monaco. There is a beautiful plate of it in the *Lindenia Pl.* 457.

Orchids from Ravenswood, Melrose.—A bright and select lot of Orchids have been sent us by Mr. William Rea, gardener to Admiral Fairfax, C.B., Ravenswood, Melrose, N.B. The first that took our attention was the beautiful and fantastic as well as relatively rare Aerides vandarum. The sepals and petals are wavy, twisted, and, like the rest of the flower, white. The lip is a strangely constructed organ, and reminds one more of a Vanda than an Aerides. A little green at the tip of the strange spur, a tint of pink on the face of the column, and a fainter tint of yellow on the base of the lip were all that contrasted (if that term may be used) with the purity of the flower. Two large flowers of Odontoglossum Rossii rubescens on a peduncle, reminded us of the beauty of a species now getting rare in a wild state. The blotches were very rich and distinct, while the petals and lip were of a beautiful rosy tint. A bloom of Sophronites grandiflora was notable for its size, texture, and glowing scarlet colour. It measured fully 2½ in. across the petals. Amongst them also was a handsome variety of Lycaste Skinneri, with deep carmine-purple petals. A hybrid Dendrobium, to which we must refer on a future occasion, was a picture of beauty; it bore four large blooms on one very small stem, in structure like that of D. Findlayanum. Mr. Yea is to be congratulated on the handsome and substantial character of his flowers at this stormy juncture, for they could not well be better at any period.

THE PLANT HOUSES.

The Stove.

The cold wave, which in its Arctic-like severity has so long persisted in staying with us, is now, to the gardener's intense relief, a thing of the past, and with the milder order of things, which we may now rightfully expect to see, the inmates of our plant houses will soon be in full vigour of growth. The days, too, are lengthening considerably, and this, with the slight increase in temperature that the occupants of the stove should now receive, will greatly stimulate growth. The thermometer should now stand at about 65° Fahr. during the night in the warmest stove, and at about 60° in the intermediate house, a substantial rise being allowed in both during bright and sunny days.

The atmosphere must be kept nicely moist at all times by means of copious dampings down, as well as by the use of the syringe, which. after its enforced rest during the winter months, may once again be brought into play with great advantage. The water used for syringing should be as soft as possible, and must be free from sediment or foreign matters in solution, which, besides disfiguring the leaves, stop up their breathing pores, being thus directly injurious to the health of the plant itself. Syringing should be conducted sufficiently early in the afternoon to allow of the plants drying before nightfall. If necessary, air may be cautiously administered in the middle of the day by means of the bottom ventilators, which will be quite sufficient for a week or two.

The potting of the permanent subjects should now be well nigh completed, but, if not, should be brought to a conclusion as soon as convenient, for the plants in the other departments will now also be calling out for attention in this respect.

Crotons and Dracaenas.—Shapely little plants of these popular decorative subjects never come amiss, and as old plants have a tendency to become leggy and unsightly it is necessary to keep up a stock of young ones from cuttings. These may be taken as soon as they can be obtained and inserted singly in small pots. Use light, sandy soil, and press it firmly about the stem of the cutting to prevent its being easily disturbed, afterwards plunging in a warm propagating frame. The present is also a favourable season for the ringing of Dracaenas. The outer and inner layers of bark must be cut through with a sharp knife, a small portion being removed. Bind the wound up with moss, keeping this nicely damp for a few weeks to favour the emission of roots.

Any stove Ferns that are now starting to make fresh growth should be examined without delay to see that the crowns are free from the presence of brown scale which when growth is further advanced is exceedingly difficult to get rid of. Adiantums are particularly subject to the attacks of this pest.

Greenhouse and Cool Conservatory.

In this department the most careful management will be necessary during the next few weeks, for March is usually an excessively trying month. We often get bright sunny days which are not infrequently accompanied by cold cutting winds that render it a matter of some difficulty to give air without causing draughts. Such days as this, moreover, are usually followed by cold, frosty nights, and thus two extremes, both of them productive of evil, viz. too high a temperature during the day and too low a one at night, have to be guarded against. The air also is usually very dry at this time of year, and thus an increased supply of water at the root is an essential to the welfare of the majority of greenhouse subjects. Spiraeas particularly must be very carefully watched with regard to this, as, from their liability to fill their pots with roots, they have but little soil around them, and a few hours, neglect with regard to water will inevitably cause them to flag badly.

Azaleas.—These of course are amongst the showiest and the most popular of greenhouse flowering subjects; and batches of them should be brought in as required from the forcing pits. Plants which have dropped their flowers should have their seed vessels picked off before they have reached any size, as if left on a great deal of the strength and vitality of the plant is wasted. Such plants may be removed to a warm pit where a gentle heat obtains, and the

syringe kept plied vigorously among them morning and afternoon.

HYACINTHS.—As these go out of flower they should be removed to the shelter of a frame, but not, as is often the case, kept without water. Many people imagine that once a Hyacinth is forced it is of no further value. This, however, is not the case, for if looked after for water and allowed to complete its season of growth in a natural manner, such bulbs will come in very nicely for planting out in the mixed border in the flower garden.

STIMULANTS.—Many of the flowering plants will be the better for occasional doses of manurial stimulants. These may be applied either in the liquid form or by the sprinkling of small quantities of the powder upon the surface of the soil, afterwards, watering it in. The former method is to be preferred to the latter, especially for the amateur, inasmuch as it is the safer of the two, for most of the artificial manures require exceedingly careful handling, as an overdose may easily be given and will infallibly be attended with great danger to the plant.

Pits and Frames.

IN many cases the occupants of the pits and frames are in a sorry plight from the exclusion of the all important light for such a protracted period. Still, these etiolated subjects will soon regain their normal green now that they are once again uncovered. As soon as circumstances permit all frames should be thoroughly overhauled and all dead or useless plants removed, and the remainder cleaned and pruned or cut back where necessary.

Air as freely as possible all cold frames, taking steps, however, to exclude the rain during unsettled weather. Covering up must still he looked after regularly each night no matter what the weather may look like, for we shall not be safe from frosts for some time to come.

CARNATIONS.—Plants of the border section which have passed the winter in pots will now need to be looked after for water. This must be applied carefully, for if allowed to get into the hearts of the plants a large number of them will be sure to rot off. Where it is the custom to propagate plants of the hybrid perpetual division by cuttings taken in spring no time should be lost in making a start. The cuttings may be placed five or six in a pot and if plunged in a gentle bottom heat will root quickly and surely.

CHRYSANTHEMUMS.—Continue to pot off those cuttings which have sufficient roots, keeping them close for a few days to enable them to recover from the check. Plants which were potted previously must be kept as near the glass as practicable and more air allowed them. Draughts must however be studiously avoided or mildew will soon make its appearance to the detriment of the plants.

FUCHSIAS.—A later batch of cuttings may now be put in, and supposing those which were inserted earlier to have formed sufficient roots to warrant potting off they must also be attended to. The old plants which were shaken out and potted a few weeks ago should now be growing away nicely—a light dewing over with the syringe on bright mornings will help to keep them in health and ward off insect attacks.—*A. S. G.*

THE ORCHID HOUSES.

EAST INDIA HOUSE.—The occupants of this division, such as Saccolabiums, Aerides, and the autumn or winter flowering Angraecum sesquipedale, will in most cases require at least top-dressing with fresh sphagnum moss, and those that have become leggy will be all the better for being cut down, so that when put into the new basket or pot, as the case may direct, the bottom leaves just rest on the new compost. Our practice is to let the plants become moderately dry before attempting to re-pot or re-surface them with the new material, also to make sure that the new compost to be afforded them is not too wet, and that it is made warm by placing it in the house where the plants are growing a day or two before being used, so that the roots will not receive any check by having material placed about them lower in temperature than that they are used to. This is most important, especially with orchids growing in strong heat.

Everything being ready, commence by removing all the old worn-out moss, and as many of the crocks as convenient without damage to the roots, then wash the remainder by a free use of the syringe. The water, I need hardly point out, should be of the same temperature as the house in which they are growing. The batch of plants thus treated should be allowed to stand over until the next day, so that the roots may become dry before filling in again with new crocks, which should be placed carefully in until they are within about two inches of the top of the pot. Then finish off with a good layer of live sphagnum moss, with which mix small bits of potsherds. This we find to keep sweet much longer than charcoal; in consequence the latter is going out of date with most Orchid growers. Give a gentle watering after all is complete, and place in a shady part of the house, and keep the atmosphere about them fairly moist until they can with safety be returned to their proper quarters. A little precaution like this will save them from loosing their bottom leaves.

SHADING.—The exceptional weather we have experienced tends to put us off our guard; but the time of year tells us that we should be prepared for strong sunshine and most likely a searching east wind during next month, and after such weather the plants must be shaded during the middle of bright days, or several of the old leaves are sure to turn yellow. The running down of the blinds, too, keeps the temperature from rising unnecessarily high and thus avoiding the admission of cold draughts by having to open the ventilators. I would much rather shade than open the top ventilators at this time of year, provided it is not carried to excess. The temperature may be allowed to gradually rise as the weather becomes milder.—*C.*

THE VEGETABLE GARDEN.

The Weather and the Crops.

IT has not been possible to do much of late in this department; but as the season is getting so far advanced most gardeners will be anxious to prepare for sowing. Some, no doubt, will be in too great a hurry, and will in that way only hinder, instead of forwarding growth. As before pointed out, more may be done by good management than by a lot of needless worrying of men and oneself. Where a plan of the kitchen garden has been prepared, with a key to planting the same, we have only to refer to the numbers of plots to see where the crops are to be grown. Early Peas that were sown in pots have made good progress, so that no further trouhle need be made about them. Broad Beans, too, are looking well, and will be ready for transplanting whenever the weather is favourable and the ground in a workable condition. Last year we planted the second week in February, and had one of the finest crops we ever grew; this season it will be quite the middle of March before planting can be effected.

Most of the winter green crops have been sadly cut up by the frost, Spinach and Broccoli in particular, and as these are two vegetables much in request in early spring, it will be difficult to replace them. Seed of the former that was sown early in September has withstood the frost fairly well; as soon as the weather is favourable this should have a sprinkling of artificial manure to be worked into the soil with a hoe. If a cold frame could be spared a sowing of this could be made in it, which would give a supply till that out-of-doors had grown sufficiently large to gather. We have previously pointed out the advisability of always planting a good hreadth of Kale, and this season has proved that such advice was sound practice, for these have withstood the frost better than anything and are now giving a plentiful supply of wholesome food. There are many varieties of these, but with us Sutton's A1 is the favourite, though the green curled is very useful.

It is too soon to tell with certainty how the Broccoli has fared, as often the stems are frosted through, and this does not show itself till mild weather sets in. It will be well, however, to be prepared for the worst by pushing forward a good batch of early forcing Cauliflower, and if a slight hot-bed can be afforded these it is astonishing how quick they will grow. Some of the plants can be taken out for planting in the open ground on a warm sheltered border. All gardeners know the value of Seakale, and this season there will be a greater demand for it than usual. To prolong the supply have some roots laid in at the back of a north wall, and when the weather gets warm enough to cause them to commence growth remove them to a cool cellar, where they will grow slowly and be perfectly blanched; treated thus the growth is far more crisp than that ohtained by covering in the open ground. —*Kitchen Gardener.*

Gleanings from the World of Science.

The Disease of the Larch.—It is now well known to scientific men that the disease of one of the most useful timber trees is brought about by a fungus named Peziza Willkommii, whose mycelium threads penetrate and ramify amongst the tissues of the inner bark and cambium that are soft and rich in plant food. There is still great diversity of opinion amongst various observers as to the causes that favour the growth and wide dissemination of the fungus in plantations of Larch trees, and many still fail to recognise the fungus at all. The English Arhoricultural Society has been conducting inquiries on the suhject, and Dr. Somerville gives a long report of them in Vol. III., Part IV., of the Society's Transactions. The fungus most generally attacks young trees with no great thickness of stem, and kills the bark and cambium at the points of attack, and as these proceed round the circumference from year to year they at length meet, thus preventing any growth or thickening below the dead portion, so that the tree at no distant date succumbs.

Age of trees most liable to attack.—Most observers agree that Larch trees are most liable to attack between the seventh and fifteenth year. Others have ohserved that old trees are not exempt from attack, but that the upper branches or younger parts only suffer in this way. Then it is evident that the germ tubes of the fungus are only able to penetrate the thin bark of young trees or of the younger branches of old ones. Taking it for granted that frost is the fertile source of wounds in the bark and through which the germinating spores are able to penetrate to the cambium layer, it can readily be perceived that young bark would the most readily suffer, and old bark seldom or never. It follows therefore that trees which escape the fell malady till they are old could go on producing good timber below the range or seat of the fungus, in spite of the loss of some of the upper branches. Young trees, being attacked near the base, very soon succumb, because the roots and tops get severed by destruction of the vital parts immediately under the bark.

Effect of high and breezy situations on the fungus.—The bulk of the evidence on this point is that trees planted at high, relatively dry and hreezy situations are less liable to be destroyed by the fungus than those occupying land in deep moist valleys and similar situations. At high elevations the conditions are unfavourable to the development of the fruiting portion of the fungus, whereas, on the contrary, sheltered and moist situations, where the air is often stagnant, favour the production of spores in such abundance that the trees get attacked and destroyed in a wholesale manner. Frosts also are generally, if not always, more severe in such situations. Scientific authorities have also observed that the Larch succeeds better in mixed woods than when the whole of the ground is occupied by it. Furthermore, evergreen Conifers seem to show the better results to most advantage even if they do not contribute to it. The only apparent reason that can he assigned for this is that the spores are caught and detained amongst the thick foliage of evergreen Conifers that do not themselves contract the disease. The Larches are, as it were, isolated from one another, and diseased trees may die without affecting their neighbours.

Can the disease be cured or mitigated.—The previous paragraph affords evidence whereby the disease can, to a considerable extent, be mitigated; but a complete cure has not yet been discovered. Some experimenters have found that if the diseased portions of a tree be dug out with a chisel or knife in its early stages and the wound dressed with grafting wax or coal tar, that the tree may recover. But this operation is too tedious, and consequently expensive, to be practicable on any extended scale in a wood or plantation. Preventive measures, such as good methods of sylviculture, including judicious thinning, pruning, selection of situation for planting, and drainage of wet land, are most likely to be productive of beneficial results.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gadens, Chiswick; Secretary of the Fruit Commitee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, GARDENING WORLD, 1, Clements Inn, Strand, W.C.

PANSIES AND VIOLAS.*

EARLY HISTORY.

The earliest English names I can find for the Pansy are Pances, Hartes' Ease, and Love-in-idleness. The first is borrowed from the French *pensée*, a thought, idea, or sentiment, and it is also applied by the French to the Pansy. Heartsease, a common English name, may have been suggested by the French name; that may be the case with Love-in-idleness, but I shall here refer you to Shakespeare's explanation of it in *Midsummer Night's Dream*, where the poet makes Oberon say:—

"Yet marked I where the bolt of Cupid fell:
It fell upon a little western flower—
Before, milk-white; now purple with love's wound,—
And maidens call it love-in-idleness."

Other English names are Fancy and Tickle-my-fancy, which have a cognate relationship with the previous ones. Flamy is doubtlessly borrowed from the Greek *phlox* and the Latin *flamma* and *Viola flammea*, which signify a flame or like a flame. Herb Trinity is taken from the old Latin *Herba trinitatis*. Live-in-idleness is evidently a corruption of Love-in idleness. Garden Gate, Kiss-me, Kiss-me-at-the-garden-gate, Jump-up-and-kiss-me, and Call-me-to-you, seem all to have been suggested from the manner in which the flowers are all bent upon one side, and appear like faces looking at anyone who may enter the front garden, that is, the direction in which the light reaches them. This face, together with the curvature of the flower-stalk, making the flower appear in a thoughtful attitude, is most probably responsible for most of the above names applied to the Pansy, as well as Call-me-to-you. Pink-of-my-John I shall not attempt to explain. Three-faces-under-a-hood is readily suggested by the three blotches in the centre of a large number of varieties; we have now sorts with five blotches. In quite recent times some admirers and lovers of the Pansy, in looking at a partly opened flower with the lip still curled up, have imagined it as chuckling up its sleeve.

The learned D. Rembert Dodoens, a German, and physician to the Emperor, wrote a *New Herbal* of all the plants used in medicine; and this was translated from French to English, and published in London in 1578, contemporary with Shakespeare, and gives the name Love-in-idleness, used by the latter. Dodoens correctly describes and illustrates the Pansy under the name of Viola tricolor, still accepted by botanists, and further says:—"These floures do grow in gardens, and there is many of them found growing amongst the stubble in corne fields." There is no indication, however, that the Pansy, 317 years ago, had undergone any improvement whatever at the hands of the cultivator. It is extremely variable, however, even in a state of Nature, and extends in one form or other over Europe, North Africa, Western Asia, and Siberia to North West India. The little western flower of the poet is therefore not confined to the west. Its wide distribution and quaint, peculiar form have brought it under the eyes of millions of human beings for ages past, and the number of names it possesses attests its popularity. Wordsworth says:—

"To me the meanest flower that blows can give
Thoughts that do often lie too deep for tears."

And Gray says:—

"Bright-eyed fancy hovering o'er
Scatters from her pictured urn,
Thoughts that breathe, and words that burn."

And Shakespeare comes to the front again, and puts it plainly:—

"There's rosemary, that's for remembrance; pray you, love,
Remember; and there is pansies, that's for thoughts."

And "thoughts" is practically the name of the flower under discussion.

In 1759 Philip Miller, F.R.S., gardener to the Worshipful Company of Apothecaries, at their Botanick Gardens, in Chelsea, describes the Pansy as the "Creeping three-coloured Garden Violet, commonly called Heartease or Pansies," and said that there were many varieties differing greatly in size and colour. The large ones were scented, but the small ones scentless. He was unable, however, to say whether they were different species or not owing to the way they scattered their seeds abroad and came up in a mixed state everywhere, thus defying him to prove whether seeds from large kinds give rise to others with large flowers, and small to small kinds. We have clear evidence that the Pansy had undergone considerable improvement by this time, though the physicians' gardener was unable to account for it, nor even recognised that the large ones were the offspring of the wild Pansy under cultivation. He further goes on to say that self-sown seeds came up in the autumn and flowered in spring, and those sown at that time kept up a succession, almost the whole year, particularly should the winter following be a mild one. They will flower most part of the summer in shady situations, "which renders them worthy of a place in every good garden." Judging from these facts and from what he said about their cultivation and propagation, we must acknowledge that his experience and cultural knowledge was not particularly far behind ours of the present day, except in minor details.

Coming down to Loudon in 1834, we find that the Pansy has been considerably improved from the wilding with flowers ½ in. to 1 in. in diameter. Mr. Hogg, a famous florist of those days, gave a list of nearly a hundred named kinds, and said that they flowered from the beginning of June to the beginning of July, after which they halted till they got rain, when they commenced again and continued till checked by frost. His characteristics of a good flower were "large and round petals, the flower forming nearly a circle, not much undulated (1¼ in. across is large enough, but some are broader); colours (brilliant), distinct and permanent; eye rather small, and not deeply pencilled; flower stalks strong and straight; and the stigma filling the open heart of the eye." The culture was much the same as at present. Already we see the designing hand of the florist binding down the flower to a circular and artificial form and to his rigid ideals of perfection in a florist's flower, which his successors in after times not only accepted, but applied the rules even more stringently.

The show Pansy, or true English Pansy of modern times, would average about 2 in. in diameter, but might be somewhat under or over those dimensions, according to cultivation and the particular variety. The properties of an ideal or model show Pansy are that the form should be circular or as near thereto as possible, smooth, not undulated, and of good substance, so that they may be durable when cut. The colours should be distinct, well-defined, and attractive, and the eye should be small, circular, without any streaks running into it, and of some shade of gold or orange. The whole race is divided into three classes, namely, selfs, white grounds, and yellow grounds. The selfs should be of one uniform colour, regardless of the eye. The other two classes may have three blotches of moderate size in the centre, with a well-defined margin, that is, without streaks proceeding from their margins. Around this must be a relatively broad area of white or yellow, as the case may be, and a clear, well defined belting of some other colour forming a broad margin to each petal.

Somewhere about 1855 a strain of large Pansies was sent over from Belgium, and these have since become known under the name of Belgian or Fancy Pansies. The flowers would measure from 2½ in. to 3¼ in. in diameter, and for some time were disregarded by the British florist, who looked askance upon them as outraging his ideals of a florists' flower; but as time went on they began to be looked upon with more and more favour, till now they are more popular than the old show varieties, more particularly, I believe, in England than in Scotland. British florists since that time have been more active in raising new and improved forms than the Belgians themselves. The fancy Pansies admit a greater freedom in the matter of colour, and owing to their large size, bold appearance, striking colours, and the freedom with which they may be raised from seed and grown in quantity, amateurs have taken kindly to them and grow them largely in many gardens. When raised from seed they cannot be expected to come up to the florist's ideal or standard to which he works or at which he aims, yet the amateur can enjoy his flowers while disregarding exhibition models.

No classification has yet been made of this type although white and yellow selfs are spoken of, yet the terms have a different significance than when applied to show varieties and are scarcely appropriate. The properties of an ideal fancy Pansy are much the same as for show kinds, but it must be larger and the colours differently arranged. The three blotches should be large and well defined, or clean cut as the growers say. The rest of the flower may be entirely of some other colour, when the variety is termed a self. On the other hand, the blotches may be edged with a different colour, while the lower three petals are laced with white, yellow, or some other hue. The lacing is a very constant feature of the class. The two upper petals are generally of a different hue from the rest and fade to a pale margin.

On the Continent and in America several other strains are grown, to which distinct names are given, but though they do not conform to the florists' ideal of a fancy Pansy in this country, yet they may all be placed under that denomination, as they are generally characterised by great size, large blotches, and brilliant, attractive colours suitable for garden decoration, and doubtless secure hundreds of admirers. Some of these strains are—Peacock, of velvety-crimson hue, shaded with blue, and edged with rose and white; Trimardeau and Odier, or blotched Pansies, with three prominent blotches, and other bright colours; Roemer's Superb Giant and Lorenz's Perfection Pansy, with five blotches, and a white or pale margin; and Cardinal, with crimson blotches and the rest orange-red.

*A paper read by Mr. J. Fraser before the Turnham Green Literary and Scientific Society on the 12th February.

RAFFLESIA ARNOLDI.

IN reference to Rafflesia I thought perhaps the following extract might be interesting to A. K.:—"During Mr. Arnold's travels in the Island of Sumatra, he discovered in the depth of its forests the largest and grandest flower that it is yet known, and which now bears its name, the "Rafflesia Arnoldi." When his native servants called his attention to this flower growing in the jungle, close by their path, which they appropriately called the "wonder wonder," he beheld a blossom that measured more than 3 ft. in diameter. Its enormous petals were of a bright red colonr, and covered with yellow spots. The nectary—in this case a low rim at the base of the petals—formed a cup which would hold twelve pints of water. He might well have supposed that he had found some new gigantic plant, of which this formed the bloom, but, on carefully examining it, to his great surprise it appeared to possess neither root, stem, branch, nor leaf. It belonged to that rare order of plants, of which a few other species are known, whose members consist mainly of one organ—a flower spring up as a parasite on the low branches of some forest trees. Strictly speaking, this plant has a very small root, by which it attaches itself as a parasite to the bark of a large Vine (Cissus), and also a tiny stem, but both are entirely hidden by and altogether out of proportion to the enormous flower. It belongs to that curious tribe of parasites known as Rhizogens."—*J. L.*

A PINE WOOD.

AT the present juncture, when so much attention is being given to the re-afforestation of our native hills and waste places (which were so ruthlessly devastated many years ago in the early days of a rude civilisation), it may not be out of place to give an illustration of what is to be aimed at in the production of good timber for commercial purposes. When a plantation is being formed, the young trees are planted at distances varying from 3½ ft. to 5 ft. apart, according to the richness of the soil, and as they grow they are gradually thinned out, leaving the best to finally occupy the ground and produce the best timber. The number per acre to be left will depend upon the kind of tree and the fertility of the soil. The object in thick planting and keeping the trees much in that condition afterwards is to secure straight and upright trunks with small lateral branches, so that the wood may be as clean and free of knots as possible. For merely ornamental purposes a different plan is pursued, and the trees are accorded plenty of space, so as to branch regularly on all sides like a pyramid. There is, however, real beauty in the rugged grandeur of a Pine wood even in winter. The dark, sombre green, or the silvery glaucous hue of the foliage of different trees contrasts beautifully with the deeply-ribbed and brown trunks, or with the brownish-red hue of the smooth bark of others.

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

THE CULTIVATION OF EARLY VEGETABLES.*

THE object of my paper to-night on "Early Vegetables," as I believe you all know, arose mostly from the Devon and Exeter Horticultural Society holding their summer show this year in June instead of August. As it is to be a Rose and general show, the object aimed at is Roses, which I hope will turn out successfully. In my opinion good Rose growers are not so plentiful as good vegetable growers in this locality. When I was asked to read this paper our schedule was not drawn up, and little did I think then that the collections of vegetables would be cut down from twelve dishes to eight, which I am sorry to say is the case. The idea was that that would be as many varieties as would be procurable in the last week in June; and I might say our chief seedsman supported this. Now in my opinion, about that time is the very season for the best quality vegetables of the summer. I have taken prizes for collections of twelve kinds in the first week of July, which is only one week later, and I know we could get even more than twelve kinds if we wanted them. And I don't think at this time of the year we should be likely to have such coarse overgrown things as are often shown in August.

Quality should be our first consideration — if quality and quantity can be combined so much the better. Now for twelve kinds on the 28th of June. The following with a little trouble may be had in perfection, as I will explain as I go on. Potatos, Peas, Cauliflowers, French Beans, Carrots, Tomatos, Onions, Cucumbers, Mushrooms, Globe Artichokes, Turnips, and Broad Beans; failing any of these, Cabbages, or Vegetable Marrows, would be a substitute. Even Asparagus could not be disqualified in June, therefore should come in for one of the twelve dishes, but myself I make it a rule not to cut after midsummer if the beds have yielded a good crop.

I shall now commence on the cultivation of early vegetables, whether for exhibition or for general use. For the Potato a dry, friable, fresh, and moderately rich soil is the best for all kinds. To obtain early crops I like good sized sets, and only leave about two eyes. If the sets are placed in boxes with their leading buds upwards, in a vinery or Peach house out of frost, a few weeks before wanted, strong early shoots will be produced; but if you reverse the position you will get very weak and later shoots, and not only will the earliness but the quality of the produce be depreciated. For early crops I grow Veitch's Improved Ashleaf, and cannot get anything to beat it, although I have tried sorts that are advertised to be earlier. Last year I gave way to Sharpe's Victor for frame work, but will not do so again, as neither the size nor the quality was to be compared with Ashleaf. Neither do I consider Puritan or Hebron, or any of the American varieties to be compared with Ashleaf, and with plenty of manure a good crop can be relied on.

The time of planting depends on the locality. Years ago people used to plant in October and November, putting the sets deep out of the reach of frost. This, I have heard, answered very well in porous dry soils, but the advantage is not good enough to recommend it in these times. The beginning of March is the best time to plant early Potatos, then by the latter part of May and beginning of June they will be ready for use. The ground should be trenched in autumn. If dung is applied, it should be trenched in, and the ground left in a rough state until February, when it should be forked over, and by March the frost will have left it well pulverised to receive the sets. Some people put the dung in with the Potatos, but unless it is thoroughly rotten I do not recommend that practice, as half decomposed dung in a dry summer is fatal to a good crop. There are different modes of planting. Some people use the dibble, others dig them in, but I like the shovel, and put them in alleys two feet apart and one foot in the rows; but I never allow anyone to tread in the alleys, as is often the case when you see a man planting Potatos, he treads the bottoms very hard, but I always make them put one foot on either side, then that foot mark comes out in hoeing, and the sets have a plumb bottom to grown in.

SCOTCH FIRS IN WEST WICKHAM WOOD.

SEAKALE.

Seakale, or Crambe maritima, which was formerly called Sea Colewort, grows wild on the sea coast of our southern shores. There are two varieties, the ordinary old variety and the Lily White, I like the latter, as it has not got the purple tops. It is of a beautiful white throughout. Although I do not think this variety is so well known as it should be, it is quite distinct. There are different methods for growing Seakale; it requires an open situation, and is readily increased by division of the roots or by seed, the latter being the more preferable. A good plan is to sow where it is intended to stand, and in doing this the ground should be deeply trenched during winter, say 2½ ft. to 3 ft. deep. Lime rubble put in the bottom of each trench, and a good layer of well rotted dung or seaweed in March, and a good coat of seasand, if obtainable, should be well worked in; not being able to obtain seasand myself I use river sand with a good coat of salt mixed with it, although this is not so nutritious. The size of the beds, of course, depends on the quantity required. A bed 4 ft. wide would take two rows; 6 ft. wide, three rows, and so on in proportion.

In sowing seed, which should be in the latter part of March, a good plan is to draw circle drills 2 ft. apart, say about 8 in. in diameter, 2 in. deep, and with about six or eight seeds in a circle. Seedlings up and well established should be thinned, leaving three or four of the strongest. This plantation, if kept clear of weeds and attended to during summer, may be covered with ashes and good Seakale got the following spring. Another good plan is to sow the seeds in drills, and a plantation or bed made from one-year-old plants, which should be planted triangularly in each patch, the circle, as before directed, 2 ft. apart. Plants may also be got by cutting the roots in pieces and planting them in the same way. Newly-planted beds will want a copious supply of water during summer. Now to force Seakale, as in planting, there are different ways; some prefer taking up the crowns and putting them in boxes or pots in any warm place, or in a gentle hot-bed, taking care not to break the roots. Of course, in either case they are to be kept quite dark. I prefer forcing in the open ground by putting pots over the crowns and covering with leaves or dung; if the latter is used, great care must be exercised, it being so quick in heating action, and too strong heat is fatal to Seakale. It would be long and weedy. The heat had better be too low than too high; the best temperature is from 50° to 60°. I generally make my first covering about the middle of November, so as to commence cutting for Christmas. It should take plants five weeks from the time of covering to be ready. I always use a few coal ashes, enough to cover the crowns, as this prevents slugs from eating into them. Of course the best Seakale is that which is grown without artificial heat, say in March and April, covered with coal ashes. After the crop is cut the beds should be forked over and kept clear of weeds through summer.

ASPARAGUS.

This is another of our early vegetables, which should follow Seakale. It is the vegetable of the year, and in olden times I have heard it was called "Sperage," then "Sparrowgrass." There are two varieties, the purple-topped and the green-topped. There are said to be several varieties which get their names from the place of their growth, and are only to be distinguished by size or flavour, which is usually lost on removal from their native place. The principal kind is known as the Giant, but to keep it true to that name depends on its cultivation. Asparagus likes a good sandy loam, made rich by adding plenty of manure. The ground should be trenched as recommend for Seakale, 2½ ft. to 3 ft., deep beds should be made so as to range from north to south, and as free as possible from trees and shrubs. The subsoil should be dry, or the beds made so by adding lime rubble or other material to serve as a drainage. I like beds about 4½ ft. wide. This will take four rows. The beds trenched and thoroughly well manured, give a good surface dressing of salt, which will wash in with rain. After it has lain a few weeks, trench it over again; leave the surface rough and open, and let it lie until the time for sowing, when it should be made as fine as possible. If planting is adopted a second sprinkling of salt may be put on with advantage. The

*A paper read at the Exeter Gardeners' Association, on the 20th February by Mr. E. Sparks, gardener to the Right Honourable the Earl of Iddesleigh, Pynes, near Exeter.

best time for planting is about the first week in April. The plants should be taken from three-year-old seed-beds as carefully as possible, and not before all is ready to plant, as they should be exposed as short a time as possible to the air.

Different people have different ways of planting, but I like to have a stout stake at each corner of the beds, then measure off the four drills, take out a trench about 6 in. deep, put the plants in about a foot apart with all rootlets straightened out, cover those and take out the next drill, and so on. When the planting is completed the beds should be raked over and edged down to have a neat appearance. Care should be taken never to tread on the bed; the paths between the beds should be 2 ft. wide. Some people sow Lettuce or Radish between the rows the first season; this might be done, but it often happens that new Asparagus beds are ruined by being pestered with other crops. The beds should be kept clear of weeds through the summer; in November the stalks should be cut down and the beds covered with manure. Most people fork and clear the alleys between the beds in autumn, and put manure on the top; this I never do, but defer it until spring. I cover the alleys as well as the beds, as may be seen now at Pynes, as I believe you put the manure on the beds to keep the frost out and open the alleys to let it in. I believe the best plan is to sow the seed where it is intended to stand, although this is not usually done. The best time to sow is in March; drills should be taken out 1 ft. apart and about 2 in. deep. When the seedlings are up moderately they should be thinned to about 9 in. apart, taking out all the weakly plants; the ones left should have occasional soakings of liquid manure. If well attended to good Asparagus may be cut the fourth year.

Asparagus is easily forced, and is very productive when well managed. It may be forced in various ways, but those who have the command of hot-water have the least trouble. In forcing houses it may be put in pots or boxes and covered with a few inches of leaf-soil; Melon or Cucumber frames may be used. Make a nice hot-bed and cover with about 6 in. of leaf-soil. This may be done any time through the winter months; keep the crowns a foot from the glass. As soon as started the crowns should be covered with about 4 in. of leaf-soil. When growing freely give the bed a little tepid liquid manure, adding a little salt. The plants should be taken from an old bed, and great care should be taken in removing the plants not to bruise the crowns in any way. To obtain strong shoots it depends much upon the way the plants are handled.

Mushrooms.

I cannot pass over Mushrooms without a few remarks, although at some future date I hope to hear an essay on them, as a good evening might be spent on their cultivation, as they form one of our best dishes at any season. Mushrooms are easily grown where you have the materials to do it with. In any dark shed or cellar a bed may be made, but in any case it must have a dry bottom. For early spring use a bed should be made in October and another in February, and should consist of horse droppings which should be saved for the purpose. The quantity depends on the size of bed required. About one-third of road scrapings or turfy loam should be well mixed with it and turned several times to sweeten in some dry place. A little dry husky dung may also be mixed with it before making the bed; if it gets too dry sprinkle with a little tepid water.

All being well mixed and in good condition, proceed to make the bed as solid and firm as possible, about 15 in. to 18 in. thick. In about eleven days after the bed is made it should be fit for spawning, but if the heat is too great defer it for a day or two, the heat should be about 60° to 65°. Have the beds firm and smooth before spawning, then open the holes with the hand about an inch below the surface, and 6 in. to 8 in. apart every way, and place in them a piece of spawn about 2 in. square. If there is no fear of the bed being too hot it may be covered the same time with about 2 in. of good turfy loam rather dry and run through an inch sieve. When covered sprinkle with a little tepid water through a fine hose, then pat the whole down firm and smooth and cover with light litter. In about a fortnight take the litter off and examine if the spawn is running; if it is cover up again, if not pack a little fresh dung against the bed as it would be too cold, unless you have hot-water pipes, in this case you could put a little heat on. I forgot to say that if hot-water is at command the beds need not be more than from 9 in. to 12 in. thick. In gathering Mushrooms the knife must not be used, for the stumps left on the beds become a nursery for maggots which are liable to affect the succeeding crops. I believe there are various books and writings on Mushrooms, although I have never seen one, but I will defer saying more at present.

French Beans.

There are several varieties, but those which I consider best are Ne Plus Ultra and Canadian Wonder. I like the former for indoor work as it is very productive, as is the latter for warm borders outdoors.

As regards forcing very early, unless you have plenty of fuel and good places to do it, it is not worth the trouble. Of course French Beans may be had at all seasons, and in some places they have to be. I generally make my first sowing in January in pots, about three plants in a 10-in. pot, then they are ready for gathering in the latter part of March and continue on for some time. Sowings should be made every three weeks or month. The chief requisites for success are to have them near the glass, well watered, a moist atmosphere, and ventilated as much as the season permits. To get them early out of doors with a little trouble they can be helped several weeks if sown in pots during the latter part of March, say three Beans in a 4-in. pot in a warm house. When about 3 in. or 4 in. high they may be stood in a cold frame with plenty of air, the lights taken off on fine days until the middle of May, when they will commence flowering. Then they may be planted out on a sheltered border, and in three weeks or a month you will be able to gather from them, so by taking this amount of trouble Beans may be easily got by the 28th of June.

Peas.

As Peas may be helped on in different ways, a good plan for the first crop is to sow them in small pots, about six in a pot. About the middle of January is a good time to commence. Another very good plan is to cut some narrow strips of turf, say about 4 in. wide and 3 in. thick and about 2 ft. in length. Turn them grass side downwards and scoop out a little groove with the trowel, place the Peas in this and cover with a little fine soil. Put them in a warm frame, and as soon as up give plenty of air, and on all fine days take the sashes off. At this period of growth, they do not require a large quantity of water, just keep them moist. In March they should be planted out on a warm border on deep, well-manured ground, and sheltered on each side with a few fir branches. The quantity to sow, of course, depends on the quantity required. There are numerous varieties, some of the round seeded sorts are a few days earlier than the wrinkled, but where quality is a consideration the latter is certainly the sort to grow. The one I grow is William Hurst, or, at least, I bought it for that some four years ago, although there is some doubt about the variety as it grows about 2½ ft. to 3 ft. high, some people say it is not William Hurst, yet cannot say what else it can be. This, I know, is a good early wrinkled Marrow and of excellent quality. Veitch's Exonion is also a good early Marrow in some soils. Of the round seeded varieties I like William I., which is a good cropper, of good quality, and only a few days later than the so-called very early sorts. To get a good dish of Peas by the 28th of June for exhibition I should recommend Telephone, to be sown about the end of February.

(*To be continued*).

TREE PLANTING, ALLOTMENTS, AND FRUIT CULTURE IN WALES.

The Welsh Land Commissioners, under the presidency of Mr. Brynmor Jones, Q.C., M.P., resumed their duties at the early hour of ten on Saturday morning, the 23rd ult., in their board-room, Trafalgar Buildings, London. After several speakers had dealt with questions in hand, Mr. J. Muir gave the following evidence:—

State-aided Planting.

Mr. J. Muir, estate superintendent of Margam Abbey, Port Talbot, put forth an ingenious and interesting scheme of State-aided tree planting, which attracted the Commissioners' keenest attention. Commencing, he said that forestry was a subject of National importance much neglected in Wales. There was an abundance of waste land everywhere, especially in Glamorganshire, where coal measures abounded that would be vastly more profitable under a tree crop than in the present condition. In his opinion it would be unnecessary to go to the expense of draining or cultivating the soil previous to planting. He spoke from experience, as he planted 100,000 trees annually at Margam. Many parts of Wales, which were exceedingly bleak and wet, would be improved by the planting of trees, as they would afford shelter for stock and crops, and absorb much of the superfluous moisture that now ran from the hills and injured the low-lying and fertile soils. He thought the best kind of tree to plant was Larch, where not affected with disease. Where the land was unsuitable for Larch, he recommended Ash, whilst Alder was best for very wet land. The main drawback to planting in the case of small and poor landowners was the want of capital and their inability to allow the land to remain unremunerative till the timber was of marketable value. To remedy this he would make the plantation a security for a loan to be advanced by the Government in order to conduct planting and other preliminary expenses and pay the annual rent till the corps afforded a return to the landowner.

Interesting Statistics.

Dealing with 100 acres worked under those conditions, Mr. Muir put in the statistics mentioned below, with the observation that the ultimate results gave the utmost confidence, and absolutely warranted the spirited adoption of this system. Barren, healthy soils, worth not more than 2s. 6d. per acre, if planted with Scotch Larch only, and judiciously thinned and well managed in other respects, will, at the expiry of fifty years, when the whole of the trees are cleared off and sold, have yielded above £2 as yearly rent per acre from date of planting. The following example gives the thinnings per acre sold from time to time during fifty years in a district where there was little demand owing to distance from railways, &c.:—

Age.					£	s.	d.
15	400 trees	thinned out at	3s 0d	per 100..	0	12	0
19	300	,, ,,	7s 6d	,, ..	1	2	6
23	250	,, ,,	10s 0d	,, ..	1	5	0
27	150	,, ,,	2d	each ..	1	5	0
32	200	,, ,,	6d	,, ..	5	0	0
37	250	,, ,,	1s 0d	,, ..	12	10	0
42	200	,, ,,	3s 0d	,, ..	30	0	0
50	200	,, ,,	8s 0d	,, ..	80	0	0
				£	131	14	6

This example is given to show landed proprietors the best way to increase the rental of their poorest lands, and, at the same time, raise the value of their estates by the ameliorating influence of plantations upon the climate.

Receipts from 100 Acres.

The following table shows the amount of money that would be realised by the sale of timber grown upon 100 acres properly thinned during a period of 50 years:—

Years.	s. d.	£ s. d.	£ s. d.
1—15(15)	400 at 3 0 per 100	0 12 0	60 0 0
16—19 (4)	300 at 7 6 ,,	1 2 6	112 10 0
20—23 (4)	250 at 10 0 ,,	1 5 0	125 0 0
24—27 (4)	150 at 0 2 each	1 5 0	125 0 0
28—32 (5)	200 at 0 6 ,,	5 0 0	500 0 0
33—37 (5)	250 at 1 0 ,,	12 10 0	1,250 0 0
38—42 (5)	200 at 3 0 ,,	30 0 0	3,000 0 0
43—50 (8)	200 at 8 0 ,,	80 0 0	8,000 0 0

Amount of State Aid Required.

If needy landlords in these times of severe agricultural depression are to be induced to plant considerable areas of land, it will be necessary that they should have the opportunity of borrowing at a cheap rate, not only the capital necessary to plant and enclose the land to be devoted to tree culture, but also an amount of money sufficient to recoup them the rent of which they would otherwise be deprived during the early unproductive years of the woodland growth. I have framed the following scheme of State-aid on the basis of the landowner being placed in no worse position than he occupies at present during the first fourteen years of the trees' development. During the next twenty-two years the landowner will derive a small advantage from the application of the scheme to his property. It will be during the last fourteen years of the fifty-year term that the bulk of the receipts will come in upon which the Government must depend for the re-payment of its advances to the landowner, and upon which the latter must depend for the great

profits which he will ultimately realise. The subjoined tables show in greater detail the working out of my proposals:—

COST OF PLANTING 100 ACRES.

The following table shows (1) the cost of planting and fencing 100 acres of land, (2) the amount of money necessary to recoup the landlord his annual rent for the first fifteen years after planting, (3) the cost of insurance, and (4) compound interest on all advances of money calculated on the 3 per cent. tables:—

Years.		£	s.	d.
1—15	Cost of trees, planting, fencing ..	400	0	0
	Rent at 2s. d. per acre (£12 10s.) per annum for 15 years ..	187	10	0
	Cost of insurance for 15 years on (say) £800 10s. at 3s. 6d. ..	23	0	0
	Compound interest on £400 at 3 per cent.	223	0	0
	Compound interest on rent advanced..	45	0	0
	Compound interest on insurance	11	10	0
		890	0	0
6—37	Compound interest on £890 at 3 per cent. for 22 years ..	815	0	0
	Total sum due to Government at end of 37 years	1705	0	0

The result of planting 100 acres with trees, it will thus be seen, is to leave the landowner at the end of thirty-seven years indebted to the Government in the sum of £1,705. The amount required to repay this sum within the remaining thirteen years of the original term of fifty years is £160 per annum. But a glance at the foregoing table showing "Receipts from trees" will demonstrate that the landowner will now be in a position easily to make these repayments, besides putting in his own pocket very large and welcome profits. The following table shows the ultimate working of my scheme, giving the landowner a net profit on his 100 acres of £10,000, or more than twenty times the value of the original fee-simple:—

Years.	Revenue from Trees.	Rent of Land.	G'v'rnmn Repaymn	Profit, less cost of Insurance.
1—14 (14)	—	175 0 0	—	—
15—18 (4)	60 0 0	50 0 0	—	10 0 0
19—22 (4)	112 0 0	50 0 0	—	62 0 0
23—26 (4)	125 0 0	50 0 0	—	75 0 0
27—31 (5)	125 0 0	62 10 0	—	62 10 0
32—36 (5)	500 0 0	62 10 0	—	437 10 0
37—41 (5)	1250 0 0	62 10 0	800 0 0	302 10 0
42—49 (8)	3000 0 0	100 0 0	1280 0 0	1484 0 0
50 (1)	8000 0 0	12 10 0	160 0 0	7810 10 0
	13170 0 0	625 0 0	2240 0 0	10244 0 0

(To be Continued.)

NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual general meeting of this Society was held at Anderton's Hotel, Fleet Street, on Monday evening, Mr. Charles E. Shea (one of the Vice-Presidents) occupying the chair. There was a fair attendance of members, but owing to the prevailing epidemic, quite a number of well-known supporters of the Society were unable to be present. The minutes of the previous annual and special general meetings having been read and confirmed, the Honorary Secretary, Mr. R. Dean, read the following report of the Committee and the statement of accounts for the past year:—

It is with the liveliest satisfaction the Committee are able to heartily congratulate the members upon another year of growing prosperity. This is shown by the fact that eleven Fellows and one hundred and thirty ordinary members have been elected, and the unusually large number of nineteen societies received into affiliation. This assuring growth in numbers is emphatic testimony to the widening influence exerted by the Society at home and abroad; and also the high estimation in which the Chrysanthemum is held as an exhibition flower.

The various shows fully maintained their reputation as the best in London. The display of early Chrysanthemums in September was small, owing to the somewhat unfavourable character of the season; but the fine collections of Dahlias and Gladioli amply compensated for any disappointment on this account. In October there was an imposing exhibition, equalling in quality the Chrysanthemums seen in November. The Great Autumn Fête in November is unquestionably the largest show of the "Golden Flower" held in the United Kingdom, and a much more extended space for staging was required than in the previous year. On this occasion there were five competitors among the societies in affiliation for the possession of the valuable challenge trophy, which was won by the Bromley Chrysanthemum Society. The large number of illustrations showing the decorative value of the Chrysanthemum, so prominent at the November fête, were so attractive in design and execution that they called forth the loftiest praise from the general and horticultural press.

The exhibition held in the early part of December surpassed all expectations; the display of Japanese varieties in particular was very fine. The Committee are under great obligation to the trade for the valuable miscellaneous collections contributed to all the shows, combining as they do so much variety and interest.

The meetings of the Floral Committee brought together a considerable number of new varieties, and that body is to be congratulated upon the caution exercised in making awards to novelties, selecting only those of the highest excellence. A desire has been expressed that the meetings of this body be held oftener during the months of October and November, a matter which will be considered by the General Committee.

The preparation and issuing of a new supplemental catalogue is one of the agreeable incidents of the past year, bringing that important feature of the Society's work up to date; it is satisfactory to know it is in brisk demand. A Chrysanthemum Year Book is a new and welcome addition to the Society's literary work, and promises to be a financial success. In each case the editorial direction was confided to Mr. C. Harman Payne, who deserves well of the Society for his able oversight.

Mr. E. C. Jukes having found it obligatory upon him at the end of last year to retire from the office of vice-chairman of the committee he had held for several years, the members placed on record their great sense of the services he had rendered to the Society, and a suitable illuminated address on vellum, signed by the officers of the Society, was presented to Mr. Jukes by the president, at a special general meeting held in May last.

The Committee have arranged for the holding of three exhibitions at the Royal Aquarium during the months of October, November, and December; and a Dahlia show will be held by the Royal Aquarium Society in September, as heretofore, at which prizes will be offered by this Society for early Chrysanthemums, and these will be supplemented by a grant of ten pounds for Dahlias. Some substantial additions have been made to the prize money in the specimen plant classes at the November show.

Certain amendments to the rules, recommended by the General Committee, have been drafted for acceptance by the general meeting. They give greater scope to the operations of the Society and augment the privileges of members.

The President of the Society, Sir E. Saunders, continues his warm interest in its welfare and work, manifesting it in several gratifying ways, and particularly by his generous gift of a piece of plate as the President's Prize at the November exhibition.

It is with the greatest regret the Committee have learned the resolve of Mr. Robert Ballantine to retire from the position of chairman of the General Committee. Appointed vice-chairman in 1879, he, ten years later, became chairman on the retirement of the late Mr. E. Sanderson—a post he has filled with great credit to himself, and advantage to the Society, whose best interests he has always promoted to the utmost. Pressure of business engagements, with other considerations, actuates him in taking a course the Committee so much deplore. There is, however, reason to hope Mr. Ballantine's exertions in promoting the best interests of the Society may be continued as a member of the General Committee.

To all donors of special prizes the Committee tender their grateful thanks, assuring them such welcome assistance is highly appreciated.

The financial statement showed receipts from all sources amounting to £847 0s. 5d., the main items of which were subscriptions, £246 1s. 9d.; donations and special prizes, £41 15s. 6d.; Royal Aquarium Company, £294 16s. 6d; and affiliated societies, £143 3s. The expenditure amounted to £817 10s. 3d. (of which sum £426 3s. 1d. was awarded in prize money and medals), leaving a balance in hand of £29 10s. 2d., exclusive of the reserve fund, £55 2s.

The Chairman, in moving the adoption of the report and accounts, which was carried unanimously, congratulated the Society upon its continued and increasing prosperity, notwithstanding the fact that the country was passing through a most severe financial crisis.

The officers for ensuing year were then elected as follows:—President, Sir Edwin Saunders; Treasurer, Mr. J. R. Starling; Chairman of General Committee, Mr. B. Wynne (who was unavoidably absent through illness); Vice-Chairman, Mr. T. W. Saunders; Honorary Secretary, Mr. R. Dean; Foreign Corresponding Secretary, Mr. C. Harman Payne; Auditors, Mr. T. C. Ward and Mr. G. J. Ingram. For fourteen vacancies on the General Committee there were seventeen nominations, and the following were elected:—Mr. G. Langdon, Mr. T. Bevan, Mr. A. Taylor, Mr. G. S. Addison, Mr. E. Rowbottom, Mr. T T. Simpson, Mr. W. Daniels, Mr. C. F. Yeomans, Mr. T. L. Turk, Mr. W. Higgs, Mr. J. P. Kendall, Mr. F. Gilks, Mr. H. Cannell, and Mr. W. Herbert Fowler.

The following resolution was carried by acclamation:—"That this meeting of members places on record its high sense of the great services rendered to the National Chrysanthemum Society by Mr. Robert Ballantine since the year 1879; first as Vice-Chairman, up to 1889, and subsequently as Chairman. That it has learnt with regret that circumstances necessitated Mr. Ballantine's retirement from this important post, and takes this opportunity of tendering him a most hearty and enthusiastic vote of thanks. That it be referred to the General Committee to take such steps as may appear desirable to mark in some appropriate manner the high esteem in which Mr. Ballantine is held by the members."

The meeting then proceeded to amend several of the rules, and the proceedings closed with a very cordial vote of thanks to the Chairman.

GARDENING MISCELLANY.

PROTECTING THE CHRISTMAS ROSE.

THE long and mild autumn, or, in fact, the whole period that elapsed previous to the advent of Christmas, was so favourable to the promotion of growth that all the earliest varieties of the Christmas Rose (Helleborus niger) have mostly expanded their flowers and had them destroyed, unless cut previous to the frost and snow. I have seen them last many weeks together in good condition and perfectly white under a heavy coating of snow, but in many localities the snow was scanty and the frost destructive, owing chiefly to the strong eastern gales that prevailed for several days and against which flowers of any sort could hardly be expected to stand. The late varieties have still a goodly proportion of buds upon them, and under more favourable conditions they may be expected to furnish a supply of flowers for cutting, and which are so desirable at this season of the year to contrast with those obtained from the hothouses. Those who are so circumstanced will find it worth their while to place a hand-light or bell-glass over the clumps, for it is wonderful what an amount of protection is afforded by such simple contrivances. Even should open weather now prevail it has every appearance of being unfavourable to flowers, so that the protection mentioned will keep the flowers clean and of a purer white than they would be if left exposed to every wind that blows, as well as rain.—*J. O.*

PROPAGATING ASPARAGUS PLUMOSUS (TENUISSIMUS).

WHEN well grown this plant is a most useful subject for many purposes for cutting, and is gradually getting the lead of the much used Adiantum, whilst as a decorative plant its light graceful appearance forms a most elegant and beautiful addition to any class of plants. It is not generally known that this

particular variety can be procured very freely from cuttings. However, this is so, and cuttings chosen with care will now strike as freely as Lobelia and make beautiful plants by August. The cutting should be fairly hard. Those of a stumpy nature are preferable; for instance, those that have broken from the side. Many of these, if one will notice it, have already formed the crown or rootstock. This is what the plant roots from, the only thing necessary is to break them away. Procure the smallest pots at hand, crock well, fill the pots with a mixture of good loam, leaf soil, and sand. Then take a dibber and make a hole in the soil, place your cutting in position, and before filling take a pinch of sand of a sharp nature and fill the hole round the cutting. Place in a propagating frame or deep box covered with glass and give as much bottom heat as possible. The top of the pipes themselves will not be too hot, but do not forget to water in proportion to the heat given.—*J. G. Pettinger, Strawberry Dale Nursery, Harrowgate.*

PEAR UVEDALE'S ST. GERMAIN.

Many gardeners at the present time are not only bewailing the wholesale loss of vegetables, but the loss of fruit has to be added to the sum total of the destruction caused by the frost that exceeded in severity any that has been experienced in the southern counties during the experience of the present generation. Where frost has got into fruit-rooms, both Apples and Pears have been frozen hard, so that when the thaw came the fruits collapsed wholesale. It is satisfactory to know that some kinds came through the icy ordeal with comparative safety; we say comparative, for in all probability those fruits which have once been frozen hard can never have the same consistency again, and will probably decay much sooner than they otherwise would have done. Those who have well constructed fruit-rooms may consider themselves fortunate if the cold enemy has been kept from the fruits. Amongst those which stand the greatest amount of frost are the tough-fleshed stewing Pears, including Uvedale's St. Germain, which was utilised at Merton House, Chiswick, for stewing purposes even while frozen so hard that it could scarcely be pared. Since the frost went and the flesh has regained its natural softness, the Pears are still fit for use, and on being cooked assume a deep amber-yellow hue, and constitute agreeable eating.

LATE-PLANTED SNOWDROPS.

Those who have permanent plantations or beds of Snowdrops, or who planted them early in the season, were delighted with the fine display which they made before Christmas; but, alas, their season of beauty was short-lived. Although wonderfully hardy, the flowers may yet be destroyed by unfavourable conditions. A coating of light snow will not injure them provided it is not of long duration nor becomes compacted on the top of them. This is, however, what too frequently happens, and the flower stems get broken down and flattened against the ground beyond all hope of recovery. Those that are sheltered by overhanging bushes, under hedges, and in other out-of-the-way places, have not suffered so much even when partly above ground; but when so situated they are frequently much later in coming into bloom than those in open and sunny situations. Bulbs planted in November are now, however, pushing through the ground, while some of them are in bloom as if nothing had happened. Those who utilise them for the purpose of early spring bedding will concur in these remarks, and will find that the opening buds are an earnest that more are ready to follow and will come away more or less rapidly, according to the general temperature of the atmosphere, but more particularly if we get a fair amount of sunshine during the day.

FROST IN ESSEX.

I send you an accouut of the degrees of frost recorded here, during the recent severe weather, and to which I myself have given strict attention. The thermometer stands at three feet from the ground. On the 27th January there were 29° of frost; on the 3rd February 20°; on the 5th 24°; on the 6th 32; on the 7th and 8th 39°; on the 9th 32°; and on the 10th 36°. From the 27th of January to the 20th February, the aggregate amount of frost for the 25 nights has been 535°.—*S. Butcher, Burnes, Essex.*

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Pruning in Frosty Weather.—*Omega*: The plea put forward against the pruning of fruit trees in frosty weather is that the wood is liable to split by the action of frost on the freshly exposed tissues. This would apply more particularly to the short side spurs with a bud left near the tip. In the case of forest trees there would be less danger, more particularly when the whole length of the side shoots is cut away. We have, however, seen both fruit and forest trees pruned in stormy and frosty weather without any apparent serious harm.

Potatos Discoloured.—*Omega*: There are many reasons for Potatos getting discoloured after being cooked, and you can better draw the conclusions from actual examination of them to determine what is the matter. Some varieties are naturally dark internally, both before and after being cooked. The Potatos may be of bad quality, with little starch in them and watery, or they may have been frosted. In short, there are cases in which it is difficult to assign a reason, and the cook might or might not be able to explain it in certain cases.

Names of Plants.—*Tam*: Leucothoe Catesbaei; it should be grown in beds suitable for Rhodendrons, and is perfectly hardy. *J. C.*: 1, Azalea amoena; 2, Narcissus Pseudo-Narcissus obvallaris; 3, Staphylea colchica; 4, Scilla sibirica. *A. West*: 1, Selaginella Mertensii robusta variegata; 2, Pteris scaberula; 3, Pteris straminea; 4, Aspidium triangulum.

Azalea mollis.—*J. B.*: The young shoots may be cut back within a few buds of the base, and unless the plants are old and large, this cutting back should bring them into suitable compass. Young and vigorous plants, if kept in good heat and urged to make a good growth, after having been cut down may be expected to ripen that growth and to flower tolerably well next year. They can hardly be expected to make this growth in a greenhouse or the open air, though they may be placed in the open air to ripen up their wood and plump up their buds after completion of growth in a warm pit or stove. Old plants that require much cutting back into the hard wood cannot be expected to flower well the first year, but they should do so the second year. After cutting them back, keep the plants on the dry side, and syringe the wood frequently.

Carpet Bedding.—*Diagram No. 1.*: There must be some mistake somewhere concerning the diagram, provided you have given the actual measurements of the bed. If it is 6 ft. wide, then according to the diagram it is 12 ft. long; on the contrary, if it is really only 8 ft. long, then the large half circle at either end must be very much cut away to make the design fit into a bed 8 ft. long. This being the case, there would be no room for the small, half circles, one at either end. Use the smaller plants of Echeveria secunda glauca for the lines No. 5; Mesembryanthemum cordifolium variegatum will answer well enough for the groundwork No. 3; and Alternanthera paronychoides for No. 4. If you use Alternanthera amoena No. 2, we should use A. Versicolor for No. 1: but you must remember that it is the usual custom in bedding of of this kind to plant Nos. 1 and 2 with the same variety of plant, because all the four ovals correspond to one another and form part of a uniform design. No 6 may very well be planted with Mentha Pulegium gibraltaricum, as it will give an air of coolness and repose to the whole. The small, central circle marked with an X cannot be very large, therefore we should plant a small, narrow-leaved Dracaena in it. In like manner we should place a small Cotyledon (Pachyphytum) bracteosum in the centres of the four triangular patches marked No. 6. By slightly raising the small, central circle, you would be able to employ a groundwork of Antennaria tomentosa to set off the Dracaena. We should not use any of the Golden Feather, because there will be so much of yellow already in the broad hands of Mesembryanthemum, which must be kept neatly trimmed. If you make No. 1 and 2 all alike, Alternanthera magnifica would impart brightness to the whole.

Communications Received.—W. H. C.—C. E. O.—A. W. G. W.—A. O.—C. W. C.—W. D. T.—E. Y.—S.—Tho.—B.

TRADE CATALOGUES RECEIVED.

H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.—New and choice plants.

Wilhelm Pfitzer, Stuttgart, Germany.—Seeds and plants.

H. W. Weguelin, Shaldon, Teignmouth.—Carnations and Dahlias.

Sutton & Sons, Reading.—Farmer's Year Book, and Grazier's Manual for 1895.

William Clibran & Son, 10-12 Market Street, Manchester.—Agricultural Seeds.

Auguste Chantin, 215, Rue de la Glaciere, Paris.—General Catalogue of Roses.

Dicksons, Chester.—Genuine Farm Seeds.

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—Hardy Florists' Flowers, Choice Hardy Perennials, &c.

LONDON SEED TRADE.

February 26th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed market, Mark Lane, report a better demand Agricultural seeds. The finer grades of German Red Clover realise an advance of 2s. per cwt. White Clover, Alsike, and Trefoil unchanged. Ryegrasses steady.

COVENT GARDEN MARKET.

February 27th, 1895.

Market at a standstill owing to rough weather.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples.....per bushel	3 0 9 0	Grapes, per lb.	1 0 2 0
Nova Scotia Apples per barrel	12 0 21 0	Pine apples. —St. Michael's each	2 6 6 0
Cob Nuts and Filberts, per 100 lbs.	18 0		

Plants in Pots.—Average Wholesale Prices

	s. d. s. d.		s. d. s. d.
Aspidistras, per doz	18 0 42 0	Evergreens, invar. doz	6 0 24 0
—specimen plants, each	5 0 15 0	Ferns, invar., per doz.	3 0 8 0
Cyperus .....per doz.	4 0 12 0	Ferns, small, per 100	3 0 6 0
Chrysanthemums, per doz.	6 0 8 0	Foliage Plants, doz.	12 0 60 0
Cyclamen, per doz....	9 0 18 0	Marguerites, per doz.	8 0 12 0
Dracaena term., doz.	18 0 36 0	Mignonette, per doz	6 0 0 0
Dracaena viridis, doz.	9 0 18 0	Palms in variety, each	2 6 10 0
Erica hyemalis, per doz.....	12 0 18 0	Palms, Specimen ...	15 0 63 0
,, gracilis per doz.	10 0 12 0	Primulas, per doz. ...	4 0 6 0
		Solanums, per doz. pots	8 0 12 0

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Arum Lilies, 12 blms.	4 0 6 0	Narciss (French) doz. bch.	4 0 6 0
Azalea.....doz. bchs.	6 0 10 0	Orchid Bloom in var. per bloom, from	0 3 1 0
Bouvardias, per bun.	0 6 1 0	Pelargoniums 12 sps.	0 6 0 9
Carnations...per doz.	2 0 3 0	Pink Roses...per doz.	3 0 6 0
Chrysanthemums, doz. blooms	2 0 6 0	Pyrethrum doz. bun.	2 0 4 0
,, doz. bunches	4 0 12 0	Primula, double, bun.	0 6 0 9
Double Daffodils, doz. bchs.	15 0 18 0	Roses, yellow, dozen	2 0 4 0
Single Daffodils, doz. bchs.	24 0 30 0	— Red..... doz. blms.	3 0 6 0
Eucharis ...per doz.	4 0 6 0	— Tea ..... per dozen	0 6 2 0
Gardenias 12 blooms	2 0 4 0	Scarlet Geraniums, doz. bchs.	5 0 9 0
Heliotropes, 12 sprays	0 6 0 9	Tuberoses, per doz	0 6 1 0
Hyacinth (Roman) doz. bch.	9 0 12 0	Violets (French) Parma, per bch.	5 0 6 0
Lilac (French) per bch.	6 0 6	Violets (French) Czar, per bch.	1 9 2 0
Lilium Harrisii, doz. blooms	6 0 10 0	Violets (French) doz. bch.	4 0 6 0
Maidenhair Fern, 12 bs.	4 0 6 0	Violets (English) doz. bch.	1 6 2 6
Marguerites, 12 bun.	1 6 3 0		

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15 feet	10 feet	7 feet 6 in.	8 7 6

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FLOWER SHOW FIXTURES, 1895.

MARCH.
12.—R.H.S. Drill Hall Meeting.
15, 16.—Flower Show in Manchester Town Hall.
16.—Spring Exhibition at Crystal Palace.
20.—Exeter Hyacinth and Spring Flower Show.
20.—Royal Botanic Society's Spring Show.
26.—R.H.S. Drill Hall Meeting.
26, 27.—Brighton and Sussex Horticultural Society's Spring Show.

APRIL.
9.—R.H.S. Drill Hall Meeting.
9, 10.—Birmingham Daffodil Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24.—Royal Botanic Society's Spring Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.
14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens

JUNE.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
25.—R.H.S. Drill Hall Meeting.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.

JULY.
3.—Farningham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
12.—Royal Botanic Society's Evening Fete.
17.—National Rose Society at Derby.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).

AUGUST.
13.—R.H.S. Drill Hall Meeting.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.
8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.

NOVEMBER.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
6, 7.—Bromley (Kent) Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.
3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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THE "CHARLES COLLINS" FUND.

At a meeting of representatives of the Horticultural Press held at the Hotel Windsor, Victoria Street, S.W., on January 11th, the following resolution was unanimously passed:

"In consideration of the services rendered to horticulture in his journalistic work by the late Charles Collins, of the high respect in which he was universally held, and of the fact that owing to the long-continued ill-health of himself and his wife he was unable to make adequate provision for his family, who are in deep distress, a fund be opened for their benefit."

On the same occasion a General Committee, comprising a number of horticultural journalists, together with the following gentlemen who form the Executive Committee, were elected to carry the above resolution into effect, viz.:

MAXWELL T. MASTERS, M.D., F.R.S. (Chairman), 41, Wellington Street, Strand, W.C.
BRIAN WYNNE (Vice-Chairman), 1, Clement's Inn, Strand, W.C.
GEORGE GORDON, F.R.H.S. (Treasurer), Endersleigh, Priory Road, Kew.
T. W. SANDERS, F.R.H.S. (Hon. Secretary), 57, Cressingham Road, Lewisham, S.E.

For the information of those who are not fully acquainted with the facts of this sad case, it may be briefly stated that the late Charles Collins was for some few years engaged on the editorial staff of the *Journal of Horticulture*, and prior to that filled similar positions on the *Gardeners' Chronicle* and *Amateur Gardening*. He was returning home on the evening of December 26th from a visit to some friends at Forest Gate, and, just as he was about to enter the train, was suddenly taken ill and expired almost immediately. He leaves a widow and two little girls, aged three and four years respectively.

Mr. Collins, having only attained the age of thirty years, had been unable to make adequate provision for the support of his wife and family, and hence the Committee and Executive have resolved to make an earnest appeal to those who knew him to subscribe to the above fund, and thus enable them to alleviate in some measure the pressing needs of the widow and family.

Subscriptions may be sent to either of the gentlemen named above; or to the editors of the various gardening journals. The amounts received will be duly acknowledged in the Gardening Press.

	£	s.	d.
Total of amounts previously acknowledged... ...	50	6	0
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For Index to Contents see page 428.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 11th.—United Horticultural Provident and Benefit Society: Annual Meeting at 8 p.m.
National Chrysanthemum Society: Meeting of General Committee at 7 p.m.
Sale of Bulbs, &c., at Messrs. Protheroe & Morris' Rooms.

TUESDAY, March 12th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

WEDNESDAY, March 13th.—Sale of Lilies at Messrs. Protheroe & Morris' Rooms.

THURSDAY, March 14th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

FRIDAY, March 15th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MARCH 9th, 1895.

THE OUTLOOK TO-DAY AND TO-MORROW.—With the departure of February most people have an inward consciousness that winter is gone. There may indeed be a relapse, and we may yet experience a bitter winter blast, or even a blizzard, especially in the northern part of the country, but all are confident that this can only be of short and fitful duration. To all who are in any way connected with the cultivation of the soil, it is practically the commencement of the new year, pregnant with hopes, fears and promises of crops in prospect, but waiting realisation. Hope always refers to the future, fears are always present, and promises have to be realised. The larger questions affecting the present are the depression of trade and the depreciation of land, and though great efforts are being made to resuscitate both, we are mainly concerned with the welfare and prospects of the latter. It is interesting as well as instructive, and affords no small degree of satisfaction, to note the various efforts in their widest scope, as well as in their details, that are being promulgated or put into action to sustain and restore the value of land, as well as to revive the various industries dependent upon it. In spite of all the evident depre-

ciation in land, it is satisfactory and gratifying to the average Briton that so much energy still actuates the hearts of the nation at large to surmount difficulties and act up to the modern exigencies of the situation, and that British intellect and invention still urge forward the march of progress, ringing the changes of the time. It is true that we occasionally hear a cry that we are behind the times, and that our neighbours are in advance of us in education and many other social advantages, but the cry is only the whipper-in to make the last man stand to his duty.

Horticultural periodicals from time to time discuss all sorts of questions in relation to arboriculture, but that subject embraces only the minor aspects of the situation, and refers chiefly to the planting and tending of trees for shelter, more especially in the neighbourhood of mansions, and for ornamental effect. Sylviculture embraces the larger subject, and refers to the formation of woods and forests and the production of timber for commercial purposes. The article in our pages upon the subject is only an echo of the activity and agitation for more in this direction. Allotments and small holdings come more directly under the eye of every one, and they, together with fruit farming on a larger scale, must, in the near future, affect more and more the question at issue, namely, the increased value of the land and the betterment of those upon it. This must result largely from improved methods of cultivation and a greater number of workers in the field. Education and a wider diffusion of practical knowledge must aid largely in bringing about the consummation of this desirable end. It is useless to urge that the land is too dear when so much of it is represented to be tenantless and going to waste. Land is a mine of wealth if the necessary labour is brought to bear upon, and to cultivate it. If the laws are bad, and the ways and means inadequate, then the former must be amended and the latter brought up to the requirements. Such difficulties should act as incentives to the exercise of British tact, ingenuity and energy to surmount them.

Complaints about railway rates are often loud, and the small holder is more handicapped than the large one, owing to the proportionally much larger rates for the carriage of small consignments. This might be surmounted by combinations of growers, not for compulsion, but for mutual advantage. By making one consignment out of many small ones, the railway charges would be reduced in proportion to the smaller division of labour necessitated in attending to many small parcels from different owners. On the Continent there are agents for collecting fruits, flowers, and vegetables, and carrying out the above principle, so that the plan, in the absence of a better, might be adopted here to the advantage of all concerned. In all cases it has already been proved that small tenants pay the landlord better than none; for land on his own hands frequently suffers neglect from the fact that he himself cannot, or will not, attend to it personally.

Gardeners cannot be indifferent to any or all of the above means which are being initiated and extended for the benefit of land in general and its proprietors; for what is advantageous to the greatest number, cannot but make itself felt amongst the few, and gardens must reap the benefits, even indirectly, in the shape of more help in the garden, better appliances and otherwise. Nor are we insensible to the part which gardeners generally are playing in the general struggle for better times. There is abundant evidence everywhere that gardeners are quietly working out their own share of the strife, and urging on the claims of the profession to the warm attention of their fellow workers in the matter of general and special education. Gardeners' mutual improvement societies are multiplying abundantly throughout the land, and industrious workers are labouring for the good of the general cause as well as their own, as if the national welfare were dependent upon them.

Abroad, we read of the celebration of the Carnival or the Battle of Flowers, and to us it may seem but extravagance, pageant, foolery, and "the mummery of foreign strollers," but as we form no part of them and cannot understand their ways, neither can we appreciate their national peculiarities, nor sympathise with them. They may even regard our peculiarities in the same light. On the other hand, we can note them in their more sober moments and in their steady devotion to business. On the other side of the "silver streak" are those who are contemplating with grave apprehension the possibilities of the great English colony at the Cape, and the likelihood of the colonists to shut them out from the English markets by means of their huge and extensive consignments of fruit grown on the broad acres and under the sunny skies of the Cape.

The Gardeners' Royal Benevolent Institution.—We have great pleasure in making the announcement that the Duke of Fife K.T., P.C., has kindly consented to preside at the 56th Anniversary Festival of of this Institution to be held at the Hotel Metropole on June 28th next.

United Horticultural Provident and Benefit Society.—The annual meeting of this Society will take place on Monday next at 8 p.m., at the Caledonian Hotel, Adelphi Terrace, when Mr. George Gordon will take the chair.

Great Quinquennial Bulb Show at Haarlem.—The fifth great quinquennial bulb show will be held by the Royal Bulb Society at Haarlem from March 22nd to the 26th. The competition is open to members of the Society only, but most of the leading bulb-growing firms of the district will be among the exhibitors. The schedule of prizes consists of 132 classes, viz.: twenty for Hyacinths, twenty-two for Tulips, and twelve for Narcissi, the others being devoted to all kinds of miscellaneous bulbs and bouquets. Among the medals offered, there are twenty-five gold ones, and some hundreds of silver-gilt, silver and bronze medals, and extra premiums. The Judges will be experienced bulb growers chosen from among those who will not exhibit, and in a number of classes the system of judging by points will be resorted to. The show will be held in the large music hall and annexes of the "Vereeniging" Club at Haarlem, and will be opened on March 22nd at 1 p.m. Intending visitors from abroad will be heartily welcomed.

The Kew Guild.—The second annual meeting of this Society was held in the Garden Library on the evening of Thursday, March 28th, when the affairs of the past season were discussed by the members present, and the officers and committee for the ensuing year were elected. A number of old Kewites attended, some of whom had journeyed to the place of meeting from distant parts of the country, and these with the large number of the present staff of gardeners employed at Kew, filled the room to overflowing. Consequently, although the discussion throughout was of the most amicable character, the atmosphere was certainly, to say the least of it, somewhat heated. The Society is decidedly much too large a one to be accommodated in so small a room, and altogether the members will, we think, hail with delight the news that next year it is proposed to find a more commodious room in which to hold the annual meeting. The secretary's report of last year's proceedings, and of the financial condition of the Society was on the whole of a cheering and satisfactory character, and augurs well for the future welfare of the Guild. The Editor of the Journal of the Guild, Mr Watson, read several extracts from letters from old Kewites from well nigh all parts of the globe, in which nothing but sincere sympathy with the movement and an earnest desire for its great success was manifested. Bearing in mind the difficulty experienced by some of the members, whose lot is cast in foreign countries, in the forwarding of their subscriptions annually, it was decided to allow any member who wished to do so to commute the annual subscription of one shilling by a payment of a lump sum of twenty shillings. Votes of thanks to the chairman and committee for their services during the past year, terminated an enjoyable and satisfactory evening.

Shirley and District Gardeners' Improvement Association.—An extra meeting of this Society was held in the district of St. Denys, Southampton, on February 28th, Mr. B. Ladhams presiding, when Mr. J. Amys, gardener to the Hon. Mrs. E. Yorke, gave an interesting and instructive lecture on "Rotation of Crops for Cottage Gardens and Allotments." Mr. Amys said that a cottager secured three great advantages by giving proper care and attention to his plot of land—health, pleasure and profit, his business that evening being with the latter. He then gave a detailed account of the necessary work, and a list of the most suitable things for a cottager to grow, recommending his hearers to look back each December on the past year's work, noting failures and successes for future guidance. A valuable discussion ensued on various points of culture, especially the desirability or otherwise of sowing Beans and Peas in the autumn; the lecturer always sowing his under shelter on the 1st of February. A hearty vote of thanks was accorded Mr. Amys.

Spiraea Confusa.—Many of the Spiraeas are deservedly held in great esteem as decorative plants for the greenhouse or conservatory, and although but rarely met with in comparison to its undoubted merits, S. confusa is well worthy the cultivator's attention. A native of Northern Asia, it grows to a height of from 2 ft. to 4 ft., and when in flower is really a handsome plant. The flowers are white, and are borne in dense corymbs, the leaves elliptic-lanceolate in shape, with their margins serrated to a greater or less degree, the under surface of the leaf being hairy. S. confusa is the name under which it is most commonly met with in gardens, although S. media would appear to be its true title; S. oblongifolia is another name by which it is also known among men.

Greyia Sutherlandi.—A Specimen of the above plant is at present a conspicuous occupant of the cool end of the succulent house at Kew, where it has been flowering for the past few weeks. From a gardener's point of view it is very questionable if Greyia Sutherlandi has much to recommend it, as its appearance is undoubtedly decidedly more curious than ornamental from its gnarled appearance as well as its complete freedom from foliage during the flowering season. The flowers are dark red in colour, five-petaled and disposed in thick terminal racemes. To flower it properly, the plant needs to be fully exposed to the sun during the growing season. A season of rest must, however, be accorded it after growth is completed, during which little or no water should be given it. It is a native of Natal, from whence it was introduced about the year 1859, and is named after Sir George Grey, some time Governor-General of Cape Colony.

Rhododendron Arboreum.—Visitors to the Temperate House at Kew can scarcely fail to notice in a bed set apart for the cultivation of some of the Himalayan Rhododendrons, a specimen of R. arboreum, some 15 ft. or 18 ft. in height, that is, at the time of writing, in full flower. The trusses of bloom are not large, being about 4 in. in diameter, but they are densely packed with a large number of the showy rich crimson flowers that cannot fail to arrest the attention and claim the interest of even a careless passer-by. From the large size which the tree attains it is obvious that it is only in establishments where plenty of space is available that it can be grown, and it always succeeds best when planted out in a specially prepared bed, as at Kew, filled with a suitable compost. Like most of the rest of its congeners, a large proportion of peat in the compost is a necessity, and abundant and perfect drainage an essential to its well-being. R. arboreum has been largely utilised by the hybridiser in the production of intermediate forms, and many of its offspring are of considerable horticultural value. They usually flower early in the season, a quality which is not altogether an unmixed blessing, as the late spring frosts, which so often visit us, play considerable havoc with them unless they are protected from their blighting influences in some way.

IN THE STOVE.

THE present time should be one of great activity in this department. Failure in rooting even delicate subjects, or those that are understood to be hard to propagate, should at this season hardly be known. Having heard of many disappointments regarding the propagation of stove Aralias, I will choose this plant as my especial subject, being, in my own opinion, one of the worst to do anything with. Most gardeners are in the habit of cutting Aralias back for the purpose of keeping the plant well furnished. Many will have done this a month or more ago. To those, however, who have not done so, and that possess plants with a good head, let me recommend the following plan.

Take a thoroughly sharp knife and in the stem of a plant of about 1 ft. or 15 in. in height cut four or five incisions in an upward direction, exactly as when layering Carnations. The cut should be half-way through the main stem, and about ½ in. in length. When this has been done insert the requisite number of thin wedges in the slits, afterwards staking the plant securely to prevent accident. Providing this plant is frequenting syringed, the edges of the tongue will soon be seen to turn up or otherwise form a callus, this taking about a fortnight. The next thing to do is to procure a quantity of moss, which must be wetted and mixed with a good sprinkling of silver sand. This should now be wrapped very gently yet firmly round the part worked on, treating all the incisions in the same way. When roots are emitted throught the moss cut the sections off and pot them up into as small pots as possible, shading them carefully for some time after.

The above method of propagation I have proved to be a good one, and one that for any who wish to work up a stock is much to be preferred to propagation by grafting. Plants obtained by this latter method make very slow headway, and are never safe from accident, very great care having to be taken to keep the scion in its proper place. I may say, in conclusion, that Aralia Veitchii gracillima should always find a place amongst a collection of plants for table decoration. The top of an old plant taken off in the way I have described makes such a perfect specimen as can be obtained by no other process.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

DEATH OF MR. THOMAS BAINES.

WITH deep regret we have to record the death, on the 2nd inst., at his residence, Fern Cottage, Palmer's Green, Southgate, of Mr. Thomas Baines, in his 72nd year. He had been in failing health for some months past, and succumbed at last to an attack of influenza and bronchial pneumonia. By the death of Mr. Baines, horticulture has lost one of her most able and most respected exponents, a man of rare ability as a gardener and garden architect, and one of the most successful specimen plant cultivators of his day. A quarter of a century or more ago, when specimen plant culture was at its zenith in this country, it took a very good mau indeed to lower the colours of Thomas Baines with flowering and fine-foliaged stove and greenhouse plants, and for some years he was well nigh invincible; in fact, there were few who could, or did, beat him with plants entirely of their own growth. His keenest opponent was the late Mr. "Billy" Cole, of Withington, near Manchester, and who that remembers the constant tussles between the two men—that in particular which took place at the Royal Horticultural Society's Provincial Show at Bath, when Cole, with the sixty guinea Cocos Weddeliana, bought at the Manley Hall sale, and a Dipladenia, the like of which we have never seen the equal since—will ever forget the magnificent examples of cultural skill which they used to stage. Dub them "elephants" if you will, but we have nothing like them now, and more's the pity, for it cannot be denied that it was the "specimens" that were the glory of the exhibitions of the past, or that it was the cultural triumphs of Baines and others that gave such an enormous impetus to plant culture among all classes in this country, and most materially helped to make British horticulture what it is today. All honour to their names!

Thomas Bainescame of a race of clever gardeners, an old Catholic family settled on the Claughton Hall Estate in North Lancashire for over 400 years. His great-grandfather was for many years steward on the estate, and died at the age of ninety-six. His grandfather served his time in the garden, and was afterwards gardener there for fifty years. His father also was brought up to the profession there, and in early life Thomas Baines was also employed in the garden and on the farm. His first place as gardener was with Mr. Behrens, at Catteral House, Garstang, subsequently removing with his employer to Ardwick, near Manchester, where Mr. Behrens' love of plants gave his gardener the first opportunity he had of showing the stuff he was made of. On Mr. Behrens going abroad, Mr. Baines became gardener to another distinguished patron of horticulture, the late Mr. H. L. Michalls, of Bowden, and subsequently of Southgate. It was while with Mr. Michalls that Mr. Baines' name became a household word among the gardening community. When he left Mr. Michalls' he settled down at Palmer's Green, and soon made a lucrative practice. His services were, for many years, in great request all over the country as a judge, and for some years he was a voluminous contributor to the horticultural Press, principally the *Gardeners' Chronicle*, and it is no mere figure of speech to say that his articles on plant culture have been of the greatest possible value to the present generation of gardeners. Happily, too, his good work in this respect will live after him for a long time to come in his volume on "Greenhouse and Stove Plants," published by John Murray in 1885. If sometimes a little angular in his manner, and occasionally somewhat dogmatic in speech, our old friend was a man of good parts, and always worth listening to, for he had a rich store of knowledge to draw upon, and never seemed to be happier than when in the company of a kindred spirit.

COTTAGE GARDENS.

THE holders of cottages in the country have for so long been in possession of that inestimable boon to the cottager, "a good garden," that it is very questionable indeed if they appreciate this blessing at its true value, for the simple reason that in very few cases indeed have they been called upon to manage without it, and it is notorious that the majority of mankind seldom esteem a blessing, or, in fact, consider it to be such until it is taken from them. Still we would not for a moment say that the country cottager does not appreciate his small plot of ground. He knows full well that he turns to it for timely assistance wherewith to supplement his very slender pittance of wage to support his wife and family. His brother in the town, who has to put his hand in his pocket for every particle of vegetable he and his household consume, knows by sad experience what a hole in his financial arrangements even a sparing and careful purchase of vegetables makes, and is apt to envy the happy possessor of a small garden of his own.

Still in the country there are very many abuses with regard to the furnishing of allotments and cottage gardens that are in urgent need of speedy reform. Curiously enough, there is a manifest reluctance on the part of some large landowners to break up their ground in the manner required for the providing at a fair rental of suitable portions of ground to members of the working class; and yet, on the other hand, there is a decided leaning towards the system of allowing one or two farmers to rent far more land than they can properly cultivate at a lower rental than would be obtained were a portion of it to be broken up in the manner suggested.

Why this should be the case is a mystery. As a system its evil effects are obvious, as a few moments' dispassionate consideration will convince anyone. From the insufficient and inadequate cultivation practised upon many a farm of the class beforementioned, the ground itself must deteriorate, and that to a very considerable extent, during a lapse of years, and this of itself is a sufficiently serious matter. On the other hand, however, the cultivation that the cottager or the holder of small allotments bestows upon his parcel of ground is of a much higher order, and is calculated to improve the condition of the land rather than to impoverish it, more particularly so when prizes are offered at local garden shows for vegetables grown thereon. In cases of this kind it is really surprising to see the immense amount of interest, the time and the trouble that the cottager will bestow upon his plot of vegetable ground.

Perhaps the grievance that stands the most urgently in need of redress is the one of "position." We have known cases where allotments have been provided, but where they have been placed in such an un-get-at-able situation that their value to the working man has been considerably lessened. It is manifest that the site for any proposed allotments should be as near to the bulk of the cottages themselves as possible. A comparatively small piece of ground close at home is worth double the quantity a distance away. The agricultural labourer, as a rule, is not particularly blessed with regard to a superabundance of spare time, more particularly during spring and autumn. During the former season it is evident that every minute of daylight must be improved upon to keep pace with the rush of work that inevitably comes with the season of spring. Therefore, if the precious moments of daylight, which might turned to advantage if the allotment was close at hand, have to be employed in getting to the sphere of operations, the value of such a piece of ground to the holder must necessarily be curtailed to a very great extent.

Apart from the value of a portion of allotment ground to the cottager, whereon he may grow vegetables and fruits for the support of his family or for sale as the case may be, from the "investment" point of view, it is also very apparent that from an educational standpoint it has much to recommend it. Moreover, it has the effect of inducing the working man to make the most of any spare time he may enjoy—time that would otherwise be wasted in the tap-room of the nearest or the favourite public-house where both money and brains are far too frequently wasted, or in dangerous and profitless gossip at the street corners. Village life is notoriously dull and monotonous, and the inhabitants of such places would be consequently at a loss sometimes to dispose of what little spare time they may get, if it were not for the garden and the employment it gives to both mind and body. A busy man is usually a contented man, more especially when he is busy with his own affairs, and there can be no doubt that the hours spent by the working man in his garden are among the happiest and most profitably spent periods of his life apart from any pecuniary benefits that may, and certainly do, proceed therefrom. Altogether we may well congratulate ourselves that so much interest is being taken in the allotments question, and although some difficulties may be met with in dealing with it in the vicinity of large towns where land is, of course, very valuable, there should be little or none in the agricultural or rural districts.

DEATH OF MR. R. B. LAIRD, OF DUNDEE.

WITH deep regret, which will be shared by a wide circle of friends, we have to record the death, at Dundee, on the 4th inst., of Mr. R. B. Laird, senior partner of the firms of R. B. Laird & Sons, Nurserymen and Seedsmen, Edinburgh, and W. P. Laird & Sinclair, of Dundee. An affection of the heart, which unexpectedly showed itself, was the cause of death. Born at Balgone, North Berwick, in 1823, Mr. Laird went at an early age to Dundee, and under his elder brother, the late Mr. W. P. Laird, learnt the business of nurseryman and seedsman. From Dundee he went to Edinburgh in 1843, and was about five years in the establishment of Messrs. Dickson & Co. In 1848, along with the late Mr. John Downie, he founded the business in Frederick Street, West Coates, and Pinkhill, which was carried on by them for many years. Subsequently, Mr. John Laing was admitted into the firm, and for some years, under the style of Downie, Laird & Laing, a lucrative business was carried on at Edinburgh and Forest Hill, London. At the dissolution of this partnership, the firm was carried on under another designation by Mr. R. B. Laird and his sons, and latterly he has been for the most part resident in Dundee in charge of the extensive nursery and seed business of W. P. Laird & Sinclair. A man of strong individuality, with excellent business capabilities, and of a genial and amiable disposition, Mr. Laird was widely known in the horticultural world, and was one of the remaining links between the past and present generation of horticulturists. By many gardeners, both old and young, he will not soon be forgotten. He was always ready to lend a helping hand to those in need of assistance, and he spent much time in doing what he could to further the interests of young gardeners, and to get them a start in life. He was for many years a director of the Scottish Trade Protection Society.

FAULTY BULBS.

From more than one gardener has the complaint been heard this year that the bulbs grown in pots and forced for decorative purposes have not yielded such good results as might have been expected, and that altogether the quality of the flower obtained from them has, with very few exceptions, not been up to the standard reached during preceding years. This is said to be especially the case with Hyacinths and Tulips, the flowers being weak and of but poor quality. In selecting bulbs for pot work, size does not necessarily mean excellence. In fact, the largest bulbs are often sadly disappointing in the returns they give. A wise gardener will pin his faith to a sound, firm bulb of medium size, and good shape and depth, and rarely indeed is it that such bulbs do not produce good flowers. Another point worth noticing is not to use ashes which have come from gas-fires, for if these are allowed to come in direct contact with the tender leaves of the young plant harm will be sure to come of it. Negligence in this respect has much to answer for in the matter of alleged comparative failures to obtain a fair amount of good bloom from forced bulbs.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Dendrobium Cybele Admiral Fairfax's var. *Nov. hyb.*—The seed parents of this beautiful hybrid Dendrobe were D. Findlayanum and D. nobile Wallichianum, the latter being the pollen bearer. The stems are intermediate in form between the parents, being compressed and constricted at the nodes in the same way, though to a less extent than D. Findlayanum, but are stronger, and have the green colour of D. nobile. The leaves are oblong, and some of them remain till the flowers are produced. The latter are of large size and developed in clusters of two as a rule on peduncles springing from near the top of the stems. The pedicels are shining pink, and about 2 in. long. The oblong sepals are are deep, rich purple for more than half their length, and white shaded with purple towards the base. The broad, ovate petals are richly and similarly coloured, the dark hue extending half way down them. The lip is similar in form and colouring to that of the pollen parent, and has a large, maroon-crimson blotch in the throat, a dark purple tip, and the rest of the widely-expanded lamina creamy-white. D. Schniderianum, raised from D. Findlayanum crossed with D. aureum has the shining yellow stems of the former. D. Cybele, raised from D. Findlayanum crossed with the pollen of D. nobile, has the habit and stems of the latter, showing the potency of the pollen parent. The hybrid under notice retains more of the character of D. Findlayanum in the stems but the colour of the pollen parent, while the flowers partake of the rich colours of D. nobile Wallichianum, and are as showy as many of the best forms of D. nobile, though so different in several respects. The hybrid was raised by Mr. William Yea, gardener to Admiral Fairfax, C.B., Ravenswood, Melrose, and has grown into a neat little specimen with sixteen fine stems. The flowers are scented much in the same way as those of D. Findlayanum. Both owner and raiser may well be proud of such a handsome and showy Dendrobe. I have made it a variety of D. Cybele for the sake of its affinity, though the colour of the flowers and the stems are decidedly distinct.

Lycaste Skinneri Ravenswood var., *Nov. var.*—The sepals of this beautiful variety are white, lightly washed with rose on the lower half. The petals on the contrary are dark carmine-purple on the inner face, but considerably paler on the outer face except towards the margins where the colour is intense. The lip is pale in colour tending to white in the lower portion, washed and shaded with rose on both faces of the lateral lobes; the terminal lobe is creamy-yellow overlaid with rose, and intensified to dark purple round the margins. The large crest is pale sulphur-yellow. The variety turned up in the collection of Admiral Fairfax, C.B. (gardener, Mr. William Yea), Ravenswood, Melrose. The flowers were large, and in one case two of them, equally well developed, arose from the top of one peduncle. Twin flowers in this species are evidence of good cultivation. The specimen from which the flowers were taken is very compact in habit and blooms freely, for there were seventeen flowers on it though only grown in a 7-in. pot.

Catasetum mirabile.—In this we have one of the numerous and remarkable forms of Catasetum, which bear the impress of being natural hybrids between some of the forms of C. Bungerothi and any of the innumerable variations of C. macrocarpum, several of which have in bygone years been imported to this country under different names. The flowers are of medium size with oblong-ligulate, membranous, greenish-yellow sepals. The petals are much broader and greenish-yellow, spotted all over with purple, but densely so on the lower half, where the spots are aggregated and almost cover the whole surface. The lip is almost semi-orbicular, very slightly toothed, or almost entire at the margin, and golden-yellow, with a dark crimson blotch at the base on either side of the column. The face of the latter is crimson below the stigma. The supposed natural hybrid flowered about the end of November last in the establishment of Messrs. Linden, L'Horticulture Internationale, Brussels, and was imported from the same locality, as others of the same affinity. There is a coloured plate of it in the *Lindenia*, *Pl.* 458.

Cattleya labiata Percivaliana.—Since this variety was introduced in 1882 it has never attained any great degree of popularity owing to various reasons. In speaking of its want of popularity, it must not be supposed that there is any intention in this place to describe it as uncommon, but that the bulk of cultivators do not attach that value and estimation to it which the greater number of the forms of the species enjoy, each in its season. The small size of the flowers was the first object of attack, soon after the importation of the variety in 1882. Colour is also variable, and sometimes very pale; but in the neighbourhood of smoky towns, and in dull and sunless winters more especially, C. l. Percivaliana often lasts but a short time in bloom, and may even open very badly during foggy times. In rural districts, however, where the atmosphere during winter is clearer, the variety is exceedingly valuable, because it helps to fill in the space between the flowering of C. labiata and C. l. Trianaei. Some of the more recent importations have furnished varieties with rather larger flowers than usual, with the colouring so intensified as to render such varieties worthy of the best attention, and the highest estimation of cultivators in general. We may also hope that in the near future C. l. Percivaliana, in its finer forms at least, will attain a pre-eminence commensurate with its beauty.

Orchids at Chardwar, Bourton-on-the-Water.—When calling at Chardwar to-day I was pleased to find a beautiful display of Orchids in bloom, and among others I noted a splendid variety of the primrose-coloured Dendrobium luteolum with two dozen blooms; also D. Ainsworthii with fifty fine large blooms; D. Peirardii with 200 blooms and a good variety; D. rubens with several fine blooms; D. Cassiope, a perfect little gem covered with bloom; D. nobile, several very fine forms and some good D. Wardianum. In the cool house I noticed several splendid forms of Lycaste Skinneri, also a fine variety of Odontoglossum Andersonianum with two good spikes, many forms of O. crispum, and the pretty O. Cervantesii, and a good variety of O. luteo-purpureum. I also noted a splendid variety of Cypripedium Exul, and a good Cattleya Acklandiae. Cattleya Trianaei still makes a good show and one very distinct variety was noted having the labellum marked in a peculiar way reminding one of Laelia Boothiana. There are also some lovely pale forms in bloom.—*J.C.*

THE FLOWER GARDEN.

Now that the frost has abated somewhat of its rigour and intensity, the swiftly-advancing season will bring with it a rush of work that must be attended to. Consequently, in this department the gardener must be up and doing so as to make up as far as possible for the long period of enforced inactivity.

Walks and Paths.—As soon as it is possible to use the roller, steps must be taken to render them as firm as possible. Well kept walks in the flower garden are an important consideration, and it is therefore necessary to pay them a little attention now. The grass edges must also be seen to without delay, and should they be uneven in outline and trodden down, the edging iron must be called into requisition to put things straight. It is very much easier to use the shears upon well kept up edges than upon neglected ones, as every gardener knows, and the saving in time and labour throughout the summer is necessarily very considerable.

Lawns.—These will also need a little care and attention, as in most places worm-casts are more or less of a nuisance. Repeated sweepings and rollings will be necessary to reduce them into good condition. Any Plantains or Daisies that may be noticed should be rooted up at once and the holes filled up with soil. The laying of fresh turf where necessary may be proceeded with as soon as the state of the ground permits. This will give it time to get established before the dry weather sets in.

Roses.—It is almost certain that the long continued severe weather will have caused some gaps in the ranks of these old favourites, particularly those of the Tea section. As soon as practicable therefore these deficiencies should be made good. The pruning of any plants that have not as yet been attended to should be seen to without delay, as they will soon be fairly well advanced in growth.

Pansies and Violas.—Those cuttings which have been passing the winter outside under the shelter of walls or hedges will also have suffered considerably. Any covering that has been afforded them with a view to the partial exclusion of the frost should be removed at every favourable opportunity. It is often astonishing how quickly the plants will recover under the beneficent influences of sun and air. Where the precaution has been taken to afford some of the more tender varieties the shelter of cold frames during the winter months, results will be more satisfactory. If the ground upon which Pansies and Violas are to be planted has not already undergone preparation during the past autumn it will need looking after at once. A good dressing of well rotted stable manure will be found very beneficial, and this should be well incorporated with the soil. The plants may be put out about the middle of the month, weather of course permitting.

Hardy Fernery.—Where such a corner is one of the features of the flower garden a little time may be spent here with advantage. Old and unsightly fronds should be removed and a good dressing of old leaf soil given, forking it in about the roots of the plants as far as it is possible to do so without unduly disturbing them. It is not wise to delay this operation for too long, as advancing growth will soon render it a matter of difficulty to work among the plants without danger of injury to the young fronds.

Herbaceous Border.—The present is a good time for re-arranging the plants it contains, where the lapse of several years has caused some of the stronger growing subjects to exceed their allotted bounds. A liberal application of manure should afterwards be given, and the border forked through from beginning to end. Special care will have to be taken that any bulbs the border may contain are not injured. It is always advisable to mark the places where bulbous subjects lie, to serve as a guide to the workman, although curiously enough this is a precaution which in far too many cases is neglected, the result being the destruction of a considerable number that might otherwise be saved.

FRUIT UNDER GLASS.

Vines.—This is a most trying time of the year for vines, and the closest attention and the greatest care is necessary to ensure success in their cultivation. Ventilation, particularly, must be conducted with exceeding caution, for the sun has now acquired a deal of strength, and soon causes the temperature of the house to run up if air is not given in time. At the same time the cold winds, which are so closely associated with the month of March, render it very difficult to give sufficient ventilation without causing draughts. Shut the houses up early in the afternoon, as soon as the heat commences to decline, thoroughly damping walls, stages, and paths at the same time. Tie up the shoulders of such bunches as are sufficiently advanced, as this not only allows the berries more room to swell, but also imparts a better shape

to the bunch. The night temperature in such houses should stand at about 68° Fahr. In the succession houses the syringe must be kept at work until the vines are in rough leaf.

PEACHES AND NECTARINES.—The earliest house should now be swelling its fruit nicely, and care must be taken to avoid anything like a check. A regular, even, and fairly moist atmosphere should be maintained, but too hard forcing is neither a safe nor an advisable plan. A night temperature of about 58° Fahr. will be plenty high enough for the present. Keep the syringe at work according to former instructions, and thus ensure against bad attacks of insect pests. Later houses, in which the flowers are just expanding, must be kept somewhat drier, and attention paid as in the case of the earlier subjects to the work of pollination, as the stigmas of the flowers become receptive. Choose a light and soft material as a medium of conveyance for the pollen, and studiously avoid being too heavy handed.

CHERRIES.—Although the Cherry finds considerable favour as a hardy fruit, it is not extensively grown under glass, although fine crops may be thus obtained. The great point in the cultivation of the Cherry is not to force too hard, and to avoid cold draughts; for of these latter it is exceedingly impatient. In many cases it is the best plan to allow the plants to come on naturally, only excluding the frost during the winter months, but giving a slightly increased temperature as the buds show signs of swelling. When in flower a dryish atmosphere must be maintained. A little assistance must also be given the blossoms to obtain a good "set." A rabbit's tail fastened upon the end of a bamboo rod will be found a handy tool with which to work.

STRAWBERRIES.—As soon as the fruit commences to colour upon the earlier batches of plants, the application of manure water must cease entirely, and indeed the supply of clear water may be restricted considerably, only sufficient being given to prevent the plants from flagging. By this means the fruit will ripen sooner, and will be of very much better flavour than it would were the plants kept in too wet a condition. As soon as the fruit is picked the plants should be removed to a cold frame and kept supplied with water, for they will come in handy for making good any vacancies that may occur in the outside plantations.

MELONS AND CUCUMBERS.—The plants in the earliest house having got into full swing, no time should be lost in getting ready a succession house. This should be prepared in the same way as the first one has been, of course making sure that the house in clean and free from the eggs of insects in the first instance. The fermenting material must be well turned twice or thrice before using, so as to get rid of some of the more noxious gases generated during decomposition. The bed should be made up several days before planting is thought about, so as to allow the soil to become thoroughly warmed through. Make the soil nicely firm about the roots of the plants, and shade them during bright days for a few hours in the middle of the day until they have got established in their new quarters. A few pieces of newspaper fastened to sticks will be quite sufficient to intercept the direct rays of the sun, and are far preferable to heavier shading materials, which greatly reduce the light that is of so much importance to the plants.—*A. S. G.*

THE VEGETABLE GARDEN.

WE often find that people in early life are not always frugal; if such were the case there would not be so much want when old age comes creeping along. It is the same in the vegetable garden, for during the summer months there is a plethora of vegetables which often decay by the bushel, when if such could be saved for winter use there would not be so much waste. Most gardeners know this, yet how is it to be overcome. They make provision for the family as far as they are able; it sometimes, however, happens that they go away for a few weeks just at the time there is plenty of choice vegetables spoiling, hence the waste. Now if the ground on which these were grown could have been turned to account to produce a winter crop, there is little doubt that instead of a dearth during a severe winter there would enough and to spare.

What vegetables shall we grow for winter? is a question easier asked than answered, for in this respect the gardener is not his own master. We have often known a demand for a particular kind by one cook, and should there be a change, as there frequently is, the vegetable that has been so much in request will not be required at all. This is a source of annoyance to the gardener who has to make every inch of the garden tell. We will take Salsify as an example. Some cooks are particularly anxious after this, yet when it is grown there is no call for it. Now we all know that Salsify, or Scorzonera, cannot be grown without a great deal of trouble; they also take up a good piece of ground that would produce a greater bulk of something else, which if it could be grown and stored away there is but little doubt that it would be serviceable. Again, there is often a run on winter Spinach. This may be had in abundance during mild winters, but how is it to be had during a season like the present? Could we know the kind of winter that we were likely to get, provision might be made for securing the crops; as it is, I fear great losses will always take place.

There ought to always be a good understanding between the gardener and cook, for by so doing, many little unpleasantnesses may be avoided. Never in my recollection, has Seakale played such an important part as it is doing this season, and those who are fortunate to possess a good quantity of crowns will find them most useful. But how to prolong the supply will be a question with a great many. Those having cool cellars, or a disused ice house, will find such places very convenient, or even a cold shed facing north would greatly retard growth. As yet, the roots in the open ground have made no progress, so that if such be lifted as soon as the weather becomes mild, and taken to a cool place, nice crisp growth may be had till the end of April, or early in May, as it will take at least three weeks to blanch after being taken to the cellar. That which was put in during December is now turning in splendidly, being both crisp and of good colour.—*Kitchen Gardener.*

HARDY FRUIT GARDEN.

THE pruning and training of all fruit trees that have not yet been operated on must be brought to a conclusion as soon as possible, for the swelling buds will stand in not a little danger of being knocked off during the operation if left for much longer. A sharp lookout must also be kept upon the visits of bullfinches, who greatly delight in picking out the buds in search of the insects which may be concealed around or beneath them. It is not advisable, however, to shoot them when they are seen among the fruit trees, as this is, to say the least of it, augmenting the evil, a fact that will readily be understood when we take into consideration the amount of damage done by a charge of the small shot used for killing such birds.

The long continuance of the frost has reduced the time available for the planting of fruit trees to a considerable extent, and therefore all such work should be completed within the course of the next week or so, at any rate by the end of March. See that all necessary support is afforded newly-planted trees. This is a very necessary attention, as the rough March winds will be likely to do not a little damage unless such precautions are taken. The stem of the young tree, where it comes in contact with the stake, must also be protected, or the friction that will ensue between them will result in injury to the bark. A neat swathing of hay-bands will answer the purpose admirably.

APRICOTS.—As soon as the buds of these early blooming subjects show signs of expanding, no time should be lost in affording them protection against frosts and cold-biting winds. If plenty of tiffany is available the task is not a very difficult one, as this may be put on light rollers, which should be fastened to the top of the wall and let down when cold weather threatens. The great advantage of this system is that the covering can be easily removed and the trees exposed to the full light of day during mild weather. Where tiffany is not at hand, however, branches of Laurels or Cupressus, which should be in readiness, will be of great service as a screen, although it is not possible to remove this until danger of frost is past without a deal of labour.

Gleanings from the World of Science.

Beauty in the Minute.—Dr. Dallinger, the renowned microscopist, gave a lecture on this subject at the London Institution on the 28th ult. He strongly insisted upon the æsthetic value of microscopic studies, and said that whatever the essentials of beauty might be, size was not one of them. Some of the most minute of Nature's creations almost outrival anything that can be seen by the unassisted eye. These beautiful forms are scattered everywhere, though they can only be detected by the aid of the microscope. He showed his audience a section of the "grubby little star grass" as it appears under the microscope, by means of the magic lantern. To the ordinary eye it appeared like a piece of white crotchet work, but scientific men would describe it as bundles of fibro-vascular tissue, fenced round with cambium and parenchyma. He either neglected to furnish the scientific name of this wonderful grass, or his reporter did him injustice. No true grass possesses cambium as described, and the "grubby little star grass" is equally illusive to those who would like to make the acquaintance of an old friend perhaps under a pseudonym. A large number of his illustrations were taken from the animal world, in which beauty, both in form and colour, is very abundant and often marvellous in the extreme. Amongst other things which he exhibited were scales from the wings of butterflies and beetles, also foraminifers and radiolarians from the deep sea, and whose dead bodies go to build up rocks and geological strata. Referring to the inorganic world, he dilated on the exceeding beauty and geometrical regularity of snow crystals.

Diatoms—Turning to the vegetable world, Dr. Dallinger described the extreme value of some of them to science as achromatic objectives for testing the powers of microscopes, and the valuable advances that had been made in photo-micrography. The silecious skeleton of a diatom is a marvel of complication and exceedingly fine sculpturing of which the human mind and eye could never have had any conception without the aid of powerful microscopes. The startling complexity of the sculptured markings on the shell were made apparent to the eyes of the audience by being thrown upon a screen, which gave it an amplification of 3,000,000 diameters. All this beauty of form and complexity of structure the lecturer described as all of the strictest utilitarianism in enabling the living organism to exist under the conditions of the surroundings in which it was placed. Nothing was wasted in mere ornament nor the production of abstract beauty and Nature in fitting the smallest and humblest of her children to their needs, amply showed that beauty and utility were synonymous terms from her point of view. Should any one ask where all this beauty may be seen, we reply that specimens may be obtained from chalk rocks in various parts of the world, including this country, from stagnant pools, ditches, slow-running streams, rivers, ponds, the sea, in abundance from the tanks of hot-houses, and even from the green or black slime covering the walls, and from the surface of flower pots in great variety.

Method of Organic Evolution.—Mr. A. R. Wallace, the veteran in scientific research, and who almost forestalled Darwin in promulgating the great idea of the Origin of Species, is still upholding and labouring away at his favourite themes. By way of criticism on Mr. Bateson and Mr. Galton, he concludes his further exposition of "The Method of Organic Evolution" in the pages of our contemporary, *The Fortnightly*. Mr. Wallace says that the reason why the two writers have failed in dealing with the problem of the modification of organic forms, has been because they have confined themselves to one set of factors, overlooking others of more general and fundamental importance. These are the enormous rate at which organisms multiply during favourable periods, and the consequent severe weeding out to which the individuals of stationary populations must be subjected. To these must be added the periodical elimination, under recurrent unfavourable conditions, of the less fit until only the elect of the elect is left to continue the race. The tremendous severity of this process of selection, as well as its application to every new factor in the process of evolution, must ever be kept in the mind's eye in order to be able to determine the part played by such factors in the production of new species. This, the writers criticised by Mr. Wallace have ignored, so that they have failed to make any real advance in solving the problem of the Origin of Species.

DEATH OF MR. G. D. OWEN.

HORTICULTURE, and especially the Orchid-growing branch, has lost an enthusiastic patron by the death of Mr. GEORGE DYSON OWEN, of Rotherham, who passed away on February 22nd after a brief illness. It is not many years ago since Mr. Owen began to grow Orchids in a very modest way, but finding he did them so well, his enthusiasm grew until he began to weed out the commoner things from his collection, and filled their places with only the choicest and best. I remember telling him one day that rare species and good varieties took up no more space, and required no more skill to grow, than the commoner ones, and, grasping the situation at once, he soon became the happy possessor of many choice plants, some of which, indeed, could not be duplicated. Many of them at various times found their way to the meetings of the Orchid Committee of the R.H.S., from which body he received numerous awards. He was particularly fond of Cattleyas, Laelias, Dendrobiums, Odontoglossums, and Oncidiums, and his name will be carried down to posterity by the beautiful Phaius hybridus Owenianus. As an Orchid-loving amateur I hardly knew one who was at all times so glad to meet and converse with any one up in the subject of his favourites, or one who was more appreciative of a practical hint. I considered his collection one of the smartest in the United Kingdom, and certainly one of the most valuable, so many good things does it contain. He was laid to rest in the presence of many sorrowing friends, and deep sympathy is felt for his bereaved family.—*A. Outram, F.R.H.S., 7, Moore Park Road, Fulham, S.W.*

A MINIATURE NECTARINE.

COMPARED with Peaches generally, the fruits of the different varieties of the Nectarine are small. A variety has made its appearance in France under the name of Nectarine-Cerise, with globular fruits about the size of those of a large Cherry or a large marble. Various other names have been given to it in the country of its origin, and as long ago as 1826 it was named Nectarine Cherry in Britain, though it does not appear to be widely known. The latter name would be more appropriate if reversed and made to read Cherry-Nectarine, for it is not a Cherry at all, but a miniature Nectarine, resembling a Cherry in some respects. A coloured illustration of it is given in the *Bulletin d'Arboriculture* for February, and which will give an idea of the size and colour of the fruits as well as the fertility of the tree.

For a few years past it has been offered as a novelty on the Continent, but it has been ascertained to be more than two hundred years old. The numerous names which have been given to it by various important writers and authors on Pomology, sufficiently attest the antiquity of the variety. In 1628, Le Lectier of Orleans offered grafts of it, that is, about 267 years ago. Since then it has been noticed in different works under different names during the 17th, 18th, and 19th centuries. When André Leroy was preparing the chapter on Peaches for his remarkable *Dictionnaire de Pomologie*, he made inquiries about this miniature variety, but Decaisne, Carriere, and Mas, all eminent authors on the subject, could only say that they had lost all of their trees. As already stated above, it turned up again a few years ago, and at Orleans, of all places, where it first became recorded and possibly originated.

Filassier, in his *Dictionnaire du Bon Jardinier*, describes the tree as of sufficiently vigorous growth, and well furnished with buds. The flowers are of medium size, flesh-coloured, well expanded, and pleasing. The fruit is hardly more bulky than a large nut, beautifully round, furrowed with a shallow groove, and of the most lively red. The flesh when ripe is of a deliciously high flavour. The variety ripens about the end of July. The author wrote more than a hundred years ago (1791), and he says that the variety was very common in the south of France, but rare in the provinces of the north. His nursery was situated not very far from Paris. His opinion was that the fruit was too small ever to be admitted into gardens, except as an object of curiosity, but that it could gracefully decorate a sumptuous banquet.

M. Fred. Burvenich, Sen., in describing it for the *Bulletin d'Arboriculture*, says that the tree is small, of delicate aspect, and reduced in all its proportions. The branches are very numerous, slender, and very red on the sunny side, with short internodes. The leaves are of a clear green. The fruit is small, of a lively colour, with a warm tint covering all the exposed part of the surface, and recalling the beautiful colour of the Apple Api. In bulk it scarcely attains the size of the Plum Reine Claude. The fruit is of good quality, with a white flesh, of a faint lemon tint with some scattered traces of red towards the stone; it is sugary, with a slightly acidulated, agreeable flavour, and separates freely from the stone. The latter is small, round, almost smooth, and not larger than the stone of a Bigarreau. The Nectarine-Cerise, he continues, can be cultivated in a small form on an espalier, but its true destination is for cultivation as a bush in a sheltered place, but above for culture in pots. He has obtained ravishing small trees, literally covered with fruits, by cultivation in pots, of that essentially ornamental and coquettish tree which redeems its small dimensions by the extreme profusion of its fertility.

A tree of such ornamental value should have no difficulty in finding many admirers in this country. It is well known that small fruiting trees of various kinds in pots are highly appreciated for setting upon dinner tables, and the Cherry-Nectarine would certainly be both novel and interesting when loaded with its miniature and highly coloured fruits.

TREE PLANTING, ALLOTMENTS, AND FRUIT CULTURE IN WALES.

ALLOTMENTS

Coming to the subject of allotments, Mr. Muir said that he was greatly in favour of these, although he did not advocate the three-acres-and-a-cow system. Allotments had never been taken full advantage of in Wales, and had been much neglected by the county councils. The county councils and technical instructors were not qualified to give the necessary advice to people who did not understand the subject, and in this respect they were behind English counties. He was of opinion that the landowners were most anxious to grant land for allotments. There was plenty of land conveniently available, and from six to eight allotments to an acre was the suitable extent. They would be much more productive than under the present system of farm crops. He would advise the appointment for several years, till the matter was understood, of practical instructors to give lectures in the populous centres in winter and visit the allotments in summer. This should be done under the direction of the county council. In places where leading persons had taken the allotment question up, the returns for labour and other expenditure had been most satisfactory. He did not approve of each individual being responsible to the landowner for his own allotment, but preferred that associations should be formed to take a quantity and sub-let it. Land for allotments should be secured on leases of thirty or more years. Annual takings discouraged the planting of fruit trees and other permanent crops, and long leases would have the opposite effect.

HORTICULTURE.

Coming to this branch, Mr. Muir said he would like to discuss this apart from the more remunerative sections of fruit culture and vegetable growing. He considered that fancy flower and plant production was a luxury. In one or two of the leading Welsh towns only was there a demand for such. Produce of this kind was mainly imported from Covent Garden and English growers. There had been attempts to grow such in Wales, but they had proved a failure, as the demand was not constant enough to pay for all the year round requirements. Some years ago Captain Mansfield, now dead, erected extensive glasshouses to grow such produce near St. Clears, Carmarthenshire. He had found no great demand in Wales, and had sent the produce to the English centres. He, however, found that the transit charges had swallowed the profits. Mr. Muir did not advocate this system of culture.

VEGETABLE CULTURE.

On touching upon this subject, Mr. Muir said that the demand for vegetables was as great in Wales as in any other part of the country. Large quantities of ordinary vegetables, which ought to be grown in Wales, were constantly imported, and in consequence there was a great need for extended production. In his opinion, extensive allotment culture, previously alluded to, would remedy this to a considerable extent, as the soil and climate were well adapted for vegetable culture. Many parts were so genial in the early summer that they would compete with the most favourable of the English counties in the production of early and high-priced crops. There was also a good market in the populous districts generally available by carts, &c. Owing to the heavy railway charges, a paying export trade might not be done, but enough ought to be grown to meet all home demands. Apart from garden culture, small farmers, of whom there were many, who had a hard struggle for existence under their limited grazing and corn-growing conditions, might greatly improve these by cultivating some of their fields on the garden system. He knew several small farmers who sold field Turnips to greengrocers, and who asserted that this paid them many times better than stock-feeding. A go-ahead practical lecturer for each county or union, who demonstrated to all classes of cultivators the advantage of such culture, would be highly beneficial.

FRUIT GROWING.

As a fruit-growing country, Mr. Muir thought South Wales was most deficient. The soils on coal measures and the atmosphere near the works were unfavourable; but those were exceptions, and the soil and climate generally were admirably suited for fruit culture. He felt sure that if trees were extensively introduced and cultivated, fruit culture would prove highly remunerative. There was a great demand for fruit in Wales, and a large quantity, both for dessert and preserving, was imported. In his opinion, Apples, Pears, Plums, and Cherries were the tree fruits to grow. They should not be wholly cultivated in gardens, but should be planted as orchards in fields. This method would not interfere with the usual returns from grazing. Farmers, he thought, might benefit greatly by attention of this kind to fruit culture. Great care should be taken to select suitable varieties to suit climate and markets. Small fruits, too, such as Gooseberries, Currants, Raspberries, and Strawberries were of easy culture, and sure and quick of return, and always in demand.

DO PLANTS EAT SOIL?

AT a recent meeting of the Ealing Gardeners' Society (see p. 443), the subject of "Decorative Plants in Small Pots," was ably dealt with by Mr. J. Hudson, and, in the course of discussion, I raised the question as to what becomes of the soil in the pots which are crowded with roots? This was immediately seized on as an interesting point by Mr. Simpson, who contended that the absence of soil in the pots of such things as Palms, Dracaenas, etc., which were root-bound, must be accounted for by other means than compression and loss through constant watering. He, therefore, suggested the above query, which instantly brought Mr. Bridges to his feet with the declaration that, if that were so, all our text books on Physiology would have to be re-written. But is that so? I am quite aware that Sir J. D. Hooker, in his primer on Botany, states—but that was twenty years ago—that "the food of plants is liquid and gaseous, never solid"; but does that detract from the above query? May not plants which dissolve mineral substances, and absorb them by the process of osmosis, still be said to eat soil? On the other hand, there are some who affirm that the function of root-hairs is not properly understood, and are bold enough to suggest that through the apertures of these root-hairs it is quite possible that solid particles of mineral matter are thus assimilated.

It is well known that, after the dissipation of plants by fire, there still remains a finely-divided, insoluble substance, in the form of ash, which cannot be destroyed. Does this substance enter the plant in a solid or liquid state? Without going into the chemical constituents of plants, it has occurred to me that these mineral matters may be legitimately taken to represent their *material* nature; while their organic, or volatile parts, may well be thought to signify their *spiritual* state. Thus they may be said to resemble animals, for the smallest urn will suffice to preserve the residue of a body after it has been decomposed into its original elements.

This, perhaps, may be thought to be beyond the point at issue, although I think it is approximate to it; for plants, like animals, grow by what they feed

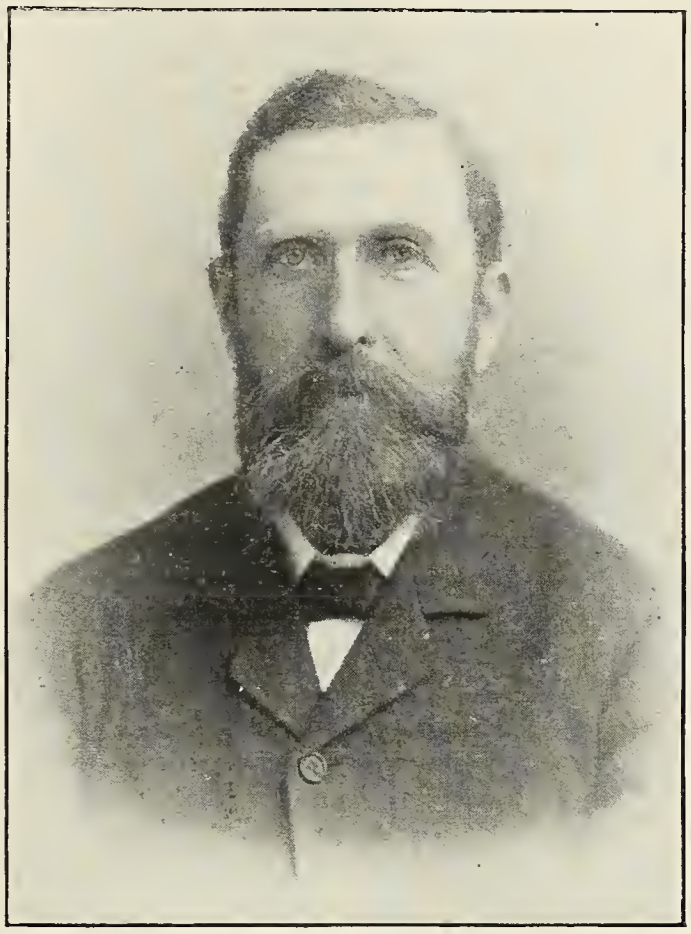
on; and as it is common knowledge that, as the former increase in size, the soil in the pot diminishes in quantity, it follows that a displacement of some kind is effected. In addition, then, to known waste, may not also the proposition at the head of this note be accepted in the affirmative? This is the crucial point, and should any information on this point be forthcoming, I am sure it will interest others besides—*C. B. G., Acton, W.*

A FERN FACTORY.

The notion of a factory in connection with plants, other than artificial ones, seems at first sight to be an absurdity, seeing that Nature alone can build them up by her subtle process of adding cell to cell, each one endowed with vital forces and evolutionary possibilities which the band of man may destroy but is utterly unable to create. A visit, however, to such Fern nurseries as those of Mr. H. B. May at Edmonton, if the visitor be indulged with an inspection of the various propagating houses, almost inevitably, suggests the idea of a factory. If we go over the Arsenal at Woolwich, for instance, we find the stores of most unpromising raw material entering a shed at one end, and, after manipulation by innumerable boys, passing out at the other in the shape of millions of finely finished cartridges or other munition of war. So here we pass, in the first instance, by heaps of raw material—piles of turf, peat soil, leaf soil, sand, etc.; thousands of pots and pans, thimbles, thumbs, and all sizes upward, constituting the ingredients and receptacles of, and for, the myriads of the manufactured articles stored in the glass houses around, or filling the beds in the adjacent grounds. It is, however, when we enter one of the propagating sheds aforesaid, and see a multitude of boys busy pricking out and potting off Ferns in all their stages, that the parallel strikes us the more strongly, and especially on the score of numbers, for here, as at Woolwich, "millions" is literally the word, and a secondary wonder seizes us here, as there, as to where on earth they all go to.

To those who are acquainted with the marvellous fecundity of Ferns in the way of spores, "millions" is known to be well within the mark, but even these find their ideas enlarged by the view of houses a hundred feet and more in length, literally filled with pots, pans, and shallow boxes crowded with the minute fish-scale-like protballi which form the preliminary stage of Fern life. Taking up a 6 in. potfull of these, we see at once that a single square inch contains many hundreds, and the whole pot thousands, of potential plants. While we are looking, a boy prepares a shallow oblong box about 18 in. by 12 in. with fine soil and begins with a blunt stick to dot this all over with tiny patches extracted from a similar pot to the one in hand. Box after box is filled from one alone and duly labelled. Passing on, we find these patches expanded, and the gaps purposely left between fairly filled up by additional growth. Now, however, we see tiny fronds pushing their way upwards in each patch, and anon the boxes are filled with dense crowds of many recognisable species of Ferns. Again the boys tackle them, and, dividing the patches, separate the plants as far as possible from one another, multiplying the boxes *ad libitum* in the process, so that now the contents of a 6 in. pot require several square yards to accommodate the still tiny plants.

Thimbles and thumb pots are the next steps, and, as far as this batch is concerned, it has now boiled over into other houses, and if the crop has been good and properly handled through all stages, it is speedily found that a house as big as the original one will not accommodate the finished product of a single potfull of spores, that is, every plant being grown on into a full-sized specimen. Meanwhile, however, the process of dispersion has set in, and hundreds of thousands of youngsters have found their way into the hands of those who either use them as small plants or grow them on to decorative specimens. Many Fern lovers are of this latter class, and prefer to start with a young plant and do the rest themselves. Since to all true lovers of garden or greenhouse, the great bulk of their pleasure consists in watching the development of their pets, and a fine specimen due to their own special care is infinitely more precious and interesting than a similar one bought ready made for so many shillings or pence, as the case may be. To return, however, to the factory comparison, just as the boys in the Arsenal are little more than part of the machines they work at, and these latter would play havoc with the precious material supplied unless planned at the outset with marvellous care, and maintained in order with scrupulous attention, so here among the budding Ferns, it by no means suffices merely to scatter the spores and gather the crops. A thousand and one invidious foes and damaging factors are ever lying in wait to profit by by carelessness in the various steps of culture. The very air teems with inimical germs of fungi, and the earth with a veritable host of insect foes, both small and large, to the attack of all of which the extreme minuteness of the Fern spores themselves, and their primary growths render them an easy prey.



Mr. H. B. May.

Hence, with the best of care it is certain that a relatively small percentage of germinating spores able to struggle through the initial stages, and become saleable plants, and there must always be active behind the scenes (to vary our comparison a little) the experienced head and watchful eye of the master. Some Ferns it is difficult or impossible to obtain from spores; others present peculiar facilities for propagation in other ways; hence, we find men and boys busied with such in other houses, dividing, cutting up and multiplying established plants in a dozen different ways.

Leaving, however, the factory proper, and proceeding to the houses in which the manufactured articles are temporarily stored or grown on into exhibition plants, what vistas of lovely verdure meet our gaze. Here is one house 60 ft. long, literally crowded on both sides with the marvellously beautiful Adiantum Farleyense, its delicately tinted fronds ranging from rose-pink to pale green, and forming the *ne plus ultra* of Ferny beauty. Another house is full of varieties of A. cuneatum, crested, congested, attenuate, &c. The next has a score more of different species of the same genera, embodying all conceivable types. Another is full of the delicate Gymnogrammes, Ferns silvern, and Ferns golden, bewildering the eye with their brilliancy of colour, and in some cases as with G. schizophylla with their intricacy of cutting. So we go on through jungles of Nephrolepis, Cherlanthes, Nothochloena, and Pteris in half-a-dozen of its finest forms, nobilis, Mayii, Victoriae, densa, &c.

Finally, so far as Ferns are concerned, we turn into a house filled with choice specimens of all the species here grown. Davallias and Nephrolepis are hanging from the roof in bewildering profusion, while upon the supporting columns are hanging huge specimens of Platycerium grande, alcicorne, &c., set off by pendulous Goniophlebiums. On the shelves around are housed several hundreds of the choicest forms of Asplenia, from the small but beautiful A. formosum, up through A. flaccidum, bulbiferum, to the huge shuttlecock of A. Nidus, or the Bird's-nest Fern, or the roof-aspiring fronds of A. marginatum. Tree Ferns, Dicksonias, Alsophila, and Cyathea are also to the fore, and with their wide-spreading fronds immensely enhance the tropical aspect of the scene. In some of the cool houses and in frames there is a fine collection of our native British species, and here we find Hartstongues of all forms and shapes by the thousand, in company with Lady Ferns, Shield Ferns, Male Ferns, &c., in profusion, and embracing the very newest developments.

Passing from the Ferns, we speedily perceive that although they constitute the speciality here, they by no means exclude the culture of other plants. There are warm houses and stoves full of gorgeously coloured Crotons, Dracaenas, Caladiums, and other high-class foliage plants, next hundreds of Aspidistra meet the eye. Then a range of glass is seen to cover Tree Carnations, more Ferns, Palms, Lapagerias, white and red, Camellias, &c., to name all of which would simply turn this article into a catalogue; and having therefore said enough to indicate the immense variety, we leave the rest to the imagination. Let it suffice to say, in conclusion, that there are 71,618 square feet of glass in the houses at Dyson's Lane alone, while about two acres are covered by low frames and various hardy plants in the open. Millfield, a mile distant, we did not visit; that is mainly devoted to Grape and Tomato culture, and hence did not fit into our Fern factory sufficiently well to be embraced.—*Chas. T. Druery.*

ANEMONE JAPONICA WHIRLWIND.

Three very well-known forms of the autumn-flowering Japanese Anemone or Windflower (Anemone japonica) are frequently met with in gardens all over the country, but more particularly the variety A. j. alba, also known as A. j. Honorine Jobert. It is a highly valuable plant, on account of the number of purposes to which it can be put in the decoration of the herbaceous border beds in the flower garden and for cut flowers. That under notice promises to be equally, if not more valuable, and we are certain to have it brought before the public in greater or less quantity in the near future. It comes from America, from whence it was introduced to Europe by Messrs. Barbier Brothers & Sons, of Orleans. It would appear to have arisen accidentally from A. j. alba, of which it has the general aspect and the foliage. The flowers are semi-double, snowy white, about 3 in. across individually, and consist of three or four ranks of petals; the outer ones are relatively broad, but not equal to those of the single variety, while the inner ones become gradually smaller and narrower till a few of those next the stamens are twirled and twisted about loosely in the centre. This latter feature naturally suggested the name of Whirlwind. It is propagated by division of the rootstock in spring and requires the same cultural treatment as A. j. alba. A figure of it is given in the *Bulletino della R. Societa Toscana di Orticultura*, for February last.

THE CULTIVATION OF EARLY VEGETABLES.

(*Concluded from page* 426.)

Cauliflowers.

For the first crop a sowing should be made about the third week in August on a warm border; as soon as the plants are large enough to handle they should be pricked out in frames, about 3 in. apart each way to stand the winter. In very severe weather mats or litter may be thrown over the frames, but on mild days the lights should be taken off so as to give as much air as possible. About the middle of March they may be planted out about 2 ft. apart; care should be taken not to injure the roots when taken from the nursery bed. These will be found to succeed the late Broccoli, and there will be no fear to have them about the latter part of June. As to the varieties, I like the Dwarf Erfurt, as it is a beautiful close white head, and if in good ground a good size is attained. A pinch of Veitch's Autumn Giant sown at the same time is very valuable to follow this sort. Broccoli is a variety of Cauliflower, and only differs from it in hardiness; there are many varieties. Seed should be sown in March to come for use in early spring, and mostly everybody has his special varieties, but the sorts I generally grow are Veitch's Self-Protecting, Snow's Winter White, Knight's Protecting, Cooling's Matchless, Wilcove's, and Late Queen.

Carrots.

These require a warm, light, rich soil trenched two spits deep in autumn, and some well-decayed manure put in the bottom. If this is not done in autumn it is better not to add dung, but select a rich piece of ground for them, as freshly applied dung is liable to cause their growing forked and to expend themselves in fibres, also to the attack of the wireworm. A dish of young Carrots is generally appreciated, therefore they pay for a little trouble. A slight hot-bed should be made in January; if a light or two of a brick frame can be spared so much the better. After allowing for sinking put about 6 in. of fibrous loam with a little leaf-mould sifted together. The surface should be about 8 in. or 9 in. from the glass; sow the seed in drills about 8 in. apart. Champion Scarlet Horn or Nantes are good varieties. To follow those in frames a sowing may be made in February on a warm border of the same sorts in drills about 1 ft. apart. Here also Veitch's Model is a good one, especially if wanted for early exhibition, when holes should be made with the dibble about 10 in. deep and 4 in. to 6 in. apart. These should be filled with fine soil. Here I like a little loam and leaf-mould with plenty of sand, seasand if procurable, also a small quantity of fowls' dung, sifted together through a fine sieve. Be sure and have the holes filled; I used to use a small stick to work it to the bottom with. When about an inch from the top put three or four seeds in each hole, cover with the same soil, and when the plants are of a good size thin to one in each hole.

Broad Bean.

Respecting the Broad Bean, the soil should vary with the seaon; for winter standing and early crops a rich dry soil is best for them, as if too moist the seed is apt to decay, whilst a cold bottom and more tenacious soil is best for early spring and summer sowings. Some people sow in November, but I don't often put in any until January. Seville Long Pod and Leviathan are good sorts for exhibition, otherwise I should recommend the Windsor varieties.

Tomatos.

As we have had a paper on these I need say but very little. To get early Tomatos a little forethought is required. Some sow seed in autumn, but unless a house can be allotted to them I do not think there is much gain, as this can only be done in large establishments. Seed sown early in January in a hot-bed or warm house, and well attended to, yield the best early crop, as the plants are much stronger. They should be kept in a moderate growing state, but do not overfeed them. A good turfy loam is the best soil for them, with a solid bottom. I have seen good crops of Tomatos grown on slate slabs with very little soil, by a friend of mine, and I do not remember his ever having that dreaded disease by this method. A good circulation of air on fine days is most essential, with a dry atmosphere at all times. As a rule, Tomatos are allowed too much root run which causes rank, sappy growth and often ends in failure.

Cucumbers.

As we recently had an evening on hot-bed making, I will confine my few remarks to house culture, but as I hope there is an evening in store for them I shall say but very little. If Cucumbers are required very early they must be started in accordance. I find that about Ladyday is the time, as a rule, for the first demand; therefore I generally get them by that time. To do this seed should be sown early in January, in a temperature not less than 70°. Cucumber houses differ very much, as do all other houses, but the best is a span-roofed sunken pit, with a path in the centre, and a bed on either side, with a flow and return pipe under the soil, and the same above both sides, and ventilated on the top. As a rule wood is used for the bottom over the pipes; when this is ready for soil about 12 in. of decayed cow dung may be put in with advantage. The best soil is a turfy-loam from a stiff red clay subsoil, and the hillocks should be from 12 in. to 15 in. deep, and between them I like to put a 3 in. drain pipe upright from the bottom. This, in my opinion, gives a wonderful relief to the bottom heat, also helps to keep the bottom of the soil from getting too dry. When in a growing condition they require more air in the day time as the sun gets more power, and healthy plants will bear the full light; if they droop under its influence while air is given freely you may guess that something is wrong with their roots. Fresh plants should be raised at once to supersede them in case they do not recover.

Globe Artichokes.

These in some places are prized and looked upon as one of the best products of the garden, although I know of places where you may see plants in an odd corner of the garden merely for ornament, never thought worth using. But I believe they are despised for the want of knowing and the proper way to use them. I remember a dish being sent to table for dessert once. The Artichoke, like many other good vegetables, gets a bad name through a bad cook. There are two varieties, the French, which is green and the scales spreading, and the Globe, which is tinged purple with the scales incurved. They like a rich, loamy soil and a damp bottom, but here they will not survive a severe winter. If possible to obtain it plenty of seaweed, or any other manure containing common salt, is very beneficial to them. The best way to propagate them is by division of the roots, which should be done every five or six years, as the best and earliest crowns are got from beds from two to five years old. I do not advise taking the whole bed up for division at once, but a few plants every year. The beginning of April is the safest time to do it; those plants would throw up heads in autumn, whilst the old beds would commence in May and onwards. I do not remember ever seeing a dish shown at Exeter in a collection of twelve dishes of vegetables, whilst at Taunton, formerly, you would scarcely ever see a prize collection without them, and there is only a week's difference in the shows. When exhibiting here, I have brought them, but have always been advised not to put them up. In winter they must have a little protection. I generally put some ashes around them and cover with stable litter. As at Pynes, I have a great demand for them. In fact, I cannot get too many.

I fear I have overrun my time. I have omitted a few small things, such as Cabbages, Onions, Turnips, and others. I believe we have heard about them before; at any rate, most of us are too well acquainted with their culture to want much said about them. I should like to have said a little on garden soils, but that must be done at some future time.

LAPAGERIAS.

These beautiful plants are among the very finest of our greenhouse flowering plants suitable for the decoration of pillars or trellises in our cool plant houses. Curiously enough, however, while their wax-like blooms are always in great demand, it is a comparatively rare occurrence that we come across plants which are in a really healthy and satisfactory condition. More often than not, the specimens we meet with present a half-starved and wholly unhappy appearance that would lead us to suppose that their cultivation is but little understood, or that their wants are in some way neglected.

In the majority of instances, the ill-health of the plants and their consequently dilapidated appearance is directly attributable to the unwelcome attentions of insect pests, more particularly thrips, green fly, and mealy bug, which seem to consider the Lapageria as their lawful prey, and act accordingly, to the no small discomfort of the plant itself. Once these insects effect a lodgment, it becomes a matter of extreme difficulty to dislodge them, a great deal of time and trouble being requisite. This, perhaps, gives us the key-note to the want of success in Lapageria culture in establishments which are chronically short-handed, and where during a particularly busy period many things are neglected or insufficiently attended to.

Although their culture in pots may produce fairly good results, it is not a method which we would particularly recommend, planting out in a specially prepared bed heing by far the more preferable method of procedure. In making up such a bed, one of the most important considerations is the drainage, and no pains should be spared to make it as perfect as possible, for upon the proper performance of this duty much of the question of failure or success hereafter will depend. The proposed bed should also be enclosed either by a brick wall or by slates so placed that the roots of the plants are kept within bounds. The compost should consist of a large proportion of peat and a small quantity of good fibrous loam—if such is obtainable—if not, it had better be done without altogether rather than employ inferior material. A liberal addition of sand and a quantity of charcoal and mortar rubbish should be added and the whole well mixed together. It is not advisable to add any artificial manures to the soil, as these are much better applied when the plants have got well established in their new quarters. The next important point is to choose strong, vigorous plants to start with, as it is worse than useless to waste time by planting poor, puny weaklings which never give satisfaction.

The supports upon which they are to be trained is also a matter of great moment. A trellis formed of stout twine is, in all cases, the best, as the young growths take to it in a kindly manner. We have seen copper wire used, also, with fairly good results, although the expensiveness of this would, in many cases, be sufficient to prevent its use. Galvanised iron wire is the worst of all, and should never, under any consideration whatever, be employed. A cool greenhouse temperature will suit Lapagerias admirably, and they will even stand several degrees of frost during winter withont sustaining harm. Shade from the direct rays of the sun during summer is also an essential.

As soon the plants start well into growth in the spring the syringe may be brought into play pretty vigorously, and an abundant allowance of water at the root throughout the growing season is of the greatest importance In fact, too much strese cannot be laid upon the great necessity of an adequate water supply, without which it is futile to expect success. The tying-in of the shoots as growth goes on must be attended to at intervals, and should in no case be neglected until the growths have become twisted and matted together in a manner that precludes the possibility of disentanglement without injury to the tender points of many. As soon as the flowering season commences, which it usually does about July, and lasting well on into the autumn, many of the growths may be unfastened from their supports and allowed to hang down. The effect produced by a house of healthy Lapagerias thus treated is truly magnificent, and well repays any extra trouble that might have been taken with the plants. During the autumn and winter months, less water will, of course, be necessary at the roots, although they must never be allowed to get too dry. Pruning should be conducted in the early spring, just as the plants are starting, and should consist in the thinning-out of the weak and spindly growths and the removal of those that have already flowered.

Insect Pests.

As has previously been stated the Lapageria has very many enemies among the various hordes of insects that attack our favourite plants, and steps must be taken to put a check upon their unwelcome attentions. Green fly will often cause trouble during the spring months and should be treated by giving several fumigations on consecutive evenings following these up by thoroughly good syringings. Thrips will often cause more trouble, although the fumigations will in a measure put a stop to their operations. It is advisable to start the year with a clean bill of health

with regard to the presence of insects, and thus after pruning it is often necessary to sponge any of the leaves that are in an uncleanly condition, although this operation requires the greatest of care or many of the leaves will be broken off.

SLUGS.

A sharp eye must also be kept upon the doings of these little animals, as they evince a decided predilection for the young, tender, succulent shoots, especially those thrown up from the ground. A good plan is to encircle the stems at the point of contact with the soil with a piece of cotton wool which will effectually bar the progress of the enterprising slug. Another dodge that will also achieve the same end, viz., to enclose the stem by sprinkling a ring of salt an inch or so away from it upon the soil is worth knowing.

PROPAGATION.

The most general method of propagating Lapagerias is by layering, which is both a safe and an expeditious plan of securing a stock of young material. The plants which are to be operated on are usually removed to specially prepared beds, and the shoots layered down into them. A somewhat higher temperature than suffices for the plants under ordinary conditions is maintained with a fairly moist atmosphere, the young plants being detached and potted up in the usual way when rooted. Where the raising of seedlings is practised, the seed should be sown soon after it is ripe and the seed pans placed in a gentle heat to assist germination.

It is important when arrangements are being made to grow Lapagerias that a good variety should be chosen. The genus only contains one good species, L. rosea, a native of Chili, although there are numerous forms and varieties upon the market, exhibiting a considerable variation in depth of colouring and substance of bloom. The well-known L. r. alba, also a Chilian plant, is held in even greater favour than its type, and its pure white flowers present an agreeable and effective contrast to the red ones when grown side by side. L. r. superba is also well named, and is a really good variety, its flowers being of large size, good substance, and of a rich crimson colour. L. r. Nash Court var. is one of the very best red-flowered varieties in cultivation, and is well worthy of all the praise that has been bestowed upon it from time to time. Not only is it a most profuse bloomer, but the individual flowers will compare favourably for size with those of any other form. The segments of the flowers are of great length, of excellent substance and a rich purple-red in colour. The leaves, too, are rather larger than ordinary, ovate in shape, very leathery, and of an intensely dark green colour. It is certainly one of the most vigorously constitutioned and strongest growing varieties we have.

L. r. maculata is also a very pretty and noteworthy variety, having flowers almost as large as those of the Nash Court, but pale rose in colour and spotted with white. The segments of the perianth, too, are spreading at the mouth, another peculiarity which marks it as distinct from the latter variety, which does not exhibit this tendency. There are numbers of other forms in cultivation, but those mentioned will suffice as examples of an exceedingly beautiful and favourite climber, that in the person of one or other of its varieties deserves to be represented in every cool greenhouse where the necessary conveniences exist.

GARDENING MISCELLANY.

CAPSICUM SIRIUS.

THIS appears to be a variety of Capsicum annuum or other allied species which frequently pass under the name of Chillies. The plant gets rather tall, very much branched, and bears fruit in great abundance. The fruits are oblong and widest at the base, or they are narrowly conical, and green at first, but as they approach maturity they become white, passing into waxy-yellow, from which they gradually become orange-yellow and finally scarlet. The variety originated in Japan, where it is cultivated as an ornamental plant, and has reached Italy, to which it is new. There is a figure in the *Bulletino della R. Societa Toscana di Orticultura* for February. Where berried plants are much in request in this country, it might be grown for the sake of variety and the ornamental character of the fruits, which, before becoming perfectly ripe, would present all their progressive colours upon one plant by reason of their differences in age. For purely ornamental purposes they should be grown in warm pits well exposed to light and ventilated rather freely during the day to keep the plants close, bushy and sturdy.

LILAC MADAME LEMOINE.

FOR some years past a considerable number of new varieties of the common Lilac (Syringa vulgaris) have been raised, and last May a considerable number of them were brought before the public, testifying by their names that the French cultivators have been the most active in the improvement of this class of plants. Lilac Madame Lemoine was honoured with a First-class Certificate from the Royal Horticultural Society on the 8th of May last year. The panicles of bloom are dense and vary from 4 in. to 10 in. in length. The flowers are of the purest white, double, and consist of two or three corollas one within the other. They should be more durable than the single white varieties, but in any case they look far more massive, and will doubtless find many admirers for cut flower purposes. A double-page illustration of it, prepared from a photograph is given in the February number of the *Bulletino della R. Societa Toscana di Orticultura*. This shows the massive and pyramidal character of the inflorescence, but the picture is much too dark owing either to the photographer or to those who prepared the block. The massive character of the flower trusses makes them difficult to represent with any degree of clearness. The references to the variety in the horticultural journals of different nations, show how quickly a showy and useful subject gets distributed over the world.

HAEMANTHUS KATHERINAE.

SOMETHING like thirty-eight species of Haemanthus are known to science, but owing to their being scattered over a wide area, and under different climatic conditions, they differ considerably in habit, and require peculiar treatment in many cases to flower them with any degree of success. Another peculiarity with many of them is that they develop their flowers at one season, and throw up their leaves at another. This is a disadvantage as far as ornamental effect is concerned. It does not, however, apply to H. Katherinae, which develops its flowers and foliage simultaneously. The leaves are borne upon a specially produced and annual stem, dying away as the bulb matures. As in the case of Hippeastrum, the flower scapes are not produced from the centre of the tuft of leaves, but from amongst the older scales of the bulb. The naked scape bears on the top of it a dense umbel of bright red flowers, which some would describe as scarlet, owing to the rich effect produced by the large, brush-like mass of stamens which project beyond the reflexed segments of the flowers. Each individual bloom is moderate in dimensions or even small, but the whole in a mass are very effective. The species is a native of Natal, and succeeds well with stove treatment; it fact, it is one of the most easily managed in the genus.

CYCLAMEN COUM.

AMONG the children of early spring which condescend to produce their flowers at a season when they are often greeted by anything but kindly or propitious weather, Cyclamen Coum must be awarded a conspicuous position. It is remarkably easy of cultivation, and once planted only needs to be let alone, and thus should be a great favourite with all who love hardy flowers, whether they rejoice in the name of amateur or professional gardeners. The flower is usually deep red in colour, although its tint will in a great measure depend upon the situation in which the plant is growing, whether comparatively shaded or exposed to the sun. As a rule, the more light the plant receives the richer will be the colour of the flowers. The corolla is smaller than that of any of the other species of Cyclamen, and the leaves, which are produced at the same time as the flowers, are coloured purple on the under surface, and are quite orbicular in shape. The soil in which the tubers are to be planted should be well drained, and if a little mortar rubbish is mixed with it so much the better. There are several varieties of C. Coum in cultivation, C. C. album with its white and C. C. carneum with its rosy-red corolla segments, being the most noteworthy.

SOCIETIES.

Ealing & District Gardeners' Mutual Improvement.—On Tuesday, the 26th ult., an ordinary weekly meeting of this Society was held in the Victoria Buildings, when Mr. J. Hudson, of Gunnersbury House, Acton, delivered a lecture on "Decorative Plants in Small Pots." The audience was large and appreciative, and, as Mr Hudson unfolded his views and gave practical evidence of his thorough knowledge of his subject, he was well received. Most gardeners, he said, were called upon to do something in the way of furnishing, and if that could be done in small pots the advantage would be distinct and real, not only in the matter of less room being required for the receptacles of the plant, but also for the plants themselves; as, if the plants were profusely grown and not subject to too high a temperature, they would be better able to withstand the altered conditions of their existence. In illustration of what could be done in small pots, Mr. Hudson exhibited a well-grown specimen of Cocos Weddeliana in a 60-sized pot, and otherwise afforded much valuable information. Mr. Geo. Cannon, who occupied the chair, attested the importance of the paper; and several other members took a similar line of thought, which resulted in a very hearty vote of thanks to Mr. Hudson being recorded.

The interest of the meeting was considerably enhanced by an exhibition of spring-flowering plants, and although two groups were staged, these were well done, and deserved much commendation. The first prize went to Mr. C. Edwards, gardener to W. Owen, Esq., Castlebar; and the second to Mr. Woods, gardener to Mrs. Willey, Aston Road, Ealing. Both groups displayed taste in arrangement and evidence of good culture. Mr. Edwards had Hyacinths, Tulips, Cinerarias, Lachenalias, Polyanthus, Narcissus, Primulas, &c., the latter being very good. A Cocos Weddeliana occupied the centre, while Triteleia uniflora fringed the front. Mr. Woods, on the other hand, was strong in Narcissus Horsefieldii, Freesia refracta alba, Cyclamen, &c. His centrepiece was Richardia æthiopica; and his front line consisted of Panicum variegatum, Scilla sibirica, and other miscellaneous plants. This rather detracted from the effectiveness of the group as a whole, and probably gave his rival the advantage.

Mr. A. Pentney exhibited the new Carnation Mary Godfrey, the flowers of which are pure white and of good average size. For this he received a vote of thanks.

LAW NOTES.

IMPORTANT TO SEED MERCHANTS AND GROWERS.

AT the Southwark Police Court, on the 20th ult., before Mr. Slade, C. S. Robinson, late of Pinchbeck, near Spalding, farmer, was charged with having by false and fraudulent pretences obtained the sum of £73 14s. 2d. from Messrs. Cooper, Taber & Co., Limited, seed merchants, Southwark Street, S.E. Mr. Grain, instructed by Mr. Charles Butcher, solicitor to the Nursery and Seed Trade Association, Limited, prosecuted, and the prisoner was defended by Mr. Stile, solicitor, Spalding. It appeared that the prosecutors, like other wholesale seed merchants, get seed grown for them by farmers under a written agreement, the merchant supplying the stock seed and agreeing to take the produce thereof at a fixed price, an arrangement which has its advantages to both merchant and grower, inasmuch as that it enables the farmer to sell his seed at a price fixed beforehand, and the merchant to properly estimate what seed he will have for sale without being subject to market fluctuations in price in case of bad seasons.

From the evidence given by Mr. Henry Thomas Huggins, manager of Messrs. Cooper, Taber & Co., Limited, it appeared that in July, 1892, the accused wrote to the Company asking whether they wanted any Turnip seed grown that year, and stating that he had got twenty acres of land ready. After some correspondence it was ultimately agreed that he should grow twenty acres of Purple-top Swede Turnip for the Company, and supply the produce to them at the agreed price of 14s. 6d. per bushel. In July, 1893, when the seed was ready, the accused called at their warehouses and stated that he had sub-let part of his contract to another farmer, who had agreed to sell the seed to him at 13s. 9d. per

bushel, but as the market price had risen he would not part with it at the price which had been agreed upon. Messrs. Cooper, Taber & Co., believing the statements to be true, and being desirous of obtaining the produce of their stock seed, particularly as the market price had risen, consented to the accused obtaining the seed from the farmer at £1 per bushel. About the 18th of July the accused wrote the Company stating the terms he had made with the farmer in question, and, believing the statements made by him to be true, the prosecutors paid the accused for 268 bushels of the seed in question at the rate of £1 per bushel instead of the contract price of 14s. 6d., the difference being £73 14s. 2d. Subsequently, in October, 1894, the prosecutors discovered, through Mr. Orbell (the farmer who it was alleged had refused to part with the seed grown by him) calling at their warehouse, that he had carried out his agreement with the accused, and they were advised to prosecute him for obtaining the sum named by false and fraudulent pretences.

Mr. S. Orbell, farmer and innkeeper, the Bull Inn, Pinchbeck, Spalding, bore out the latter part of Mr. Huggins' evidence; the accused, through his solicitor, pleaded guilty, and was committed for trial to the Sessions, on March 12th.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

POTTING SOPHRONITES GRANDIFLORA.—*A Novice*: The treatment accorded to Coelogyne cristata in the matter of compost and the time to pot will also apply here. An inch of compost on the top of plenty of drainage will be sufficient. Small Orchid pans are as often used as baskets; but in any case they should be stood on a shelf close to the glass or suspended from the roof where they will enjoy the influence of the light all the year round. When making growth it would be advantageous to place them in the cool end of an intermediate house (not a stove), and to give them plenty of water. On the completion of growth, the plants may be put back again to the cool house. Watch for the first signs of growth, pot them directly and place them where the temperature does not fall below 50° at night for the present.

NAMES OF PLANTS.—*James Thomson*: The Orchid is Coelogyne speciosa. *J. L.*: 1, Asplenium bulbiferum; 2, Asplenium bulbiferum minus; 3, Polypodium Lingua; 4, Selaginella laevigatum; 5, Pteris hastata. *H. W.*: 1, Sparmannia africana; 2, Coleonema alba; Narcissus Tazetta var.; 4, Forsythia viridissima; 5, Clivia miniata var.; 6, Trichomanes radicans.

COELOGYNE CRISTATA.—*A Novice*: During winter this Orchid should really have a higher temperature than the cool house to prevent the flower spikes from turning black and damping. At present, the night temperature of the house should be kept up to 50°, rising as the days get longer and the sun warmer. The Cattleya house is, in fact, the best place for it in winter; but it should be placed in the cool house to make its growth. The higher temperature of the Cattleya house will enable you to give more water than would otherwise be advisable; it is true that less water is required during the resting period than when growth is being made, but you should not allow the pseudo-bulbs to shrivel in the way you state, till the flowering period is over at least. The best compost for potting is fibrous peat and live sphagnum, chopped and used in equal proportions. Use shallow pots, pans or baskets, putting plenty of drainage into them. The best time to pot is when the roots begin to move, and possibly that has already taken place. If so, pot them at once, doing it carefully and making them firm.

FORMATION OF CALLUS AND ROOTS.—*W. B.*: You may examine the process for yourself by means of some thick-stemmed cuttings, like Pelargoniums, in which the various parts are easily observed. Cuttings do generally form a callus before producing roots, though in many cases it is hardly observable. In any case, the callus is a good sign that the cuttings in question are in a fair way to produce roots. The latter are not, however, prolongations of the callus, but a healing, as it were, of the cut end of the stems. The roots are pushed out of the stems from the region of the cambium layer and usually pierce their way through the callus; they do so in most hard-wooded plants and some others, but certain soft-wooded subjects push out roots in the same way, but from any part of the stem covered by the soil or within reach of moisture.

PLANTS IN FRAME.—*H. G.*: The pale colour of the foliage is due to the heavy coverings you placed over the lights rather than to the frost itself. Long continued darkness would in itself finally bring about the destruction of many things just as frost would. Your only remedy under the circumstances is to shade the frames lightly during the middle of the day when the sun is strongest, till the plants regain their wonted greenness and hardiness by gradual exposure to the light, after which the sun will do them no harm. Some of the plants may be greatly injured or killed outright, but in case of a scarcity of any of them, be careful not to pull them out nor throw them away, so long as there is a chance of them breaking away from the root on the approach of spring and a higher temperature.

FAIRY-RING MUSHROOM.—*A. Curle*: There is no reason why you should not attempt to establish them in the grass of an old paddock. When in season, collect a quantity of the fully developed Mushrooms, break them up in pieces and insert them here and there over the field and at a few inches below the surface of the soil, and await the results. The object of selecting fully developed Mushrooms is that the spores may be mature.

TO DESTROY ANTS.—*Omega*: Lose no time in digging up the ants' nests in the grass, by taking off a square of turf over each nest and then digging up the nests so as to expose the ants and their pupae to the frost at night and birds by day. If this had been done before Christmas the severe frost would have been more effective than it can be now. Under the soil they would pass the winter with little or no injury, but disturbance and exposure are very destructive to them when dormant or inactive. If convenient, you could scald the nests with their contents by means of boiling water after the turf has been removed and the nests fully exposed. Carbolic acid mixed in ten times its bulk of water may be used for the same purpose, but it must not be poured over the grass, otherwise the latter will get killed. Some of the nests will be sure to be overlooked, and in spring when the ants become active you should mix Calomel and finely-powdered sugar, one part of the former to ten of the latter, and lay the mixture in little heaps near the openings of the nests. Cover the poison with bits of slate, slightly elevated on three short pegs or three stones, so as to keep other animals away.

BEST TIME TO TRANSPLANT.—*Omega*: The question is rather a wide one, and too indefinite to be answered in one paragraph. State more particularly what plants, trees, or shrubs you intend to deal with. Deciduous subjects do well, as a rule, when transplanted in October or the beginning of November. Evergreen subjects, such as Hollies, Cherry Laurels, and evergreen Conifers, generally succeed best when the work is accomplished in April or May when growth is beginning to move. Showery weather is above all things highly suitable for the welfare of trees and shrubs when being moved.

TREATMENT OF BOUGAINVILLEAS.—*J. W.*: You do not say whether you wish to grow the Bougainvilleas in pots or to plant them out. But probably pot culture is your intentions, and in such a case you may use a potting compost of three parts of fibrous loam, and one part of leaf soil, with plenty of sand to keep the whole porous and open. Potting should be effected at once if necessary to be done this year, and the buds should be just starting into growth when you do it. Bougainvillea glabra may be grown in a stove, intermediate house, or greenhouse, but an intermediate house in spring, and a greenhouse or conservatory afterwards, would best suit your purpose. All through the summer and flowering period the plants should be encouraged to grow freely, giving them plenty of water and free ventilation. Under favourable conditions they will often flower late into autumn, and should be assisted with weak liquid manure. When they cease flowering, say in November, the plants should be gradually dried off and encouraged to go to rest, in which state they should be kept till February, and then pruned pretty hard back. They will gradually commence to grow again, and should be subjected to the same treatment as in the previous year. The brisk heat of a stove will make them start all the more vigorously.

COMMUNICATIONS RECEIVED.—J. C.—A. O.—H. G. H.—R. D.—W. C.—R. O.—M. B.—D. F. & Co.—A.—T. B.—B. S. W.

TRADE CATALOGUES RECEIVED.

LITTLE & BALLANTYNE, Carlisle.—Farm Seeds.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Dahlias, Bedding Plants, etc.

H. CANNELL & SONS, Swanley, Kent.—Illustrated Floral Guide for 1895.

ADOLPH VAN DEN HEEDE, 111, Rue du Faubourg-de-Roubaix, Saint-Maurice-Lille, France.—Chrysanthemums, Dahlias, etc.

W. P. LAIRD & SINCLAIR, Dundee.—Farm Seeds.

BARR & SON, 12 and 13, King Street, Covent Garden, W.C.—Hardy Herbaceous Perennials and Alpines, &c.

FOTHERINGHAM & KING, Dumfries.—Agricultural Seeds.

LONDON SEED TRADE.

March 5th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a slow demand for Agricultural Seeds, German and American Red Clover remain steady. Alsike unchanged. White Clover and Trefoil easier. Ryegrasses dull.

COVENT GARDEN MARKET.

March 6th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Grapes, per lb.	1 0	2 0
Nova Scotia Apples per barrel	12 0	21 0	Pine-apples. —St. Michael's each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	18 0				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers.....doz.	6 0	9 0	Seakale...per basket	2 6	3 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 9	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Aspidistras, per doz	18 0	42 0	Evergreens, invar. doz	6 0	24 0
—specimen plants, each	5 0	15 0	Ferns, invar., per doz.	3 0	8 0
Cyperus .....per doz.	4 0	12 0	Ferns, small, per 100	3 0	6 0
Chrysanthemums, per doz.	6 0	8 0	Foliage Plants, doz.	12 0	60 0
Cyclamen, per doz....	9 0	18 0	Marguerites, per doz.	8 0	12 0
Dracaena term., doz.	18 0	36 0	Mignonette, per doz	6 0	0 0
Dracaena viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica hyemalis, per doz.....	12 0	18 0	Palms, Specimen ...	15 0	63 0
" gracilis per doz.	10 0	12 0	Primulas, per doz. ...	4 0	6 0
			Solanums, per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0	Narciss (French) doz. bch.	4 0	6 0
Azalea.....doz. bchs.	6 0	10 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums 12 sps.	0 6	0 9
Carnations...per doz.	2 0	3 0	Pink Roses...per doz.	3 0	6 0
Chrysanthemums, doz. blooms	2 0	6 0	Pyrethrum doz. bun.	2 0	4 0
" doz. bunches	4 0	12 0	Primula, double, bun.	0 6	0 9
Double Daffodils, doz. bchs.	15 0	18 0	Roses, yellow, dozen	2 0	4 0
Single Daffodils, doz. bchs.	24 0	30 0	— Red..... doz. blms.	3 0	6 0
Eucharis ...per doz.	4 0	6 0	— Tea ..... per dozen	0 6	2 0
Gardenias 12 blooms	2 0	4 0	Scarlet Geraniums, doz. bchs.	5 0	9 0
Heliotropes, 12 sprays	0 6	0 9	Tuberoses, per doz	0 6	1 0
Hyacinth (Roman) doz. bch.	9 0	12 0	Violets (French) Parma, per bch.	5 0	6 0
Lilac (French) per bch.	6 0	6	Violets (French) Czar, per bch.	1 9	2 0
Lilium Harrisii, doz. blooms	6 0	10 0	Violets (French) doz. bch.	4 0	6 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (English) doz. bch.	1 6	2 6
Marguerites. 12 bun.	1 6	3 0			

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FLOWER SHOW FIXTURES, 1895.

MARCH.

12.—R.H.S. Drill Hall Meeting.
15, 16.—Flower Show in Manchester Town Hall.
16.—Spring Exhibition at Crystal Palace.
20.—Exeter Hyacinth and Spring Flower Show.
20.—Royal Botanic Society's Spring Show.
26.—R.H.S. Drill Hall Meeting.
26, 27.—Brighton and Sussex Horticultural Society's Spring Show.

APRIL.

9.—R.H.S. Drill Hall Meeting.
9, 10.—Birmingham Daffodil Show.
18.—Norwich Spring Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24—Royal Botanic Society's Spring Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
25.—R.H.S. Drill Hall Meeting.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.

JULY.

3.—Farningham Rose Show.
4.—Norwich Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
12.—Royal Botanic Society's Evening Fete.
17.—National Rose Society at Derby.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
26.—National Carnation and Picotee Society's Show at the Crystal Palace.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).

AUGUST.

13.—R.H.S. Drill Hall Meeting.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.

NOVEMBER.

1, 2.—Chrysanthemum Exhibition at the Crystal Palace.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
6, 7.—Bromley (Kent) Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10—R H.S. Drill Hall Meeting.

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THE "CHARLES COLLINS" FUND.

At a meeting of representatives of the Horticultural Press held at the Hotel Windsor, Victoria Street, S.W., on January 11th, the following resolution was unanimously passed:

"In consideration of the services rendered to horticulture in his journalistic work by the late Charles Collins, of the high respect in which he was universally held, and of the fact that owing to the long-continued ill-health of himself and his wife he was unable to make adequate provision for his family, who are in deep distress, a fund be opened for their benefit."

On the same occasion a General Committee, comprising a number of horticultural journalists, together with the following gentlemen who form the Executive Committee, were elected to carry the above resolution into effect, viz.:

MAXWELL T. MASTERS, M.D., F.R.S. (Chairman), 41, Wellington Street, Strand, W.C.
BRIAN WYNNE (Vice-Chairman), 1, Clement's Inn, Strand, W.C.
GEORGE GORNON, F.R.H.S. (Treasurer), Endersleigh, Priory Road, Kew.
T. W. SANNERS, F.R.H.S. (Hon. Secretary), 57, Cressingham Road, Lewisham, S.E.

For the information of those who are not fully acquainted with the facts of this sad case, it may be briefly stated that the late Charles Collins was for some few years engaged on the editorial staff of the *Journal of Horticulture*, and prior to that filled similar positions on the *Gardeners' Chronicle* and *Amateur Gardening*. He was returning home on the evening of December 26th from a visit to some friends at Forest Gate, and, just as he was about to enter the train, was suddenly taken ill and expired almost immediately. He leaves a widow and two little girls, aged three and four years respectively.

Mr. Collins, having only attained the age of thirty years, had been unable to make adequate provision for the support of his wife and family, and hence the Committee and Executive have resolved to make an earnest appeal to those who knew him to subscribe to the above fund, and thus enable them to alleviate in some measure the pressing needs of the widow and family.

Subscriptions may be sent to either of the gentlemen named above; or to the editors of the various gardening journals. The amounts received will be duly acknowledged in the Gardening Press.

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For Index to Contents see page 428.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 18th.—Sale of Lilies, Greenhouse Plants, etc., at Messrs. Protheroe & Morris' Rooms.

TUESDAY, March 19th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

WEDNESDAY, March 20th.—Royal Botanic Society's Spring Show.

Exeter Hyacinth and Spring Flower Show.

Sale of Lilies, Palms, etc., at Messrs. Protheroe & Morris' Rooms.

THURSDAY, March 21st.—Sale of Ferns and Greenhouse Plants at Messrs. Protheroe & Morris' Rooms.

FRIDAY, March 22nd.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MARCH 16th, 1895.

OBJECT LESSONS AS A MEANS OF INSTRUCTION.—The idea of object lessons is doubtless familiar to every schoolmaster and to a large proportion of his pupils; but the same idea differing slightly in detail might well be introduced to horticulture in its widest sense. The question at issue is how it is to be done, and the method of it. A well-kept cottage garden might serve as an object-lesson; but what is more particularly desirable is a piece of ground, large or small, according to requirements and financial resources, in the neighbourhood of every town or large community of men, where trials and experiments might be carried on with a view to the benefit of any and everyone connected with the cultivation of the soil. The purpose of this should be

to educate men to better methods of cultivation, rather than to find out anything new. It may be urged with all gravity that we already have the Royal Horticultural Society's Gardens at Chiswick large enough and sufficient for the needs of horticulture in Britain as far as experiments are concerned. From the farmer's point of view it might be argued that the experiments conducted and demonstrated by the renowned Lawes and Gilbert, as well as by the authorities of the several agricultural colleges, have been ample to show what can and what cannot be done by the use of various manures, chemical and artificial, upon soils of a varied character in the production of different agricultural crops; and, furthermore, that scientific experiments of all kinds are being conducted both on the Continent and in America, and that the results are being published to the world from time to time.

All this we grant is true and relevant to the point at issue, but by far the larger mass of the labouring population and those in any way connected with the cultivation of the soil have little or no means of acquiring this knowledge so promulgated, and less opportunity of putting it into practice even if they had the ability. It is not sufficient to know that such and such facts are perfectly well known to science; before it is possible for the masses of the community to grasp the facts and put them into practice as occasion may serve, they must be brought home to the very door of the people in the form of object lessons which they can readily understand and put into practice in their own gardens or allotment plots as the case may be. The scientific information gained by the great masters as the result of experiment must filter through hundreds or even thousands of other channels until it can be made universally applicable and useful. The ground set apart for the purpose of experimental object lessons may belong to any private individual or any organised body of people, so long as it is set apart for experiments and demonstrations, and the trials as object lessons for the public benefit. No fresh acts of parliament would be necessary, nor any special organisations of companies. The existing machinery if utilised would be quite sufficient, namely, the Parish Council or the County Council, or any others whom they could enlist specially conversant with the subject.

Since horticulture has been added to the list of class subjects to be taught in schools, the necessity for experimental grounds in all parts of the country acquires a new significance. Then amongst those who would be admitted to the trial grounds and see for themselves the benefits and advantages of general and particular methods of cultivation, we would enumerate the pupils of school classes undergoing instruction in horticulture, also allotment holders, and gardeners, including the younger ones, who should be encouraged to make notes and memoranda of all the more important trials for their own ultimate benefit. The trial grounds might, with great convenience to all concerned, form a part of the allotment land not apportioned to holders, but specially reserved for the purpose. The emulation of allotment holders to outvie each other in cultivation, and the stimulation of prizes, should not be reckoned sufficient to ensure the best methods of culture. Those men should have the advantages of object lessons conducted and demonstrated by competent men. The holders cannot afford it if they had the ability to make experiments. Gardeners are pretty much in the same position, and are limited to the requirements of their respective establishments, so that they cannot undertake anything special. The time and space at their command will only allow them to follow the usual routine, and in most cases in the old beaten track of past experience.

Under the circumstances, the trial grounds would be as much a public as a private institution, in fact, a local school of horticulture. The assistance of gardeners in the neighbourhood should be enlisted for the advantage of their experience. For the purpose of demonstrations and note-taking, the summer evenings should be utilised for the benefit of gardeners and allotment holders who cannot possibly attend during the day. The latter would of course be there frequently at that time, and also on Saturday afternoons. Here it would be possible for gardeners to leave the beaten track, and their subordinates, always moving and never long in a place, could not fail to gather up many useful hints. Deserving institutions of this kind brought under the notice of the County Council might receive grants for instruction in the more special sciences, as well as help in other ways. The produce of the soil might be sold to help in defraying the expenses; but local aid would be well merited in cases aiming at the education and betterment of the inhabitants. Practical object lessons, continually under the eye of the populace, could hardly fail to find many imitators to the public advantage.

Mr. Boreham, recently foreman in Victoria Park, E., has recently been promoted by the London County Council to the post of Superintendent of Open Spaces South of the Thames, in the place of Mr. Wilkie who has resigned.

Vegetable Show at Chiswick.—The Council of the Royal Horticultural Society has decided to hold the Special Vegetable Show, on October 15th, at the Society's gardens at Chiswick, instead of in the Westminster Drill Hall as was proposed in the first instance.

Flower Show Fixtures.—The Lea, Blackheath, and Lewisham Horticultural Society's Summer Show is announced for July 3rd and 4th; and the Reigate Cottage Garden and Horticultural Society's Show is fixed for July 10th.

Prizes for Photographs.—Messrs. James Carter & Co., High Holborn, W.C., with a view to obtaining the best pictorial representations of their specialties in flowers and vegetables, are offering a series of cash prizes to be awarded during the present year, particulars of which can be obtained on application to the firm.

American Exports.—The export statistics issued by the American Treasury Department for the last fiscal year shows the total value of the exported flower and vegetable Seeds to be £100,836, of which sum £21,111 is credited to England. Fifty seven different countries are named in the returns of which England heads the list Germany coming next with £15,942. The total value of plants and Nursery Stock exported amounted to £29,253, of which £1,130 value came to England; of dutiable plants and Nursery Stock sent from England to the States the value is stated to have been £3,619.

New Plants Certificated in Ghent.—The following certificates of merit were awarded in Ghent on the 3rd inst:—To M. Jules Hye, for Odontoglossum crispum Duvivierianum, Cypripedium Leopoldianum (C. Leeanum superbum x C. insigne Wallacei), O. crispum Chestertoni, Cypripedium Osiris, C. Leysenianum, C. Minos, O. heterodon, and O. nevadense; to M. De Smet-Duvivier, for Viburnum Tinus foliis aureis maculatis, and Anthurium Scherzerianum Souv. de Jean Van Geert; to M. Arther De Smet, for Abutilon Sawitzi and a Seedling Anthurium; and to M. Joseph Vervaene, for Azalea Th. Vervaene (a fixed sport).

Death of Mr. Joseph Lakin.—Florists of the old School all over the country will regret to hear of the death of Mr. Joseph Lakin, which sad event took place at Temple Cowley near Oxford, on the 4th inst., aged sixty-seven. Mr. Lakin was a born florist and a keen cultivator from his youth upwards. For many years he was connected with the Oxford County Police, and at the time of his retirement a few years ago was superintendent of the Chipping Norton division of the County. On his retirement he went to live at Temple Cowley, where his love for Floriculture could be enjoyed to his heart's content, and his name soon became famous as a grower of Tulips, Carnations, Pinks, and Herbaceous plants. He was a kindly-natured and genial man and warmly respected by all who knew him.

Death of Mr. A. Anderson.—"Cameo" writes: By the death of Mr. Alexander Anderson, who for the past five years had been foreman of the Herbaceous department of the Royal Botanic Garden at Edinburgh, at the early age of thirty there has passed away a young life which had every evidence of being one of great usefulness to Horticulture. A severe attack of pneumonia which seized him on February 27th terminated fatally on the 9th inst. He was well known by many of the gardening fraternity about Edinburgh, and his kind and genial way made him loved and respected by all who knew him. Deep sympathy is felt for the young widow, who has had two very great trials to bear, her eldest child having succumbed to the same malady just a week previous to the death of her husband.

Climatological Observations for February.—At Driffield, Yorkshire (one of the authorised stations of the Royal Meteorological Society), the undermentioned observations were made for February. Unless where otherwise mentioned, the thermometer was mounted in the Stevenson Screen at 4 ft. from the ground. The mean barometric pressure for the month at sea level was 30·067 in. The highest was 30·53 on the 16th, and the lowest 29·70 on the 11th and 27th. The mean temperature at 9 a.m. was 30°, but with the wet bulb 29°. The mean maximum was 35·3°, and the mean minimum 23°. The highest was 43·8° on the 28th, and the lowest—1° on the 8th, or 33° of frost. The mean radiation temperature on the grass was 17°, and the lowest—10°, or 42° of frost. The rainfall during the month was ·64 in., and fell on thirteen days. The greatest amount on one day was ·12in. on the 27th. We should understand that no account was taken of the fall of snow, seeing that the rainfall for the month was but slightly over half an inch.

Chinese Primulas.—Few establishments at present are without their batches of Chinese Primulas, large or small according to the requirements. They have come to be indispensable elements in the decoration of a place during autumn, winter and spring. The high standard to which they have been worked up, makes them worthy of this continued attention. A box of blooms sent us last week by Messrs B. S. Williams & Son, Upper Holloway, as we were going to press, again reminds us of the utility and beauty of these winter-flowering plants. The blooms were of large size and very decided colours. Four of them were white varieties more or less distinct, but not being under name, and being without foliage, it would be impossible to say whether all were sufficiently distinct to bear separate names. Their purity was shown to the best advantage by the dark greenish-yellow eye. In one case the latter was about a third of the diameter of the flower and very conspicuous. Another flower of great size was dark carmine-purple with a crimson eye. A smaller bloom was even more intense but of a different hue, and for want of a definite name for the colour we should describe it as intense, glowing crimson-red. In any case all of the varieties sent us were of a high order of merit.

Wood-pulp Mosaics.—A process has lately been invented in Germany for manufacturing floor mosaics from wood-pulp. It is claimed that this process is distinguished from the known processes of manufacturing sectional or mosaic floors by reason of the fact that the sections made according to it are not liable to any change of temperature, and are, nevertheless, not like stone, but similar to wood in all essential qualities. Consul Stern, of Bamberg, says that the process is as follows:—Several particles of wood, such as saw-dust, fine shavings, etc., are soaked in a mixture of shellac and alcohol, so that the pores of the wood are penetrated and thoroughly dried. A cement, consisting of fresh cheese whey and slacked lime, is then prepared. This cement is thinned with water, and then mixed thoroughly with the already dry wood particles in such a way that the consistency of the mass is uniform. Particular care is taken to render the cement as thin as possible,

so that it will distribute itself easily and uniformly, and enclose each particle of wood as perfectly as the shellac solution. The mixture thus produced is allowed to dry until it is only moist, not thoroughly dry as before, for in the latter case the curd would lose its cohesive power. The moist pulp is then put into heated mosaic moulds of the desired shape and size, and in these forms placed under the press. As a result of the heat the shellac softens, regaining its adhesive powers, and the curd cement hardens rapidly, so that both of the substances, the shellac as well as the cement, unite under the pressure so perfectly with the wood particles that the wood mass resulting may within a few minutes be taken out of the moulds without losing the form received.—*Society of Arts Journal.*

THE FLORA OF EQUATORIAL AFRICA.

At the meeting of the Linnean Society held on the 7th inst., Mr. G. F. Scott Elliot, who has been absent from England since September, 1893, on a botanical exploration of Mount Ruenzori and the country to the north of the Albert Edward Nyanza, and had returned home only on the previous day, gave an interesting account of his journey, and of the results—geographical, geological, botanical, zoological, and political—obtained by him. He had originally intended to proceed from the mouth of the Zambesi, by way of Lakes Nyassa and Tanganyika, to Mukambas, and so on to the Albert Edward Nyanza, but abandoned the idea in favour of the route from Mombasa to Uganda. The country lying north-east of the Victoria Nyanza was described as a large, rolling, grassy plain, some 6,000 ft. above sea level, and well adapted for colonisation. Proceeding west from the Victoria Nyanza Lake to Mount Ruenzori, which lies north of the Albert Edward Nyanza, and is said to have an altitude of 18,000 ft., four months were spent in exploring that district under the great disadvantage of a dense cloud hanging over the mountain the greater part of the day, which often prevented the party from seeing more than 50 ft. ahead.

The sides of the mountain were clothed at the base with a thick growth of trees, resembling the Laurel of the Canary Islands; above that Bamboos to the 10,000 ft. level, and above that again, what the explorer could only liken to a Scotch peat moss, into which the foot would sink at every step a foot or more. Large trunks like those of Erica arborea of the Canary Islands, but indicating trees 80 ft. high, were noticed. Amongst other plants especially noticed were a Viola, a Cardamine, a gigantic Lobelia, attaining a height of 5 or 6 ft., and a species of Hypericum resembling that found in the Canaries; indeed, the similarity of the flora investigated by Mr. Scott Elliot to that of the Canary Islands was said to be remarkable, while, as might be expected, the similarity of the genera to the Cape flora increased as the traveller proceeded south upon his homeward route. Mr. Scott Elliot ascended Mount Ruenzori to the height of 13,000 ft., finding evidence of animal life and numerous insects to a height of 7,000 ft. Above 10,000 ft. his Swali porters could not sleep without injury to their health, and it was only with a reduced number of men that he was able to ascend another 3,000 ft. Amongst the animals specially mentioned was a species of water-buck (Cobus), a new chamaeleon, a new snake, and several new insects. It was to be regretted that, for reasons stated, Mr. Scott Elliot was prevented from exploring Mount Elgon, as he had intended; but his ascent of the Kagera river, and the discovery that it is navigable, was regarded as an important contribution to geographical knowledge, and to the political future of Africa.

Mr. Scott Elliot concluded by advocating the route to Victoria Nyanza from the mouth of the Zambesi, by way of the Lakes Nyassa and Tanganyika, and was of opinion that this route would most advantageously open up communication between the Upper Nile and the coast at Chindi, and thus do more for International interests than could be expected to result from a railway from Mombasa. His remarks were listened to with great interest, and were criticised by Dr. Gregory, who was himself familiar with some of the country traversed; and by Mr. Carruthers, who testified to the value of the botanical results of the expedition.

THE DAFFODIL TRADE OF SCILLY.

The long continued frost has hit the flower growers of Scilly very hard. In former Februarys the fields have been all white and yellow with sweet-scented Narcissi and Daffodil; all was bustle at the farms, and in Hugh Town, St. Mary's, in preparation for the steamer which at this time begins running three times each week. This year, however, the fields are bare and blackened, bulbs have either been retarded or killed, and the steamer has hardly been carrying pound packages when she should have been carrying tons. Those larger growers who have been able to erect forcing houses stand the best chance of bringing their crop along, but even they must wait till the root springs a little, which in many cases it has not done. The situation has become so serious that some farmers have had to reduce their staff of workmen in order to curtail expenses. The farm labourer of Scilly, it may be interesting to note, is a very different individual from his brother on the mainland. He does not live laborious days striving with a niggardly soil for scanty crops. He is for all practical purposes a gardener, having the care of bulbs, and the most tedious work he has is to pick the flowers and carry them to the packing house, where probably his wife and children are engaged. Until a few years ago his wages averaged from ten shillings to twelve shillings a week, and then he indulged in a strike, and ran his wages up to fifteen shillings per week. Then his family are engaged in the traffic, either at the farmer's store, or by contract at his own house. Indeed, so all-important has the flower industry become that the schools are closed for a month in the height of the flower season to enable the youngsters to do their share of "picking and stripping." It is seldom that a labourer can be congratulated on having a long family, but he can be in Scilly, for the more hands the more money earned. It is to be hoped that the crop will not be a complete failure, but that genial weather will settle in at last, and coax the wayward shoots to bloom.

SEED SOWING UNDER GLASS.

If there is one mistake more common than another among inexperienced amateurs, it is the practice of sowing seeds too thickly. Whether it be such flower seeds as Begonia, Calceolaria, Lobelia, Cineraria, and Musk; or our early vegetables and salads like Cauliflower, Celery, and Lettuce, it is generally sown two or three times as thick as it should be. The waste of seed is not the chief item that lies in the harm accruing to the young plants when so unreasonably crowded.

Let us take the Celery as an example. How often when one wants, say, a couple of hundred plants at the most, do we find 3,000 or more seeds sown thickly in a box or pan. A mass of crowded and cramped vegetation results, and very few healthy and sturdy seedlings. It is the same with others, and the battle of life is begun under very unfavourable conditions with one crowding and killing the other.

In raising seedlings of any kind under glass, let the cultivator take into consideration the number of plants he requires, for, with the facilities of protection combined with gentle heat and a little care, he will secure ample plants if twice the number, more or less, of seeds are sown. The seedlings can remain until much safer and easier to handle before being thinned, and will always be stouter and more healthy.

It is a difficult matter to get young gardeners and amateurs to sow seed even half as thinly as they should, and much seed is wasted, plants spoilt and disappointment courted by this over-crowding. Moisture, darkness, drainage, and a gentle heat are the four chief means of securing even germination; but we must have good seed, otherwise all labour and time is wasted. We get darkness in the majority of cases by covering the seed with soil, but this must not be overdone, or we shall bury the seed and often stop germination.

Very small seeds, such as Lobelia, Calceolaria, and Musk should not be covered with soil, but simply darkened by a shaded sheet of glass being laid over the pan. When the seed has germinated, light is gradually admitted until the plants are inured to full exposure. Nor should these minute seeds be watered, at all events it should never be necessary to water the surface of the seed pans until the little plants have gained a footing. Such disturbance injures the germ, and not infrequently washes these minute seeds into a heap and sometimes even out of the pan. If the soil was thoroughly saturated before the seed was sown, and then partially plunged, they will not dry to any injurious extent.

Far more depends upon the manner of sowing the seeds and their management during the early stages than in following set dates too closely. Circumstances and conveniences are of importance; it is not the difficulty of raising a number of seedlings, but the growing of these in a suitable atmosphere for each subject that needs our first consideration. If we cannot provide due accommodation, it will be wiser to wait until the natural increase of heat and light affords us more room of a suitable character.

Generally speaking, seeds are kept in too high a temperature. It germinates freely enough, but the seedlings are soon weakly, and of comparatively little service when compared with those raised in a cooler atmosphere.—*Experience.*

DAFFODILS.

Daffodils are now displayed in most of the florists, windows, with fragrant Lilies of the Valley, Roses, and other choice flowers from Southern Europe. There are bunches of single blooms, with a few sword-like leaves as a background; double ones, their cups fringed and jagged and toothed, with as many frills as "my lady's petticoat;" there are Emperors with crimson doublets, Queen Annes, Sir Watkin, and many others, all the favourites of the nature lover. Besides the modern species, we find the friends of old Gerarde, that quaint chatterer of the Elizabethan flower fancies, the designer of Lord Burleigh's garden, and master of the Apothecaries' Company. He enumerates several species known as Nonpareil Daffodil, Primrose peerless (the poet's Narcissus), King's chalice, Camel's neck, and Longsbanks. The Daffodil, in botanical nomenclature, Narcissus pseudo-Narcissus, not only blooms in our gardens, but is found wild in joyous profusion in many parts of England and Ireland. Curiously enough, it is very rare in Scotland, though a box of fine blooms has occasionally been sent from "the granite city," Aberdeen, to grace a London drawing-room in the early days of June.

Along the banks of the Shannon now, there are stretches of land in a blaze of yellow with these flowers. There is a hauteur in their mien, a "blue-blooded" indifference in their gestures. Like the Green maidens in the fields of Enna, they are full of lissom grace and sprightliness. Wordsworth seeing them "fluttering and dancing in the breeze," added their bright beauty to his philosophic enjoyment of life. Herrick, the poet of the Devonshire hamlet, found in them a text for a sermon on the shortness of life. "We have as short time to stay as you. We have as short a spring." Daffodils, however, are hardy plants, and the comparison is not as felicitous as it might be. Many of the flowers of spring are more fragile, less full of lusty vigour. The name Daffodil is a corruption from Affodilly, which is derived from Asphodelus. Its other name, Narcissus, is fabled to have been derived from the legend of Narcissus, a beautiful youth of Boetia. He became enamoured of his own face, seeing it reflected in a stream, and thinking it the nymph of the place, he became spell-bound to the spot, and pined to death. His blood was changed into the flower that bears his name, and the cup in the centre of the blossom is said to contain his tears. Milton alluded to this in his "Lycidas." Narcissus is derived from the Greek *narke* (stupor) in allusion to its strong narcotic properties.

Like many another well-known flower, the Daffodil is gifted with medicinal virtues. An old herbalist, after describing in most outspoken language the diseases for which the plant is a remedy, adds, "The fresh root bruised and applied to fresh wounds heals them very suddenly. Applied to strains and bruises, it is also excellent, taking away the swelling and pain." In obscure country places the people go about chanting doggerel rhymes during the period the Daffodils are in flower. The blossoms are also held to be useful in sickness, and the lads and lasses are said to go "a-daffing" when gathering these flowers.

In the Greek mythology a crown of these flowers was made in honour of the gods and placed upon the heads of the dead. Hence Milton's connection of this flower and the "laureat hearse" of Lycidas. It was the symbol of death, for it was said to he one of the flowers which Proserpine was gathering when she was seized and carried off hy Pluto. On account of its narcotic properties, the Daffodil has been called the flower of deceit. Although we are delighted with its colour, its grace, its beauty, and odour, yet Homer says it produces stupor, madness, and even death, yet the Augustinian monks, who loved to plant it by their cloistered walks, by the side of still, deep pools and gurgling backwaters, in secluded copses round their old monasteries, declared that "the flower of the Daffodil is a cure for madness."

To turn from sad to gay, from the ancients to the moderns, the poet of the "Language of Flowers" and the "Lover's Treasury of Signs and Tokens" has written some choice and withal seasonable rhymes on this flower. Usually his muse is engaging in its sweet erotic simplicity, but here it would seem that the "storm that sings i' the wind," and maybe the fiend influenza, has rather soured his inspiration and obscured his knowledge of the Queen's English in order to find a rhyme for his second line. We give the poetic effusion in full:—

"Deceived by thee, oh golden Daffodil,
Often with hearts elate and full of hope,
We dream of settled spring; when blasts hlow chill
And gloomy storm-clouds hide the azure cope."

No doubt our new school of poets will readily welcome this lyrical attempt of the rhymsters of some fifty years ago.—*Daily News.*

SPONGIOLES AND THEIR FUNCTIONS.

It appears that the theory, or rather what has been universally regarded as an established fact, that these parts of the roots are the chief agents in abstracting moisture from the soil for the plant's support, is discountenanced hy modern vegetable physiologists, and we are told that the root hairs are the real active agents in absorbing moisture from the soil. I am not aware who was the first to discover that root hairs and not spongioles did the work, but it now appears to be the prevailing opinion amongst scientists that what we have been taught to believe of spongioles is all wrong. It has not been denied hy botanists of the past that root hairs and the surface of all young roots possessed absorbent powers, but spongioles were credited with doing most of the work, but now the latter are denied any such function.

Upon this point Mr. Thos. Hicks, B.A., B.Sc., A.L S., Assistant Lecturer on Botany at Owen's College, Manchester, was most emphatic in a lecture delivered before the memhers of the Preston and Fulwood Horticultural Society a few weeks ago. He said that root hairs were not met with at the extreme tip of the root; as a matter of fact the tip was the growing point of the root, and when a structure was growing it could not be performing the function of an adult. Root hairs which had an important influence in the absorption of food were not on every part of the root, not in young parts hecause they had not been developed, and not in old parts because they had died off, and those portions no longer took any part in the functions of ahsorption.

Looking upon the soil from a botanical standpoint, he said, in the first instance, it was made up of sand which had very minute capillary pores, and these particles of sand were therefore saturated with water; not only so, hut each particle of sand carried likewise a film of water on the outside. Beside sand there would be particles of earth of some sort, which would also contain a certain amount of moisture in the interior, and externally a film of water. Between the particles of sand and earth they would also have a quantity of water filling up the capillary spaces, just as water filled the capillary spaces of a sponge.

After pointing out the importance of porosity in the soil and the nutritious suhstances it contained which the plant could absorb, the lecturer said that these root hairs as they grew necessarily came in contact with the particles of stone and sand Whenever a root hair came in contact with a particle of stone its walls deliquesced and hecame a kind of gum, which suhsequently stiffened and attached those particles of stone to the root hair. That would go on all the length of the root hair, except, as he had stated, when the root hair might be growing, and so, as a matter of fact, if they took the root out of the soil, they found that the part covered with root hairs had quite a number of those particles of sand or stone gummed to it. After further reference to soil, and showing the importance of it promoting decomposition, and that certain salts were not in a proper condition until decomposed, and commenting on the organic salts necessary to build up the plant,

Mr. Hicks further showed that whatever elements the plant received from the soil were absorbed by the root hairs, and absorption only went in on those parts. It used to be taught that the spongioles at the tips of those roots absorbed, but that was not so. That which was in an embryonic condition was not in a position to perform the functions of the adult, and that little tip which they called a spongiole was simply that part where all the cells were in an embryonic condition, multiplying and getting ready to do the work when old enough. Having got into the root hairs which, as he had shown, performed the function of absorption, the water, with whatever salts it contained, would pass on to the cells, and he showed how the liquid ascended through the stem and hranches and reached the cells of the leaves. This was the process of absorption by ordinary roots. There were a few abnormal cases where there was a different structure. Aquatic plants, for instance, had no root hairs, and some Orchids had aerial roots.

The ahove is, I helieve, the substance of Mr. Hicks' remarks on roots, but the lecture covered a wide range, the heading of which was "The Food of Plants: Mode of Absorption, Chemical Constituents, Functions of each, Transformation within the Plant, Elaborated Food Stuffs, the Building up of the Plant Body."—*W. P. R., The Gardens, Cuerdon Hall, Preston.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Catasetum imperiale.—The structure of this magnificent Catasetum shows that it is closely allied to C. Bungerothi, notwithstanding the remarkable difference in colour. The botanical differences lie chiefly in the sepals, petals, and lip. The sepals are more rigid, and the petals narrowly obovate, but the shape, substance, and wart-like protuberances upon the lip are even more characteristic and distinctive. A plant flowered in the establishment of L'Horticulture Internationale during the latter half of December last, and bore twelve large flowers of remarkable aspect. The petals are white, spotted with crimson, intense purple on the lower half, and so densely that the hlotches often run together in a mass. The lip is very fleshy, and almost wholly of an intense crimson, deepening to a blackish shade on each side at the base. There is some hesitation in pronouncing it a species, a natural hybrid, or a remarkahly distinct form of C. Bungerothi, but in the meantime it is honoured with a specific name. It was introduced from Tropical America and from the same locality as the numerous other remarkable forms that have come to light recently, and flowered during last autumn and the early part of winter. The plate in the *Lindenia Pl.* 460 will give a good idea of its bold and striking appearance.

Catasetum Bungerothi aurantiacum.—The type was introduced from the equatorial regions of America about eight years ago, and although comparatively little variation was ohserved in it for some years, yet two of the varieties were sufficiently distinct to merit names. These were C. B. aureum, with yellow flowers, and C. B. Pottsianum, white, with the upper petals spotted with carmine. The variety under notice is a recent introduction from the same locality as the type, and flowered for the first time in the establishment of L'Horticulture Internationale in Novemher last, and when exhibited in London on the 13th of that month an Award of Merit was accorded it. The sepals and petals are white, lightly shaded with yellow on the outer face, and sometimes almost striped. The lip is of unusual size, obscurely triangular, emarginate, and toothed all round the margin. It is wholly of a pale orange-yellow, becoming much more lively towards the centre, but particularly round the mouth of the spur and in the latter itself. The column is also shaded with yellow. There is a coloured illustration of it in the *Lindenia Pl.* 459.

Cypripedium Schlimii.—This small-flowered but very pretty slipper, with its white and rose coloured flowers, is well worthy a place in all collections, not only on account of its distinctness, but because it is the only Cypripedium that I am acquainted with that is scented. In passing a plant of it in flower the other day, I was struck with the sweet perfume of something in the way of Violets, and was rather surprised in tracing it to this plant. In the early part of the day the perfume is generally the most powerful, then the scent is almost as that of Violets, and about as strong. Has any of your readers noticed any other Cypripediums that are scented? Here is one of the most interesting group of Orchids in cultivation, on account of the variety and colouring to be found amongst them, and could perfume be added it would make the genus even more interesting.—*A. W.*

THE PLANT HOUSES.

The Stove.

With the advent of more genial and spring-like weather, the plants in the stove ought now to be making up for lost time. It is invariably the case that when a winter like the one we have just passed through necessitates the use of a great deal of fire-heat to maintain the needful temperature, that many of the foliage plants lose a deal of colour and thus present a sickly and unhappy appearance. But as the genial rays of the sun increase in strength with the ever-moving season, under proper treatment this etiolated appearance should disappear.

In dealing with a general collection of stove plants more air will now he necessary, and the top ventilators will need to be called into play during the middle of bright days. In many places it is the custom to pack the grooves in which the lights work with tow or other material of a like nature, so as to render the house less draughty, as well as to economise fire-heat. Where this has been done, steps should now be taken to remove this packing, so that the lights may be in a workable condition when required. Any top air that may be given must be taken off early in the afternoon, a thoroughly good syringing and damping being given at the same time. Shade will, however, not be necessary for a week or two yet, and, therefore, no fear of the plants being scorched need trouble the cultivator just yet.

Watering.—Although it is the generally accepted rule that the majority of stove plants need an ahundance of water, this must not be taken to mean carelessness with regard to the application of water. At this season of the year particular care is necessary, for many of the plants have but little root, and the greater proportion will, of course, have been accorded a change of quarters. Subjects of this kind should be kept rather inclined to the dry side, for if too much water is given, the soil will inevitably become sour and waterlogged, and then good-hye to the hopes of obtaining healthy plants.

Aroids.—This family contains a greater number of showy decorative plants than perhaps any other, and amongst the genera, Anthurium, Alocasia, Philodendron, Dieffenbachia, etc., may be found many gems among fine foliage plants. It often happens that a long cold winter is fraught with great danger to the plants of this class, and a little coddling up is often necessary in the spring to help them to get into condition before a great part of the year has passed. Where practicahle, therefore, much more satisfactory results would he obtained if such subjects could be removed to a special house or pit where a close moist atmosphere and a high temperature can be easily maintained, for in conditions like these the plants love to revel. The syringe may be kept vigorously at work among them and air very sparingly admitted, regulating the temperature rather hy means of partial shading than by ventilation.

Edging Plants.—To add a finishing touch to the plant stages it is necessary to have a stock of dwarf-growing or pendant plants suitable for placing along the front of the stage, where they will help to hide the pots of the plants behind them. For this purpose nothing is better than pots of the pretty little Panicum variegatum and some of the varieties of Tradescantia. Cuttings of these strike readily at all times, and when grown in pots and allowed to droop over the edges of the shelves look very ornamental and effective. They give but little trouble moreover and will grow away quite contentedly so long as a sufficiency of water is allowed them.

Greenhouse and Cool Conservatory.

Here great discrimination must be exercised with regard to ventilation, as the temperature of the house commences to rise early in the day. We have lately experienced several sharp frosts at night, and fire-heat must be employed to some extent to keep up the temperature, but in all cases the heat should be turned off the first thing in the morning, so as to allow the pipes time to cool by the time the sun gets up, or the dry and arid atmosphere that will otherwise result will cause many of the plants to drop their flowers much sooner than they would otherwise do.

Shading.—Although it is yet too soon in the season to shade heavily, still on very bright days a little thin tiffany should be placed on the sunny side of the house for a few hours in the middle of the day to screen plants in flower from the direct rays of the sun, but this must not be kept on a moment longer than is necessary. A little water may also be sprinkled along the paths to aid in keeping the atmosphere cool and moist. There should now be no difficulty in obtaining plenty of material wherewith to furnish the conservatory. Bulbs of all sorts are a host in themselves, and many a little glass house is looking gay with them, for the great bulk of them flower towards the end of the present month. Care must be taken, however, that the flower spikes are afforded suitable support, also that the water supply is properly attended to.

Continue to remove any shabby plants to frames or pits, where they may complete their growth.

Pits and Frames.

In this part of the under-glass department the gardener will find his hands pretty full. Many of the cuttings of stove and greenhouse plants that were inserted some weeks back, and after rooting have been removed from the propagating frame and placed upon shelves near the glass, must be seen to for potting. This should not be delayed any longer than can possibly be helped, for the evil effects resulting from the leaving of cuttings in their pots until their roots become matted together before separating them are obvious. A watchful eye must be kept moreover upon the inmates of the propagating frame, and as soon as the cuttings are fairly rooted they will need a freer circulation of air about them. It is manifest that it is not possible to give them this whilst they are in the frame along with a variety of other subjects in various stages of growth, so they should be brought out and placed in a light position near the glass to harden somewhat before potting, taking care to shade them from hot sun.

Seedlings.—It is important that any young seedlings that are fit for transplanting must not be left too long in the seed pans or they will become drawn and comparatively worthless. Early sowings of Gloxinias and Begonias will by this time have produced seedlings quite big enough to handle. As soon as they reach this stage they must be pricked off into pots or pans filled with suitably prepared soil. Take care not to "strip" the young plants, that is to deprive them of the delicate fibrous roots so necessary to their well-being, and see that the soil is worked well round them when pricking off. Give a gentle watering with a fine rose-can and shade very carefully from the sun.

Seed Sowing.—The present is a most favourable time for the sowing of seeds of most of the herbaceous annuals which may be intended either for bedding out in the flower garden or for culture in pots. The soil used should be passed through a fine sieve, and should contain a large proportion of sand, as this renders it possible to separate the seedlings from each other with the minimum of danger to the delicate rootlets. Carefully level the surface of the soil in the seed pan, and do not cover the seed too deeply, as too deep sowing is accountable for many failures. As a rule, the operator cannot go very far wrong in covering any seeds to a depth equal to their own diameter. After sowing, a light watering should be given, but not heavy enough to wash the soil. Careful shading is an absolute essential, whilst a piece of glass placed over the seed pan will assist germination, as it serves to keep the air, which is in direct contact with the soil covering the seed, moist and humid. Sowings of Marigolds, both French and African, Tagetes, Perilla stocks of various sorts, and Lobelia (where necessary), and Phlox Drummondi, may be made as soon as convenient.

Dahlias.—Cuttings of these which were taken last month, and which should now be well rooted, must be potted up without delay, as the plants grow away very strongly once they make a start, and soon fill the pots with roots. Some cultivators give several shifts, the last one being into 32-size pots, and thus strong, good-sized plants are obtained by the time that it is safe to plant them out.

Berried Solanums.—Plants of these which have dropped their berries and have been removed from the conservatory to the shelter of cold frames may now be pruned hard back, so as to induce them to break into growth in readiness for planting out bye and bye, as well as to furnish cuttings for next year's supply of plants, or if preferred, a packet of seed may be sown in heat. If this latter plan is adopted, however, no time must be lost in putting it into practice.

Bedding Plants.—These will need plenty of ventilation, and houses or pits filled with them should be freely aired on all favourable occasions. Pelargoniums must have all the flowers consistently removed, the development of which would tend to greatly weaken the plant. The tops of any that have got rather leggy may be taken off, and if necessary, utilised as cuttings.

Chrysanthemums.—Attend to the potting off of the later struck batches of cuttings as they become sufficiently rooted. Give abundance of air to those which were potted earlier, and which ought now to be making nice little plants. The stopping of those plants that it is intended to grow on in the bush form must also be seen to. Should mildew make its appearance, a light dusting of sulphur should be given the affected part from a sulphur distributor.—*A. S. G.*

THE ORCHID HOUSES.

Cattleya House: Laelia anceps.—In favourable seasons the potting or basketing of this winter-flowering Orchid would have been done ere this, but owing to the low temperature inside and out they have not started to root until now, and until this takes place we do not care to disturb them, therefore we shall now push along with all speed in this work. Good rough lumps of peat, live moss, and some clean potsherds is what they like to grow in. Where they have outgrown the pan, pot, or basket, do not hesitate to give them a new one, as they rather enjoy a shift than otherwise if done at the proper time, *i.e.*, when the new roots are pushing from the bulbs made up last year. Too much moisture and insufficient light and air are, I believe, the chief reasons why so many fail to get strong spikes and good, broad, thick flowers. After potting keep them on the dry side until the roots have taken hold of the compost, as they do not take hold of a wet mass of material very readily. This applies to all newly-potted plants. Keep moisture about them and shade for a time, rather than apply too much water direct.

Miltonia spectabilis will now be in a fit state to repan or basket, using good peat and live moss. Press the material firmly about the plants, but do not bury the rhizomes.

Cattleya Labiata Warnerii.—This summer-flowering Labiata will now require attention. Even if fresh potting is not requisite, the material should be renewed. This, in most cases, can be easily done if a little care is exercised in picking out the old compost; a pointed stick or old label is what we generally use for the purpose. The crocks that are not removed are well washed by syringing, as recommended in a previous calendar, and allowed to dry before again filling in with the new peat, etc.

Syringing.—This is an important factor in the successful culture of these popular plants, and now that the weather has taken a favourable turn will be frequently called into use for keeping the houses sufficiently charged with moisture, for unless heavy shading is resorted to the evaporation will be quick. We find it necessary to damp down at least twice a day now that the sun has some power.

Shading.—All our blinds are fixed ready for use, and, indeed, are in use during a few hours in the middle of the day. This, with air judiciously given and the damping attended, to makes the house agreeable to man and plants.

Insects.—"A stitch in time saves nine" is a good old saying, and to nothing does it apply more forcibly than to the eradication of insects, a good fumigating early in the spring saves a lot of after trouble. I would therefore advise the use of the vaporiser or whatever is in favour of the gardener in all divisions at an early date.—*C.*

Gleanings from the World of Science.

Longevity of Lichens.—Short lives and quick growth are usually associated with most plants of low organisation, of which the common Mushroom is a very familiar example. Lichens are compound organisms, so to speak, between a fungus and a green alga, and there is evidence that they are of slow growth, and live for many years, considering their dry nature and their habit of living on bare stones, slates, and similar hard bodies. The grey and yellow or orange crusts upon the roofs of houses belong to the great family of Lichens. Dr. Thayer, of Philadelphia, in the year 1836, happened to examine some patches of Physcia parietina growing upon a wall. He made careful drawings of the patches and took descriptive notes of them, and in 1881, or 45 years later, he again examined the patches of Lichen, and found that they had made a little growth, but had not yet fruited. He concluded that the Lichen had not yet reached maturity, but judging from the rate of growth that had taken place in the previous half century, he considered it possible for the same plants to be of great age. The spores which give rise to them might have been scattered in the time of Queen Elizabeth, and seeing that the plants were not yet old enough to produce fruit, they might go on for centuries to come. The life of a man is as nothing compared to that, and the time that Lichen has been making preparations for the production of spores would have been sufficient for an Oak to attain considerable dimensions, and form a handsome, fruit-bearing tree.

The Spider Orchid.—It is often more amusing to listen to the public orator as he harangues the people on his favourite themes of natural history, for the sake of hearing what powers and cunning he attributes to the remarkable plants under notice, than interesting or instructive to note what he has to say. Recently one of these speakers mentioned the case of the Bee and Fly Orchids as being exceptions to the general rule in the matter of fertilisation. They were self-fertilising, and did not want to be bothered with buzzing bees and flies, so they resorted to the cunning device of so developing a lip as to represent a bee and a fly respectively. He said that insects did not resort to those flowers which were already visited by others of their kind. We doubt whether the Fly Orchid is self-fertilising at all. Nor will insects always be deterred from visiting flowers that are already occupied, for in many cases they quarrel for possession, or when they suddenly find themselves in close contact with one another. The same speaker continued that another British species, the Spider Orchid, conceived how it might administer an even more trying shock to the nerves of troublesome insects by displaying in its orifice the likeness of a large spider. It was difficult to account for such ingenious defence, he said, and so we should think. Has anyone ever determined or discovered that bees or insects of any kind have ever seen such remarkable likenesses of themselves in any of the Orchid flowers mentioned. We should more readily forgive the insects if they bowed themselves down and worshipped those same likenesses, for they might do so without breaking any of the commandments. The images or likenesses are so far fetched, as applied to bee, fly, or spider, that we doubt whether the insects have the intelligence necessary to see them. They are, in fact, only fanciful creations of the human brain, and not always discernible by the ordinary observer.

Darlingtonia californica.—The question of carnivorous plants is not yet allowed to rest. Mr. Meehan, of Philadelphia, has been making some observations on Darlingtonia, and he comes to the conclusion that carnivorous plants are just as able to collect their food from the earth as other plants are. There is little or nothing that is new about that statement; but it is a fact that the root system of several of them are deficient, and the places in which they grow are not always well supplied with nitrogen, the most important of the substances supplied by animal food to the plants in question. Mr. Meehan describes the flies as a "gastronomic luxury"; but under certain conditions, for instance, if the plant were developing and perfecting a crop of seeds when nitrogen was deficient, some flies would be of material advantage. Darwin proved in the case of Drosera rotundifolia that a supply of animal food favoured the development of more numerous, larger, and more perfect seeds.

NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the General Committee was held on Monday last at Anderton's Hotel, Mr. T. W. Sanders occupying the chair. After confirmation of the minutes, the Secretary read a letter from Sir Edwin Saunders, thanking the Society for having re-elected him to the office of President. In accordance with the resolution relative to the retirement of Mr. R. Ballantine from the position of Chairman of the Committee, it was resolved that in order to mark the high esteem in which he is held by the Society, the said resolution be engrossed on vellum and presented to him on an early occasion.

Special prizes were accepted from several firms on the recommendation of the Schedule Sub-committee. The Catalogue recently published by M. O. de Meulenaere was submitted as a valuable addition to the literature of the Chrysanthemum, and a silver medal awarded to the compiler in recognition of his work.

Mr. R. Dean then referred to the numerical strength of the Society, which was regarded as highly satisfactory, there being now 79 fellows, 598 ordinary members, and 27 foreign members, beside 114 affiliated societies. The election of the Floral Committee next occupied attention, there being a keen competition for places on that body. The following is the result of the election:—Mr. W. H. Lees, 29 votes; Mr. C. E. Shea, 28; Mr. J. Wright (Temple), 25; Mr. Crane, 23; Mr. Moorman, 22; and Mr. Addison, 18. Mr. George Gordon was elected Chairman of the Floral Committee, which body will hold its meetings on September 3rd and 25th, October 8th, 23rd, and 30th, November 11th, 20th, and 27th, and December 3rd and 11th. The meetings of the General Committee will take place as follows:—August 26th, September 30th, October 28th, November 18th, December 9th, and January 20th, 1896. The report of the Jubilee Sub-committee was presented, in which attention was drawn to the importance of the Society celebrating the fiftieth year of its existence in a suitable manner. It was recommended that a four days' show be held in November, 1896, with competitive exhibits on the first and third days, that a special medal be struck, that a banquet and conference be held, and that several classes with large money prizes be instituted, especially in the Japanese and incurved sections. Provision is also to be made in the Jubilee schedule for single Chrysanthemums for foreign and colonial exhibits, and for varieties in existence at the time of the founding of the Society.

The Catalogue Committee was elected, Messrs. Harman Payne, Taylor, H. J. Jones, Crane, and Lees being the successful candidates. Several new members were elected, and the Barnet and Colchester Societies admitted in affiliation. A vote of thanks to the Editor of the "Chrysanthemum Year Book," and all the contributors to that work was passed.

HARDY ANNUALS.

GARDEN operations have for some time past been put a stop to, owing to the continuance of severe wintry weather. At last a gleam of sunshine tends to make one think of seasonable and annual work to be done in the garden. Annuals, notwithstanding their real beauty and adaptation to garden borders and beds, are invariably neglected and left to Providence. When, with a little care and attention they may be had in full perfection for a considerable period by a judicious thinning-out of all weakly plants, and allowing sufficient space for each plant to develop to its full extent.

The flowering period of many annuals may be prolonged by picking off the seeds, as well as preserving a neat appearance to the plants. As to treatment, nothing could be more simple; the skilled and practical hand of the gardener is not required for the cultivation of these showy flowers. At the same time, a few hints to the amateur, "for whom my notes are intended," may be of service and result in their enjoying a feast of colours as the fruits of their labour.

The best soil for annuals, as well as for many other plants, is a sandy loam, neither too light nor too stiff, but just the happy medium. The soil must be well broken up before sowing, and the surface made perfectly smooth and level, when the seeds may be sown in lines, rings, or beds, and choosing a day when the ground is in good workable order. If the soil should be too dry, it is advisable to water with a fine rosed water-can before sowing; to water after sowing often washes the small seeds to the surface. As to depth, it is the rule, and always a safe one, to cover with finely sifted soil from two to three times their own diameter. Many failures are apt to result from inefficient care in this respect, and which are accredited to the seedsman for supplying bad seeds. Garden pests, such as snails and slugs, must be closely watched, and caught or trapped, as their ravages are disastrous on young seedlings. If a fertiliser is used, the best and safest is Ichthemic Guano, which cannot be surpassed as a stimulant to garden or pot plants.

A selection from the following would be worthy occupants in the garden and give a display of bloom during the summer and autumn:—

Sweet Alyssum, white.
Asperula setosa cærulea, blue.
Bartonia aurea nana, yellow.
Calandrinia speciosa, purple; and sp. alba, white.
Calendula pluvialis, white.
,, officinalis Orange King.
Calliopsis bicolor atrosanguinea, dark crimson.
,, Drummondi, yellow, centre crimson.
Callirhoe pedata, purple-crimson, very handsome.
Candytuft Dunnettii, crimson.
,, sweet scented, white.
Cornflower (Centaurea Cyanus), blue.
Chrysanthemum tricolor, vars., these are exceedingly handsome, and deserve a prominent position in every garden.
Clarkia elegans, Purple King and Salmon Queen.
,, pulchella, Mrs. Langtry, crimson.
,, ,, alba flore plena.
Collinsia bicolor, purple and white.
Convolvulus tricolor vars.
Cosmos bipinnatus, white and purple vars. Make handsome pot plants.
Indian Pinks:—Eastern Queen, Crimson Belle, and The Bride.
Erysimum Peroffskianum, yellow.
Eschscholtzia crocea aurantiaca, C. alba, C. Mandarin.
Eutoca viscida, intense blue.
Gilia tricolor vars.
Godetia Duchess of Albany, Lady Albemarle, Princess of Wales, and The Bride.
Gypsophila muralis, pink.
Helianthus cucumerifolius and uniflorus.
Hymenoxis californica, golden-yellow.
Inopsidium acaule, sky-blue, dwarf, adapted for the foot of a rockery and shady places.
Kaulfussia atroviolacea and kermesina.
Lavatera trimestris, rose; and trimestris, white.
Layia elegans, yellow and white.
Leptosiphon densiflorus, rose-lilac; and densiflorus, white.
Limnanthes Douglasii, white; and Douglasii, yellow.
Linum grandiflorum coccineum, scarlet.
Lupines annual var.
Marigold, African, Dean's lemon; and Dean's orange.
Marigold French, gold-striped, and golden-yellow.
Mignonette Covent Garden, Favourite and Machet.
Nasturtium dwarf var.
,, tall var.
Nemophila insignis grandiflora and maculata.
Nigella damascena cœlestina.
Poppies, Shirley; double French; Tulip Poppy; and Rawsons fringed.
Sweet Peas vars., Prince's Feather, large crimson plumes.
Salvia Blue Beard, blue-purple.
Saponaria calabrica, pink, and calabrica alba.
Scabiosa, dwarf double, various colours.
Schizanthus retusus, and var. albus.
Silene compacta Snow King, and double rose.
Sultan, yellow, white, and purple.
Viscaria cardinalis, crimson-scarlet.
Whitlavia grandiflora, violet-blue, and var. alba.

W. L.

COCOA-NUT PEARL.

THE occurrence of pearls in the Cocoa-Nut may give rise to speculation in the minds of some as to how they got there, more so than in the case of the so-called milk. Others may speculate in Cocoa-Nuts in the hope of finding pearls, which cannot by any means be common, otherwise we should hear of more of them; in fact, they must be of rare occurrence. They vary in size, but a fine one would be as large as a tom-tit's egg, of a soft, pearly-white hue, and perfectly smooth. It seems that they are embedded in the perisperm, or solid and edible portion of the nut. The finding of one must be regarded as an event of great importance by the natives of North Celebes, for they use it as a charm against evil spirits. It is strange how prevalent is the idea amongst the superstitious, not only with savages, but amongst those from whom we should expect better things, that the wearing of various trinkets or the fact of carrying them about their persons should have any effect whatever, let alone the warding off of evil spirits, even if any should exist outside their own persons and those of their fellow men. Imagination is a powerful factor, however, and if that can be kept quiet by the use of a Cocoa-Nut pearl or other trinket some good will be effected, even if in an indirect way.

MYRSIPHYLLUM, OR SMILAX.

THE former of these two names is most often employed in this country, while in America, where one species is extensively cultivated, the name Smilax is universally employed when speaking of it. According to Bentham and Hooker, in the "Genera Plantarum," the four known species of Myrsiphyllum are included under Asparagus. Whether this will ever be accepted or acted upon in gardens would be difficult to say, especially when the conservatism of gardeners in the matter of plant nomenclature is remembered. The natural beauty and utility of the plants are the points at issue in the present instance, though it must here be confessed that only one of the four is in cultivation. The method found most suitable is to plant in the bed or border of a warm greenhouse, where the temperature is sufficiently high to ensure free growth. The border should be well drained and filled with a mixture of good fibrous loam and leaf-soil, and means adopted whereby the long, twining stems can find some support as growth is proceeding, which, as in the case of most other twiners, advances at a rapid pace provided the conditions are suitable and the plants well established.

In private establishments, where the best known species are cultivated, it is the custom to plant it where the stems can be trained up pillars or more often the rafters of the house, and in some cases wires are specially fixed for it. Usually the cultivators in this country are contented to cut sprays from it for decorative purposes; but in America the stems are allowed to run up strings of twine with the avowed intention of cutting the twine with its whole length of stem attached. The short lateral sprays that develop from the main stems give the whole the character of a wreath of infinite grace and beauty, and they are extensively employed for all kinds of house decoration. The so-called leaves resemble those of a Myrtle, and the name Myrsiphyllum comes from *Myrsine*, a Myrtle, and *phyllon*, a leaf. The organs are really, however, cladodia or flattened branches like those of the Butcher's Broom, and not leaves at all. The true leaves are small, and pale brown or grey scales at the base of the leaf-like branches, as in the case of the last-mentioned plant or of Asparagus, and though it may be convenient hereafter to speak of them as leaves, their true nature may be remembered, together with their term cladodia.

Botanists themselves have been much puzzled with this class of plants, as is evident by the large number of names they have given one or other of them at different times. The flowers and fruits are so closely allied in structure to those of Asparagus proper that the differences are altogether insignificant. The so-called leaves are, however, remarkably different, though they do undouhtedly serve the function of leaves in the economy of the plant. Amongst the generic names given are Asparagus, Myrsiphyllum, Medeola, Ruscus, and Dictyopsis, the latter referring to the netted character of the cladodia, and which is very unusual amongst monocotyledonous plants when applied to the leaves.

ASPARAGUS MEDEOLOIDES.—This is the proper name of the plant to which Myrsiphyllum and Smilax are so extensively applied, Myrsiphyllum asparagoides being the name used in this country. The tall, twining and slender stems grow very rapidly when once the plant is well established. The leaves vary between cordate and lanceolate, and, clothing

the short lateral branches as they do, they are not unlike Myrtle leaves, though the habit of the plant is altogether remote. The flowers are white with a green stripe along the back of the segments, and produced in clusters from the axils of the leaves; but they are so inconspicuous that the decorative value of the plant depends solely upon the grace and beauty of the long, leafy sprays that may be put to a thousand and one purposes in decorative art. In its native country it is spread over a wide area of South Africa from Inanda, Natal, southwards over the Transvaal, East Griqualand, British Kaffraria and other districts. The leaves vary considerably in size and shape, but whether this is due to varietal distinctions or merely to conditions under which the plants are found, it would be difficult to say unless they were all grown under the same conditions. It sometimes occurs at altitudes of 3,500 ft. and forms stems 4 ft. to 5 ft. long, climbing over small shrubs on damp, shady slopes. At other times it is found amongst shrubs at the foot of mountains. It is therefore well suited for shady positions in hothouses, and should receive plenty of moisture both at the roots and overhead when making its growth.

A. VOLUBILIS.—Of the four known species this comes nearest to A. medeoloides in general appearance, judging from dried specimens, but is, nevertheless, very distinct. The stems are slender and twining, and bear short, lateral sprays of leaves as in the above species. The leaves are much smaller than those of A. medeoloides, decidedly lanceolate, leathery in texture, ½ in. to 1 in. long, thickened at the margins, and somewhat reflexed. From the way that they clothe short, lateral sprays, they render the plant pretty and ornamental. Whether it would ever rival the well-known species for ornamental purposes it would be difficult to say unless grown under the same conditions. Judging from the leathery character of the leaves it is evidently adapted to live and thrive under exposure to a greater amount of sunshine than its better known congener. Some enterprising cultivator should import it and thus give it a fair trial, for it is widely distinct from A. medeoloides and pretty.

A. KRAUSSII.—Like the rest, this is a native of South Africa and markedly distinct from either of the above except in its twining habit and short lateral sprays. The leaves are linear, flat, about equal width all along, and ½ in. to 1 in. long, rarel more. They are placed close together on the lateral twiglets, and more like those of a Podocarpus or other flat-leaved Conifer than any of the group. Amongst other localities, it grows in moist valleys of the river Breede; and if placed under artificial treatment might prove a very serviceable decorative plant, for it is lighter and more graceful even than the well-known species.

A. UNDULATUS.—This is the least interesting because the least ornamental of the species from a horticultural point of view. The stems are short, erect, very much branched and furnished with short, ovate or heart-shaped, wavy or twisted leaves. It grows on sand-dunes close to Cape Town, where it was collected as recently at least as 1877. To all appearance it has the same upright and stiff habit as the Butcher's Broom or something similar, but apparently it possesses neither gracefulness nor beauty.

CHRYSANTHEMUM WILLIAM TUNNINGTON.

WORK amongst the Chrysanthemums is again beginning to become more active, so that it may not be out of place here to draw the attention of cultivators and especially exhibitors, who may not yet have made its practical acquaintance, to a first-class incurved variety well worthy of a place in a collection of incurved sorts whether for ordinary decorative purposes or for exhibition. We refer to William Tunnington which was brought before the National Chrysanthemum Society at the Royal Aquarium on the 22nd November, 1893, when a First-class Certificate was accorded it. The bloom is large and massive, regularly and neatly incurved, and measuring 5 in. to 6 in. in diameter by 3½ in. to 5½ in. in depth. When at its best it presents a solid and globular appearance, that makes it a prominent object on the show-board. The florets are broad and blunt at the tips as all true and most characteristic types of this class should be; the inner face is crimson, but hidden as a matter of course, while the outer face has a reflection of old gold, more or less heavily overlaid with buff and dark brown according to treatment and the conditions under which the flowers have been developed. The accompanying illustration will give a good idea of its shape and size, and show its suitability for exhibition purposes. The variety was raised and brought before the public by Mr. Robert Owen, Castle Hill, Maidenhead, to whom we are indebted for this opportunity of illustrating it.

INCURVED CHRYSANTHEMUM WILLIAM TUNNINGTON.

THE UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY.

The Annual Meeting of this Society was held at the Caledonian Hotel, Adelphi Terrace, on Monday evening. Mr. George Gordon presided, and there was a fair attendance of members. The Committee in their Annual Report had again to report a satisfactory rate of progress, both commercially and financially. Seventy-two new members joined the Society during the year, nineteen lapsed, and six died, one of these having joined only a fortnight previously—the cause of death being influenza. The membership now stands at 547, and the sick pay has been more than in the previous year, £117 7s. 8d. having been thus disbursed to twenty-eight members. Subscriptions to the amount of £821 16s. 3d. have been paid into the Benefit Fund during the year, exclusive of arrears; and both the Benefit and the Management Funds have proportionately increased; the former having received additional strength by the life memberships of Sir Stuart Knill, Bart., and Messrs. Jacob Wrench and Sons. A grant was made of £10 to the widow of the late Mr. Charles Collins, a case calling for urgent assistance, and two other sums amounting to £4 have been paid from the same Fund. The treasurer's account was also a very satisfactory one, the chief item of interest being the investment of £1,000 during the year. The Annual Dinner resulted in a substantial gain to the Benevolent and Convalescent Funds, and to Mr. Arnold Moss, who presided, the thanks of the Society were due for the able manner in which he advocated the claims of the Society.

The Chairman, in rising to formally move that the report and balance sheet be received and adopted, said he was quite sure it would not be necessary for him to speak at any length to ensure the motion receiving a hearty reception. The report that had been read by their excellent secretary, Mr. Collins, and the financial statement presented by their no less excellent treasurer, Mr. Hudson, were so eminently satisfactory that no strong arguments would be required to induce the meeting to pass them unanimously. He had in the course of his connection with public affairs listened to many annual statements, but he could not call to mind any that could have afforded more gratification to the members concerned than those that had been submitted to them. They impressed him, as he had no doubt they had impressed the members, with the important fact that the affairs of the Society are being managed with singular ability, and that gardeners, as a body, are beginning to understand the principles of the splendid institution to which they were fortunate in belonging, and that they are showing in a practical manner their appreciation of the advantages it offers them in making provision for the proverbial rainy day, for old age, and for those who may be left behind should they fall early in the battle of life. They would, he said, have gathered from the report and financial statement that there had been a large accession of new members and a concurrent increase in the balances of the several funds, and this advance could not be regarded otherwise than with a feeling of gratification, not so much in the interest of the Society as of the horticultural community for whose benefit it was founded. The Benevolent Fund, although it had been drawn upon to relieve several cases of distress had increased from £2,025 12s. 9¾d. to £2,208, or a gain of nearly £200 during the year. The Benefit Fund had increased from £6,232 to £7,212, or a gain of nearly £1,000. The Voluntary Convalescent Fund started a few years since had continued to make satisfactory progress, and the balance had increased from £191 to £259, a gain of £68, although grants were made to several members who had been stricken down by sickness to enable them to have a change of air, which, as we all know, is so beneficial to those recovering from illness. The balance of the Management Fund was about the same as last year, and it did not appear desirable there should be any material increase, for whatever surplus that may be available would probably be utilised to advantage, in part to making the Society more widely known, and in part to increasing the remuneration of the secretary. The total of the several balances was £9,835 14s. 6½d., and it was of importance to know that this amount which largely exceeds the liabilities of the Society is invested in perfectly safe securities, and is a guarantee that every claim will be met in accordance with the rules. It would not be necessary for him to discuss in detail either the report or balance sheet, but there were a few points to which he would like to direct attention. It was of interest to know that there had been a substantial increase in the roll of members, and that the number of benefit members had increased during the financial year from 487 to 536, or a net gain of 49. It was still more interesting to learn that the contributions of the members to the Benefit Fund amounted to £821 16s. 3d., because that sum taken in connection with some other figures that are given, brings out in strong relief the distinctive character of the Society, and the remarkable advantage it offers to those eligible for membership. The contributions to the Benefit Fund, as so well known to members, are applied so far as may be necessary in providing the weekly allowances to members during sickness, and the remainder is added in given proportions according to the scale to the deposits of the members standing on the books of the Society, which remain at interest until they attain their 70th year. Last year the total amount disbursed in sick pay was £117 7s. 8d., therefore of the total of £821 there was a sum of £704 8s. 7d. available for adding to the deposit accounts of members. There is nothing unusual in so small a proportion of the contributions to the Benefit Fund being distributed in sick pay, and in 1893 it was relatively smaller. The annual surplus has invariably been large, as proved by the fact that during the twenty-nine years the Society has been in existence the members' deposits have amounted, after the payment of those belonging to deceased members to their representatives, to £7,212 1s. 6d., the balance of the Benefit Fund at the present time. The interest upon the balance of this fund was last year £178 11s. 11d., and as this was £61 4s. 3d. more than was required for sick pay, it follows that every penny contributed by members to the Benefit Fund has been an investment for old age. If the members had belonged to one of the best of the general benefit societies, the only advantage that would have been derived from this annual surplus would be the payment of £10, £12, or £15 to their representatives at their death. As illustrating the practical effects of this difference, Mr. Gordon stated that he was well acquainted with a gardener who joined the Order of Foresters three years before the United Horticultural Benefit and Provident Society was founded, and from that time to this he had paid contribution to their lower scale, namely, sixpence per week, and the benefits to which he is entitled are ten shillings per week during illness and £10 at death. On the other hand a member of the United who joined on the lower scale when it was first formed had not only been entitled to 10s. 6d. per week in sickness, and would have a claim upon the Benevolent Fund on his reaching his 70th year, but has now standing to his credit the the sum of £51 19s. 1d., or actually £7 14s. 7d. more than the whole of his contributions to the Benefit, Benevolent and Management Funds. On the higher scale the sum placed to the credit of a member of similar standing would be considerably higher, and as a matter of fact a member has the sum of £78 11s. 3d., or about £14 more than the whole of his contributions to the Society, the difference in both cases being due to the interest. Members should impress facts of this kind upon the attention of friends who are eligible for membership; they should also point out that should a member be unable to continue his subscription he does not lose his deposit, but the amount to his credit is retained until he reaches his 60th year, when it is handed over to him. To show how important is this feature it was mentioned that at present the substantial sum of £702 was standing to the credit of lapsed members. In conclusion the Chairman urged upon the members the necessity for taking advantage of every opportunity for making the Society known to their friends so that a much greater proportion of those engaged in horticultural pursuits might derive advantage from the great and highly beneficent work in which it is engaged.

The motion was seconded by Mr. W. Marshall, one of the founders of the Society, and carried unanimously.

The following members were elected on the Committee in the place of those retiring by rotation:—Mr. G. Wheeler, Mr. Boreham, Mr. Wood, and Mr. Thomson; and Mr. W. Collins was again unanimously re-elected Secretary.

The meeting was then made special for the purpose of considering the question of increasing the benefits without raising the subscription, the suggestion which had been made by some of the members being that in the lower division the sick pay be raised from 10s. 6d. to 12s., and in the higher division from 16s. to 18s., payable for six days of the week instead of seven. The resolution embodying these alterations was strongly opposed by some of the members, but was eventually carried by 27 to 6. A vote of thanks to the Chairman concluded the business.

We append the accounts presented by the Treasurer:—

Dr.

	£	s.	d.
Balance in hand	89	4	6½
Honorary members' subscriptions ..	65	2	0
Benefit ditto	821	16	3
Benevolent ditto	59	3	9
Convalescent ditto	66	11	9
Management ditto	58	6	3
Benefit arrears for 1893..	18	0	9
Benevolent ditto	3	17	6
Management ditto	3	12	8
Revocations, etc.	0	1	3
Advertisements in Report, etc... ..	2	13	6
Dividends on Investments	267	10	5
	£1,456	0	7½

Cr.

	£	s.	d.
Sick pay to members	117	7	8
Payments to nominees of deceased members	39	7	6
Payments from Benevolent Fund ..	14	0	0
Ditto from Management Fund.. ..	92	8	5
Ditto from Convalescent Fund.. ..	4	10	0
Investment, Stamps, Commission, etc.	1,052	12	6
Balance in hand	135	14	6½
	£1,456	0	7½

Total invested funds, £9,700.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were accorded Awards of Merit at the meeting of the Royal Horticultural Society on the 12th inst.

Violet Princess Beatrice.—The Pansies and Violas have long been subjected to improvements at the hand of the florists, and now the Violets are having their innings in that respect. The blooms of Princess Beatrice are of a rich violet hue, and measure fully 1½ in. across. The heart-shaped leaves measure about 4 in. in diameter, which will give some idea of the vigour of the variety. Exhibitor, Mr. G. Nobbs, Royal Gardens, Osborne, Cowes.

Amaryllis Mrs. Montefiore.—The stem of this handsome variety is about 15 in. high, and bears usually two flowers. The tube of the latter is funnel-shaped, but very short, with a widely-spreading lamina of magnificent proportions. The segments are of good substance, well imbricate, and white, with exception of a light streaking of red on the three upper segments and on the upper longitudinal half of the outer, lateral ones. Though not strictly white, this is a light-coloured variety of the first magnitude, and a decided acquisition, as well as an improvement in this class. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Amaryllis Prince Edward.—The scapes of this variety are taller, say about 20 in., and two flowered. The flowers are widely funnel-shaped, with well imbricated segments, of good substance, and of a rich crimson-scarlet, intensifying to a maroon shade in the throat. The whole flower is neatly formed, rich in colour, and a step forward in the march of progress. The substance and colour of the flower make it worthy of a place in the most select collection. Exhibited by Messrs. J. Veitch & Sons.

Eucharis Stevensii.—In general appearance the flowers of this species are not unlike those of E. grandiflora, but differ in structure. The corona is reduced to a narrow rim, on the top of which the base of the stamens become dilated, triangular, and greenish-yellow; the throat of the tube is also greenish-yellow. All the rest of the flower is pure white. Exhibited by the Duke of Sutherland (gardener, Mr. Peter Blair), Trentham.

Azalea John Weathers.—In this we have one of the hardy, deciduous types, the improved forms of which are spoken of as Ghent Azaleas. The flowers are fragrant and have a slender tube, and a widely-expanded lamina, the segments of which are well imbricated, and beautifully undulated at the edges. All the segments are of a warm rose-pink, with exception of one which is orange with a slender rosy midrib. Exhibited by Earl Cowper (gardener, Mr. J. Fitt), Panshanger, Herts.

ARALIAS.

I HAVE been a reader for the last thirty-five years of many horticultural papers, and of the GARDENING WORLD since its advent, and I have been through many and various stages of propagating and growing both hardy and exotic plants, but I never yet found that Aralia Veitchii and A. Veitchii gracillima were so very easy to root from cuttings or eyes. I am well aware that A. reticulata, the general stock upon which these two and A. elegantissima are worked, can be rooted easily from cuttings, providing proper bottom heat and cases or bell glasses are at hand, but my experience leads me to think that supposing the species named can be rooted successfully, their root action would be so weak that they would not be able to maintain themselves in a healthy condition.

No doubt, in their native habitats, all the species reproduce themselves from seeds, but anyone who has grown the species named knows that it is only in their very juvenile condition that they are at all graceful and elegant, that the plants as they grow in height and years become very coarse and ungainly objects, quite deceiving a new beginner in plant culture who may be expecting them to maintain their graceful and elegant appearance to the last.

Nearly all the species of Aralia will root and grow freely, but some are better from seeds; and I have sometimes myself grafted A. Veitchii, gracillima, etc., upon strong roots of A. reticulata and A. Guilfoyleii, so as to take away the unsightly wart or callus at the union of the stock and scion often so visible when worked in the ordinary way. If your correspondent (p. 437) has found out a way by which he can multiply these species of Aralias as quickly as the process of grafting, and maintain them in good health and vigour, he certainly will have conferred a benefit upon trade growers by his notes on p. 437, who will be glad to take advantage of such an easy mode of reproducing good saleable stock, but at the same time I am of opinion that plants of the species named would not make saleable or usable plants as quickly as nice young points grafted upon A. reticulata. The remarks above put me in mind of an old gardener who once told me that he could root Camellia alba plena as easy as possible. I don't for a moment dispute but what C. alba plena may be rooted the same as what C. japonica is, but at the same time I maintain that it would and could not make a saleable plant as soon as if it were grafted upon the ordinary stock. The roots formed by C. alba plena are not so vigorous as the free-growing C. japonica, hence the necessity to graft a weak growing kind upon a free, vigorous-growing stock that will make roots freely.

So with Camellias, so with Aralias, Tea Roses, or any kind of tender or delicate growing plants that are required to make good plants in a short time.—*W. G.*

FOLIAGE PLANTS AND THEIR CULTURE.*

IN dealing with a subject so extensive as the one upon which I invite your attention, I have endeavoured to curtail the scope of my paper, so that in thirty minutes or so I might give you a rough description of some of the best foliage plants, together with the most important points relating to their cultivation.

My way out of the difficulty has been to confine myself to "exotic foliage plants" entirely, but from the great numbers of these that are inmates of the plant houses, it would be impossible within such a limited time to do them justice. I must therefore solicit your indulgence for the many omissions I must necessarily make in what I have to say on a subject of such importance and interest to the lover of plants. I shall pass unnoticed many genera and numerous species, not because they are of less value, but in order to give precedence to such plants as appear to me to claim and deserve special mention.

THE CROTON.

This is a large genus containing some 500 species, none of which, however, are of any use from a garden point of view, their chief value consisting in the various products of economic value, which several of them furnish. C. Tiglium, a species common to the Indian Archipelago, is the source of the drastic cathartic medicine known as Croton oil. C. Eleuteria supplies the Cascarilla Bark, also a product of considerable medicinal value. The highly ornamental foliage plants, which are known in many gardens as Crotons, should be referred to the genus Codiaeum, to which they rightfully belong.

Of the Codiaeums, C. pictum is probably one of the oldest forms.* We are told that "in the Moluccas and South Sea Islands it is largely grown by the natives as a decorative shrub. It is also used for fencing the enclosures around their dwellings, and the branches are often employed for decorations on festive occasions." Within the past quarter of a century many of the older forms of Codiaeums, however, have disappeared, giving place to new and more improved types. Several species have been imported from the South Sea Islands and elsewhere, whilst some of the most striking, handsome, and graceful varieties are the results of careful hybridisation.

There is a distinct section of varieties having broad, oblong, erect foliage, such as C. Andreanum, C. Baronne James de Rothschild, and C. Williamsii. Another which we may call the tri-lobed section, is represented by C. Disraeli and C. Earl of Derby. Then follows the convolute forms, of which C. volutum and C. recurvifolium are good examples. The broad, lanceolate, semi-pendulous leaved kinds, as C. Triomphans and C. Victoriae, must not be forgotten.

I now come to the gems of the whole group, and undoubtedly the most useful as table plants, being graceful and symmetrical in habit. I refer to those kinds with long, narrow, pendulous, arching foliage, as in C. angustifolium and C. Johannis. Another type having all the good qualities of the last named, but even more effective, the foliage being spirally twisted, is represented by C. Prince of Wales, C. Warreni, and C. Chelsonii.

CULTURE.

Crotons are easily propagated from cuttings. Those having a straight stem with perfect foliage should be selected and inserted singly in small pots; place them in a propagating pit or frame having a brisk bottom heat, where they will soon take root, shifting them on into larger pots as they require it. The system of ringing the stem of such plants as have become leggy, and tying moss around the wound (which will in a few weeks be matted with roots) is often adopted with great success. The compost for potting should consist of about one part good rich loam and one part leaf mould and peat, to which may be added a little broken charcoal and a good sprinkling of silver sand. As the pots become filled with roots and the plants start to grow away freely occasional waterings with liquid manure should be given.

When a separate house cannot be set apart for their culture they should be arranged at one end of it, as Crotons require more sun than most of the other occupants of the "stove." They also revel in a high temperature with a moist humid atmosphere. During the growing season the syringe should also be used freely about three times daily. At the approach of winter, when growth is exceedingly slow, water should be sparingly given, indeed, but little will be required till the plants show signs of starting in the spring. Crotons are very susceptible to the attacks of various insects, such as thrips, mealy bug, and scale, and thus careful and constant attention will be necessary to keep the plants clean.

THE DRACAENA.

This highly decorative race of foliage plants belongs to the natural order Liliaceae. They inhabit various parts of the far East, including the South Sea Islands, Madagascar, and the East Indies. Many garden hybrids have been raised in this and other countries, affording several handsome and useful plants. One of the most beautiful of all the Dracaenas is unquestionably D. Goldieana, which was found by Mr. Goldie in western tropical Africa. A worthy rival to Goldieana is found in D. Lindenii, which makes a capital table plant when in a small state, whilst a good specimen plant forms a conspicuous feature on the exhibition table. D. Gracilis and D. superba are of the narrow-leaved, pendulous type. But so rich is the genus in numbers of excellent decorative subjects that I need not weary you with a list of names.

CULTURE.

The Dracaena is so easy of propagation that the operator need not confine himself to one special method. The system of cutting up the old stem into lengths, having three or four joints, inserting them in pans filled with peat and silver sand, and placing them in a good bottom heat is often adopted, whilst plants that have become denuded of their bottom foliage may be easily ringed and treated as recommended for Crotons. When the tops are severed from the old plants and potted they should be placed in a close propagating frame, where if shaded for a few days the plants will retain their foliage and form specimens at once. The tops and side growths if taken off and inserted in small pots and placed in a propagating pit will root without difficulty. The practice of cutting away the thick fleshy tubers often found at the base of old plants and laying them in a pot or pan is often resorted to, and from this method good sturdy young plants may be obtained. The Dracaena delights in a warm stove temperature with a moist atmosphere, and shade from strong sunshine. A vigilant watch should be kept for the appearance of thrips and red spider, which will soon disfigure the foliage if allowed to remain. Fumigate for the former, and sponge with soft soap, and syringe constantly for the latter.

CALADIUMS.

Among the Aroids, the Caladium is one of the most elegant foliage plants for massing with Ferns and other subjects; it is also most useful for decorating drawing-room, boudoir, etc., and some of the dwarfer kinds, such as C. argyrites and C. erubescens make excellent table plants. Caladiums are, moreover, easy of culture, and may be propagated by divisions of the young growths, which are produced in plenty around the old tubers when they commence growth in spring, but they should not be taken off until roots have been emitted from them, when they should be inserted singly in thumb pots and given a place in a propagating pit till they become established. The plants will now require a shift into larger pots, and after this should be grown on in the plant stove, where a light position can be accorded them and shade from bright sunshine. The compost for potting should be rich fibrous loam and good leaf mould. Caladiums may be grown to a very large size, but those plants occupying 5, 6, and 7 in. pots are always the most in request for general use.

(To be continued.)

* A paper read at a meeting of the Devon and Exeter Gardeners' Association by Mr. G. Camp, gardener to E. Byron, Esq., Culver, near Exeter.

* From *Garden*.

GARDENING MISCELLANY.

ARUM ITALICUM MARMORATUM.

INDEPENDENTLY of the flowers, this hardy subject might well be cultivated for the beauty of its foliage. As far as this country is concerned the typical form of the plant is a native of Cornwall and the Channel Islands. This may not argue much in favour of its hardiness, seeing that it usually throws up fresh leaves before winter, and which would be liable to destruction in severe winters like the past. Notwithstanding this, the foliage of A. i. marmoratum is now very beautiful on one of the level areas at the base at the rockery at Kew. The variety is by no means new, but it does not appear to be so well known as it ought. Early spring flowers are by no means too common, and though the spathes may not be produced for some weeks to come, the foliage is already pretty. The leaves are between triangular and arrow-shaped, and bright, shining green, regularly netted all over with broadish, yellowish-grey bands or lines. The contrast of the marbling with the shining surface is well marked, and as pretty as in the case of many hot-house plants that have nothing more to recommend them. The spathes, which will appear later, vary from greenish-yellow to white, and the spadix from yellow to white in different individuals. While the occupants of the rockery are still resting, with few exceptions, this plant already constitutes an oasis of beauty amidst the nakedness of the soil.

THE CHARLES COLLINS' FUND.

THE executive beg leave to tender their sincere thanks to all those who have so generously responded to their appeal for subscriptions to the above fund, and to say that they propose to close the latter on Wednesday, March 20th, after which date immediate steps will be taken to decide as to the most appropriate manner of administering the same for the benefit of

the widow and children. In the meantime, they would feel exceedingly obliged if those who kindly promised to subscribe to the fund would be good enough to remit the amount of their subscription to the Honorary Treasurer, Mr. George Gordon, Endsleigh, Priory Park, Kew, or to the undersigned, on or before March 20th, in order that the fund may be finally closed by that date.—*T. W. Sanders (Hon. Sec.), 57, Cressingham Road, Lewisham, S.E.*

SOCIETIES.

Royal Horticultural, *March 12th.*—Prospects are beginning to brighten up again after the long winter, and spring flowers take the place of frost and snow. Orchids were again very strongly represented, and amongst the spring flowers were many that have been forced, including Daffodils, Irises, Lilac, and Roses. Camellia flowers were also plentiful. A large group of Orchids set up with Palms and Ferns was staged by Messrs. B. S. Williams & Son, Upper Holloway. Coelogyne cristata alba was most plentiful and well done, the long rhizomes of this variety being very peculiar. Cypripedium Morganiae, C. Chamberlainianum, Lycaste fulvescens, and Dendrobium Wardianum, were also conspicuous and showy. (Silver Banksian Medal.) A large, mixed, and effective group was also set up by Messrs. F. Sander & Co, St. Albans. The different forms of Dendrobium nobile, D. Ainsworthi, Phaius Cooksoni, P. amabilis, Coelogyne Dayana, Vanda teres alba, Cattleya Schilleriana, Cyprepedium Fowlerianum, and others, attracted a considerable amount of attention, owing to the size, quantity, and variety of colour of their flowers. (Silver-gilt Flora Medal.) A very varied and interesting group of Orchids was exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. White), Burford Lodge, Dorking. Conspicuous amongst them was a large pan of Sophronites grandiflora bearing sixty-three flowers of large size and brilliant colouring. Other notable subjects were Eulophiella Elizabethae, Pleurothallis Roezlii, Cochlioda vulcanica grandiflora, Masdevallia Fraseri, Cirrhopetalum picturatum, Calanthes, and Epiphronitis Veitchi with crimson-scarlet flowers. (Silver Banksian Medal.) A large group of Orchids was staged by Messrs. Hugh Low & Co., Clapton. The varieties and species were very numerous, and amongst them we noticed Dendrobium Brymerianum with its great fringed lip, D. Phalaenopsis, D. Wardianum, the beautiful Cypripedium W. Lloyd, Laelia cinnabarina harpophylla, the uncommon Brassavola glauca, and the pretty Saccolabium bellinum. (Silver Banksian Medal.) A cultural commendation was accorded to E. Ashworth, Esq. (gardener, Mr. H. Holbrook), Harefield Hall, Wilmslow, for a tall, splendidly-grown and flowered piece of D. splendidissimum grandiflorum. He also showed D. Cassiope, Ashworth's var., D. Findlayanum album, Ashworth's var., and various others, for which a Silver Banksian Medal was awarded. A grand spike of Odontoglossum crispum nobilius was exhibited by Baron Schroder (gardener Mr. H. Ballantine), The Dell, Egham. He also had several other very richly-coloured forms of other Odontoglossums, each magnificent in its own particular way. Some hybrid Dendrobiums and a natural hybrid of Odontoglossum were exhibited by Fred Hardy, Esq., Tyntesfield, Ashton-on-Mersey. A large piece of Dendrobium Wardianum album was staged by Thos. Craven, Esq., Ashlea, Ashton-on-Mersey. Some hybrid Cypripediums and highly-coloured flowers of Dendrobium nobile nobilius were sent up by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Whitefield, Manchester. A. J. Hollingdon, Forby Hall, Enfield, staged Cypripedium Ruth Ayling. Cattleya Trianaei flowers were shown by J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford. Cypripedium Crossianum aureum, and another hybrid named C. Refulgence, were shown by Chas. Lee Ingram, Esq. (gardener, Mr. T. Bond), Elstead House, Godalming. A large and handsomely drooping piece of Platyclinis glumacea, and Cypripedium Carnusianum, were exhibited by Sir F. Wigan, (grower, Mr. W. H. Young), Clare Lawn, East Sheen. A hybrid Phaius and Dendrobium Phalaenopsis Schroderianum, Dulcote var., were staged by Walter Cobb, Esq. (gardener, Mr. W. Howse), Tunbridge Wells. Some hybrid Dendrobiums, including a large flowered one named D. Apollo grandiflorum, were exhibited by Mr. James Cypher, Orchid grower, Cheltenham. Three pans of Eulophiella Elizabethae, beautifully flowered and healthy, were exhibited by Hamar Bass, Esq., M.P. (grower, Mr. J. Hamilton), Byrkley Gardens, Burton-on-Trent. A species of Cymbidium and another of Dendrobium were exhibited by J. Forster Alcock, Northchurch, Herts. He also showed Brassavola Martiana. Some Odontoglossums were staged by D. M. Grimsdale, Esq., Kent Lodge, Uxbridge. A Silver Banksian Medal was accorded to Messrs. J. Veitch & Sons, Chelsea, for a group of Orchids, including the rare Dendrobium atroviolaceum, D. Edithiae, Cymbidium eburneo-Lowianum, Laelio-Cattleya Myra, Phaiocalanthe irrorata rosea, a splendidly grown piece of Cypripedium Sedenii candidulum, and many others. Mesospinidium vulcanicum Warnham Court var., and a fine piece of Coelogyne sparsa, were shown by C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham. He also had a fine bunch of spikes of Dendrobium undulatum. A group of Orchids set up with Palms and Ferns was also exhibited by Mr. P. McArthur, The London Nursery, Maida Vale. Very conspicuous amongst them were the various forms of Dendrobium nobile, D. Wardianum giganteum, Odontoglossom crispum and its varieties, O. luteo-purpureum magnificum, O. Rossii majus, and a handsome Cattleya named C. Trianaei The Countess, with very broad petals, and flowering for the first time.

Messrs. Barr and Son, Covent Garden, had a bright little group of cut blooms of spring-flowering bulbs in first-rate condition. Narcissi particularly were very good, and such fine varieties as Emperor, Horsfieldii, Obvallaris, Cynosure, Sir Watkin, and Poeticus ornatus were well to the fore. A pretty little batch of Galanthus Elwesii in pots was also very noticeable. A few well flowered plants of Spiraea japonica multiflora compacta also served to lighten the character of the group, which received a Silver Banksian Medal. Messrs. Paul & Son, Waltham Cross, exhibited a quantity of Camellias in pots in fine order. Plants of such varieties as Imbricata Mathotiana and Madame Catchet carried especially large and fine flowers. Immediately in front of these a number of the China Rose Duke of York, attracted a deal of notice from the quantity of the pretty blush-pink flowers they carried. The central and most conspicuous object in the group was a batch of Clematis indivisa lobata in pots, carrying a goodly quantity of the neat white flowers. (Silver-gilt Flora Medal). A half-dozen stands of cut blooms of Camellias was also shown by the same firm, and contained some fine samples; Alba plena, Marchioness of Exeter, Reine des Fleurs, and Madame Ambrose Verschaffelt were some of the best varieties exhibited.

A noteworthy contribution which came from the Dowager Lady Bowman, Goldwinds, near Dorking (gardener, Mr. Cornish), in the shape of a well-flowered specimen of Shortia galacifolia was awarded a Cultural Commendation. A quantity of Daffodils illustrating their use for table decoration, which came from Mr. Geo. Bolas, The Gardens, Wirksworth, Derbyshire, also displayed considerable taste in the making up. Messrs. James Veitch & Sons, Chelsea, were responsible for a fine display of Hippeastrum (Amaryllis) in excellent condition. The plants were rather more dwarf in habit than those usually seen, and the flowers throughout were of large size and vivid colours, varieties like Elatior, Prince Edward, Javotte and Euryalis, being specially well represented. A magnificent pan full of Iris reticulata Krelagei, from the same firm, was awarded a Silver Banksian Medal. The pan in question was upwards of 2 ft. in diameter and the flowers were exceedingly well developed, both as to form and colour. A Silver Banksian Medal was also awarded to Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E.; for a meritorious collection of flowering and foliage plants, Hyacinths, Lilies of the Valley, Lachenalias, Lilacs, Ericas, and Cinerarias, sll contributed to add a charm and a variety to a really pretty little graup. Messrs. Paul & Sons, The Old Nurseries, Cheshunt, had examples of the single white Rosa polyantha grandiflora, also several cut spikes of blooms of Cannas. A vase containing a number of fine flowers of Richardia aethiopica, arranged with their own leaves, which came from Earl Cowper, Panshanger, Herts, (gardener, Mr. J. Fitt), was also well worthy of mention.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Autumn-sown Cabbages.—*R. C.*: You can yet repair the loss of Cauliflower to a great extent by sowing seeds in boxes at once, and getting the seedlings to some size before April permits of their being planted in the open ground. The same would apply to Cabbages and others of that class, though you cannot expect to cut them as early as you would in the case of autumn-sown and autumn-planted seedlings. As soon as the seedlings come above ground, stand the boxes as close to the glass as possible, to prevent their occupants from getting drawn. As the sun increases in power you must shift the boxes into cooler houses, or give more and more ventilation. The main point to bear in mind is that sturdy plants are much more serviceable than weak and lanky ones, in spite of their taller stems.

Shrubs Injured by Frost.—*Geo. Watt*: No advantage would be gained by cutting back the stems of those things which have been badly hurt until all danger of severe frost is over. To cut them back early would be to still further expose them; and even if mild weather were to succeed the operation, the stems might break afresh too early and lay the young shoots open to the action of late frosts. Half of this month being gone you may, however, commence operations, and you will then see wherein the greatest injury has been done, and be better able to determine what measures may be adopted. Some that are even now dead may remain green for some time to come unless we have genial weather or much sunshine, which with the drying March winds soon find out the weak parts.

Bulbs Frozen.—*Hy. Aldous*: They will take no harm provided you have thawed them slowly by putting them at first into a house where frost is merely excluded. There may be some broken pots owing to their being burst by the frost, but these you can replace as the soil becomes thawed and you can readily remove the old ones. Most probably the soil will be very wet for some time after thawing, but you need not press it down till it loses its pasty condition and becomes firm. After this you can put them in heat at your convenience.

Labourers' Allotments.—*J. Colley*: If the Parish Council have an idea that allotments would be of advantage to the inhabitants of your neighbourhood, surely some or other of them would have a sufficient amount of interest or public spirit in the matter to keep the whole question under their eyes and to work it to the best advantage. If any of them understand the cultivation of land and the raising of crops, we think it would be a matter of the greatest importance to enlist their sympathies and services in the case so as to avoid all unnecessary expense by the engagement of a competent outsider to undertake the superintendence of the plots and the experiments which you intend to carry on. The trial ground you mention is not sufficiently large to render great assistance to the unemployed, unless the district is but a small one or thinly populated, so that the labourers out of work at any particular season would not be numerous. In case you cannot get any of the members of the Parish Council to undertake the superintendence, the second best plan would be to enlist the assistance of some public-spirited man, or well-instructed gardener, in the neighbourhood to superintend the working of the allotments for the benefit of his hard-working neighbours. Some one with a knowledge of soils, manures, and crops would be the most suitable man, if you could interest him in your cause.

Orchids unsatisfatory.—*Plomo Dulce*: There were no Cattleya, Laelia, nor Oncidium leaves amongst the dead specimens sent, but possibly those you sent were intended for Catasetums which they probably are. The temperature you mentioned (50° minimum), ought to be quite sufficient for all the kinds which you enumerated. The Cattleya house, or as some prefer to call it, the Brazilian house, ought to meet the requirements of Catasetums very well, as that is the house in which they are usually kept, although we have frequently seen the Catasetums kept in the East Indian house during winter. The fact that the flower spikes turn brown and die off should indicate that something is wrong with the treatment; but not knowing the conditions we cannot say what it exactly is. One point to be considered is whether you do not keep the atmosphere of the house too damp for the temperature maintained. That is a fruitful cause of the flower spikes damping, and it would be well to consider it. A damp and stagnant atmosphere is quite different in winter from what it would be in summer. Very little or no ventilation can be given in severe weather, so that it becomes necessary to be very careful in the amount of water you place about the house, and to avoid a saturated atmosphere.

Myrsiphyllum asparagoids.—*Smilax*: We have thoroughly examined the specimens you sent us, both flowers and leaves, and fail to find any distinction of importance between them and the usual forms of the species. The correct name of the plant is Asparagus medeoloides. We compared the specimens you sent us with 12 to 20 dried specimens collected in various parts of South Africa, and ex-

tending over a wide area. The specimens you sent were certainly strong, but the dried ones varied to a much greater extent both in the size and form of the leaves, some being larger and others smaller, and the stems also varied in the same way. Whether this was due to the conditions under which they were grown, or to varietal differences it would be difficult to say, but if all were grown in a hothouse, the differences, we believe, would mostly disappear. Your plant may be merely a strong growing individual, or it may be naturally and permanently a stronger grower. We should advise you to mark it to see whether it maintains its character in future years. If it produces more material, and is equally or more beautiful than the other plants in your houses it would be worthy of a varietal name, and might be extensively propagated for wider distribution.

SNOWDROPS DETERIORATING.—*J. Dudgeon*: Not knowing the circumstances we cannot say precisely what is the matter with your Snowdrops, but we can guess at it. Snowdrops do not grow so vigorously in the grass as they would in a cultivated bed or border. We have noticed, however, that they are not so vigorous this year as they might be, and it may possibly be owing to the long spell of frosty weather having kept them from steadily making roots through the winter, and now that fine weather has suddenly come upon them, they are unable to flower with their accustomed vigour. Your insular position should not be subject to the frost which has occurred on the mainland, and possibly your soil is poor and wants something to enrich it. In such a case the best plan would be to give it a good top dressing of sifted soil from beneath the potting benches, or elsewhere, provided it is tolerably rich. Crush up some pigeons' dung or hen manure from the fowl house, as the case may be, mix it well with the soil and give the lawn a good dressing before the grass commences to grow. Do not mow the lawns too early, or at all events not those portions in which the Snowdrops are growing. If you cut down the leaves while yet quite green you cannot but weaken the bulbs. As soon as the grass commences to grow, a sprinkling of guano would benefit the grass and the Snowdrops too, so long as the leaves are yet quite green and growing.

BEDDING ARRANGEMENTS.—*Diagram No. 2*: A small, narrow-leaved Dracaena, whether green or coloured, might occupy the centre, with a line of Iresine Wallsii around it, followed by another line of Echeveria secunda glauca. This would occupy the whole of No. 1, and should leave a little more space between it and No. 2, as marked in your diagram, as well as relieve the flatness of the bed. Then the whole of No. 4 should be filled with Mentha to give an impression of quietness and repose. No. 2 may be planted with the brightly-coloured Alternanthera magnifica; No. 3 with Mesembryanthemum cordifolium variegatum; No. 5 with the dark purple-leaved A. amoena; and No. 6 with Echeveria secunda glauca. For the sake of variety you might plant the patches (No. 5) with Alternanthera amoena and A. versicolor alternately.

COMMUNICATIONS RECEIVED.—E. M.—W. L.—W. G.—N. H. W.—G. M.—R. C.—O.—A. L.—W. G. H.

TRADE CATALOGUES RECEIVED.

PITCHER & MANDA, Short Hills, New Jersey, U.S.A.—New Plants for 1895.

AGRICULTURAL AND HORTICULTURAL ASSOCIATION, LIMITED, Creek Road, Deptford, S.E.—Artificial Manures, Farm Seeds, etc.

VILMORIN, ANDRIEUX & Co., 4, Quai de la Mégisserie, Paris.—Seeds of Greenhouse and Hardy Plants, Trees and Shrubs.

W. DRUMMOND & SONS, Stirling.—Agricultural Seeds.

JAMES CARTER & Co., High Holborn, W.C.—Lawn grass and flower seeds.

PROCTOR & RYLANDS, Carr's Lane, Birmingham.—Bone and Special Manures.

LONDON SEED TRADE.

March 12th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a moderate demand for Clover Seeds. White Clover offers more freely and at slightly lower rate. Trefoil dull. Red Clover and Alsike steady. Tares dearer. Ryegrasses unchanged.

COVENT GARDEN MARKET.

March 13th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples.....per bnshel	3 0	9 0
Nova Scotia Apples per barrel	12 0	21 0
Cob Nuts and Filberts, per 100 lbs.	18 0	
Grapes, per lb.	1 0	3 0
Pine-apples.—St. Michael's each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	2 0	3 0
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	6 0	9 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	0 0
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket	2 6	3 0
Small salading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
" specimen plants	5 0	10 6
Chrysanthemums, per doz.	4 0	8 0
" large, doz.	9 0	18 0
Cyclamen, per doz.	9 0	12 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Erica, various, doz....	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	7 0
Foliage Plants, var., each	2 0	10 0
Hyacinths, per doz	9 0	12 0
Lycopodiums, doz.	3 0	4 0
Marguerite Daisy, per doz.	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Poinsettia, doz.	10 0	15 0
Primulas, doz.	4 0	6 0
Solanums, doz.	10 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	4 0
Azalea, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Double Daffodils, doz. bchs.	15 0	18 0
Single Daffodils, doz. bchs.	24 0	30 0
Eucharis ...per doz.	4 0	6 0
Gardenias ...per doz.	4 0	6 0
Geranium, scarlet, doz. bunches	6 0	8 0
Lilac (French) per bch.	5	0
Lilium longiflorum per doz.	6 0	9 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pelargoniums, 12 bun.	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Poinsettia, doz. blooms	4 0	6 0
Pyrethrum doz. bun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	0 6	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 3	2 0
Roses (French), yellow, doz. blooms	1 6	2 0
Roses (French), red, doz. blooms. ...	2 0	2 6
Smilax, per bunch ...	4 0	6 0
Stephanotis, doz. sprays	4 0	6 0
Tuberoses, doz. blooms	0 4	0 6
Violets (English) doz. bun.	1 6	2 6
Violets (French) Parme, per bun.	5 0	6 0
Violets (French) Czar, per bun. ...	2 0	4 0
Violets (French) Victoria, doz. bun.	2 6	4 0

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FLOWER SHOW FIXTURES, 1895.

MARCH.

20.—Exeter Hyacinth and Spring Flower Show.
20.—Royal Botanic Society's Spring Show.
26.—R.H.S. Drill Hall Meeting.
26, 27.—Brighton and Sussex Horticultural Society's Spring Show.

APRIL.

9.—R.H.S. Drill Hall Meeting.
9, 10.—Birmingham Daffodil Show.
18.—Norwich Spring Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24—Royal Botanic Society's Spring Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
25.—R.H.S. Drill Hall Meeting.
27.—National Rose Society at Gloucester.
22.—Canterbury Rose Show.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).

AUGUST.

13.—R.H.S. Drill Hall Meeting.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
6, 7.—Bromley (Kent) Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bradford Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10—R.H.S. Drill Hall Meeting.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MARCH 23rd, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 25th.—Sale of Lily bulbs at Messrs. Protheroe & Morris' Rooms.

TUESDAY, March 26th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.
Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

WEDNESDAY, March 27th.—Brighton Spring Show (2 days).
Sale of Imported Lilies, etc., at Messrs. Protheroe & Morris' Rooms.

THURSDAY, March 28th.—Liverpool Spring Show.

FRIDAY, March 29th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

DO PLANTS EAT THE SOIL?—On the face of it this is rather a dubious question, yet one which has often been asked by gardeners and others for some generations past. Though the question is a perfectly legitimate one, yet to the average gardener it is very difficult to answer. Even those who are perfectly competent to elucidate the matter, are perfectly within their rights to reply by asking another question, namely, "what do you mean?" There are those who would say that a bird pecks, a mouse nibbles, and some other creature swallows, and at the same time deny that any of them eats, being confused with the manner in which it is done and the thing itself. Reverting to the question of the plant, we begin by saying that it would be a loose application of the term to admit that a plant eats its food, and a grave admission of the poverty of the English language in the means of expressing an idea. A correspondent at p. 440, quotes the fact that "the food of plants is liquid and gaseous, never solid," and at whatever date that was first promulgated, it is equally good science today. It does not altogether detract from the question of eating, though it must be regarded in a limited sense. To eat, is generally applied to the consumption of solid food, but its use has a much wider application since our language permits us to say that metal may be eaten by rust, the health by disease, the spirits by misfortune, and that a man may eat his words.

Let us now turn to the so-called mouths of plants. The old theory that the spongioles (see p. 454) of roots are their mouths by which they collect plant food has long been exploded, though several old gardening books still gravely assert the contrary. When once an error has been widely promulgated, it is extremely difficult to hunt it down and eradicate it from the minds of

men who still rely upon the favourite books of their boyhood. The so-called spongiole is merely the root-cap of the young and growing tissue of the root. There are no mouths nor openings in it whatever, and what is more, the outer cells of the cap are dead, dry, cortical and practically impervious to water. The function of the root cap is merely to protect the delicate growing point or *punctum vegetationis*. Water-holding plant food in a state of solution is absorbed by the root hairs and by the young and uncuticularised cells of the epidermis of the younger portions of the roots. There are no apertures in the root hairs any more than in any portion of the roots of land plants. Neither do we believe that the walls of the root hairs deliquesce (see p. 454) when they come in contact with particles of stone in order to gum themselves to the same. We have seen many hundreds of root hairs in contact with particles of sand and soil, and we consider that they merely flatten or otherwise accommodate themselves to the uneven surfaces of the particles in order to come in close contact with them to absorb the film of water surrounding them, and that too in opposition to the force of adhesion. An exception to the general rule may be pointed out in the case of Orchids whose roots are covered with a layer of perforated and spongy cells termed the *velamen;* but the true epidermis is underneath the *velamen* and conforms to the general plan.

Nothing, therefore, of a solid nature can pass into the interior of roots, and solid substances must first become or be made soluble. Water is the vehicle by which they are carried into and up through the tissues of the plant. The process by which the liquid food is absorbed is termed osmosis; and its explanation is the well-known law that two fluids of different densities on the two sides of a membrane will diffuse, the one into the other till a perfect equilibrium is set up, provided there is nothing to disturb that equilibrium. So long as plants are active that equilibrium is constantly being disturbed by the removal of the absorbed liquid into the more interior portions of root, stem and leaves, so that absorption under those conditions is constant. The ash, it will now be perceived, must pass into the roots in a state of solution, and furthurmore, it is in the form of compounds termed salts. Those portions of a plant which pass into the gaseous state on being burnt may be termed the combustible, while those which remain behind are the incombustible, but both kinds are matter and equally indestructible.

Some of the ingredients of plant food are soluble in pure water; but others are rendered soluble by the carbon dioxide, popularly but erroneously termed carbonic acid gas, that is always present in soils more or less rich in humus, that is, decaying vegetable and animal matter. The presence of soluble salts in the soil is responsible for many chemical changes that take place there, and in their action they bring about the solubility of substances not acted upon by pure water nor carbon dioxide. All this takes place independently of the plant or its roots; but in another case we arrive at something like a solution of the question as to whether or not "plants eat soil." If a Scarlet Runner, a Broad Bean, or a Sunflower be planted in a pot having a piece of polished marble at the bottom, and allowed to grow till a considerable number of the roots have come in contact with the marble, the latter may than be examined, and will be found to be corroded in lines corresponding to the roots. The root system is etched so to speak upon the marble. Here then we have evidence that plants do help themselves to some ingredients of the soil at least, and the roots may be said to eat them in the sense that they corrode them. This they are able to do by means of the acid sap that not only permeates the interior of the roots, but the whole of the cell wall itself, so that when root hairs come in contact with particles of stone or soil, the acid sap of their cell wall does so also, and renders certain of them soluble.

An old gardening book coming under our notice many years ago, discussed the question as to whether plants consumed the soil in which they grew, and answered it in the negative. To test the question, a young tree was planted in a tub and allowed to grow to considerable size. The soil was weighed at the beginning and end of the experiment, and making allowance for waste, it was found that the soil had not been appreciably diminished in weight. The experiment in our opinion was too inexact to prove anything. About half the dried weight of plants is obtained from the atmosphere as everybody knows. Then to be accurate, account should be taken of the plant food in the water supplied, what drains away in it, what it received from the atmosphere in the form of nitric acid, ammonia, particles of dust, and many other natural sources of accretion to the soil. After all, the weight of ashes in any given plant is so small, that it would require very accurate experiments to detect its removal from any given quantity of soil. When a pot becomes filled with roots to such an extent that very little of the original soil remains, it is due to compressure, to waste at the bottom and at the top of the pot. It may be taken for granted that very little of it is in the plant—in fact an inappreciable quantity—compared with the waste. Soils in a state of nature increase in depth by the growth of trees and other vegetation upon them.

Mr. Alfred Outram, who is so well known and so much respected in the horticultural world, has been engaged by Messrs. Sutton & Sons, and will in future represent the famous Reading firm as traveller.

Death of a Colonial Gardener.—We regret to hear of the death of Mr. William Crowther, who for the last five years has been curator of the botanical station at Aburi, on the Gold Coast, Western Tropical Africa. The deceased up to the time of his death had stood the trying climate remarkably well, and was preparing to leave for his annual holiday when he was seized with the malady which has so unfortunately terminated his existence.

Watering in Bright Sunshine.—In the course of a discussion on "Gardening Mistakes," which recently took place at a meeting of the Birmingham Amateur Gardeners' Association, Mr. William Dean described it as a ridiculous error, shared by men of the greatest experience, to think that it is fatal to a plant to water it overhead in the sunshine. To the objection that such a course in a very hot sun was calculated to injure the foliage, he retorted had anybody ever directly traced hurt to a hot sun following a thunderstorm? He had practised overhead watering in the heat of the sun for many years without finding it prejudicial.

Jadoo Fibre.—Col. Halford Thompson has recently issued in neat pamphlet form the paper which he read a few weeks ago at the People's Palace for East London, and the discussion which followed, and which should prove interesting and useful reading to all who experience difficulty in getting compost for their plants. Col. Thompson has also added a long list of plants that he has proved can be successfully grown in "Jadoo," but after what we have seen we should imagine that it will soon be easier to enumerate what will not grow in it. The English patent rights for the manufacture of "Jadoo" have now, we understand, been transferred to Jadoo, Limited.

The Society of American Florists.—The bill granting a National Charter to the Society of American Florists which was passed by Congress, and the Senate has been vetoed by the President of the United States. The declared object of the proposed incorporation is stated in the bill to be the "elevation and advancement of horticulture in all its branches, to increase and diffuse the knowledge thereof, and for kindred purposes in the interest of horticulture," but the President seemed to infer that a florist was not a horticulturist, and that, therefore, "the interests of florists would be badly served by a corporation confined to the furtherance of garden culture." A florist, that is to say a man who grows plants and flowers, as distinguished from the mere salesman of other people's produce, is certainly a horticulturist, but it is true also that a horticulturist need not necessarily be a florist. It was the title that did it; it was not comprehensive enough.

Bonaparte's Chestnut.—The 20th of March Chestnut tree in the Tuileries gardens gives no sign (says the Paris correspondent of *The Daily News*) of putting forth leaves on the traditional date. Hopes were entertained by some Bonapartists that it would then be mantled in green, the colour of hope, but yesterday morning's frost was hard and black. Not a bud shows itself. The gardener of the Tuileries says that the Chestnut tree has three times in the last ten years failed to rejoice Imperialists. It is so backward that he fears we have not yet got to the end of winter. The 20th of March was the date of Bonaparte's return to the Tuileries from Elba, and of the birth of the late Prince Imperial. For the first time the famous Chestnut was in leaf as the partisans of the Empire were rushing to the Palace to hail the military despot. It celebrated the anniversary regularly up to 1871, when, on the 20th of March, it was without a leaf. It was said that a reason for its premature foliage was that the sewer that drained the Palace kitchens brought tepid fluid near its roots, but this explanation had no foundation in fact. There must be something in the nature of the tree which favours premature leafage.

Southern Florists' Societies.—We have before us the eighteenth annual reports of the National Carnation and Picotee, and National Auricula and Primula Societies, and congratulate the managers of both on the good work they are doing in promoting the culture and development of these particular florists' flowers. Both societies held their first exhibitions at the Crystal Palace, in 1877, and it is curious to note that one of them, the Carnation Society is about to return to its first home after some years of absence, it having been arranged for this year's show to take place at Sydenham, on July 24th. The popularity among the general public of the Carnation over the more staid Auricula is well shown at the end of the seventeenth year of their existence, in the financial position of the two Societies. The Carnation Society winds up with the handsome surplus in hand of over £159, while the Auricula Society has had to draw upon its reserve fund, and carries forward a balance only of some £20. We hope sincerely that the Auricula Society will not come to grief, but if it goes on paying £68 in prizes as against £63 received in subscriptions, unless there is a sensible increase under the latter heading, there can only be one end, and that every true Auricula grower will regret.

Mr. Martin Hope Sutton.—To very few is it permitted, after an active and successful business career, and a life spent in works of usefulness, social, philanthropic and religious, to enter the threshold of four score years. An honoured resident of Reading—Mr. M. H. Sutton—has lived to attain his eightieth birthday, the 14th of March, and the pleasurable occasion was on Thursday of last week duly observed. Mr. Sutton received over one hundred letters and telegrams, besides a great number of congratulatory visits from friends in Reading. Addresses were also presented, amongst others, by the Church of England Y.M.C.A., the Reading and District Gardeners' Mutual Improvement Association, and by the chiefs of departments of the Royal Seed Establishment, from which business he retired in 1888, after being head partner for more than fifty years, leaving it in the hands of the present firm, consisting of his eldest son, Mr. Martin J. Sutton, who has been managing partner for the past twenty-four years, with two other sons, Mr. A. W. Sutton and Mr. Leonard Sutton, and his nephew, Mr. Herbert Sutton. The heartfelt congratulations which Mr. Sutton received on the anniversary will be echoed far and wide, together with the wish that his life may still longer be spared to his family and friends.

Royal Gardeners' Orphan Fund.—The following appeal on behalf of this charity has been issued by Mr. Harry J. Veitch, who will preside at the anniversary dinner at the Hotel Metropole, on April 5th, and we sincerely hope it will meet with a hearty response:—"Having consented to occupy the chair on April 5 next at the anniversary dinner of the Royal Gardeners' Orphan Fund, I am naturally most anxious that it should be a great financial success, and I confidently appeal to all lovers of gardens and gardening to assist me to the utmost of their power to attain this object. From a personal knowledge of the management of the funds of the charity I can confidently speak of the excellent work it is doing. With the exception of about £50 per annum for office expenses the whole of the work of distributing the income is carried on free of cost by the committee, and therefore almost the entirety of the income is available for the maintenance and education of the orphan children of gardeners until they attain the age of fourteen, at which age it is expected they can begin to earn. At present sixty-four children are assisted by an allowance of 5s. per week, the good done being limited only by the amount of means at the disposal of the committee, and when I mention the fact that not half the candidates at the last election could be assisted, solely in consequence of insufficiency of funds, I feel sure I shall not now appeal in vain for help to try and permanently increase the income of the charity. It is, I venture to assert, impossible to imagine any position more sad or heartrending than that of a widow left with, in many instances, several young children and with little or no means for their support, the father having been taken off prematurely and before he could make any or only a totally inadequate provision for them. It is such cases which I now ask all who love their garden to assist."

PLANTS RECENTLY CERTIFICATED.

The following new plants were awarded First-class Certificates at the exhibition of spring flowers, held at the Crystal Palace on Saturday, March 16th.

Arum Eggeri.—This plant appears to come pretty close to A sanctum palaestinum, which was shown with it for comparison. The spathe which is about 9 in. in length is of a rich dark brown on the inner side, light green at the base of the tube and on the outer side. The spadix is not quite so long as the spathe and velvety black in colour. The leaves are sagittate, from 5 in. to 6 in. in length, and of dark green hue. The specimen shown was about 1 ft. in height, pretty, and distinct. Exhibited by Mr. T. S Ware, Tottenham, N.

Leucojum carpaticum.—Although closely allied to L. vernum this plant is said to be of much stronger growing habit, and to attain a height of 2 ft. when in full growth, which, of course, does not take place until the flowering season has passed. The scapes are regularly two-flowered, the flowers large and of good substance, and beautifully sweet-scented. The Perianth segments are white, tinted with pale orange on the inside, and tipped with bright green. It is stated that it flowers fully a week before L. vernum. Exhibited by Mr. T. S. Ware.

DISEASES OF THE TOMATO.

The members of the Royal Horticultural Society at the meeting held on Tuesday last, March 12th, were favoured with a paper on the above subject by Mr. Collenette, of Guernsey, Mr. J. Douglas being in the chair. Mr. Collenette was unfortunately unable to attend himself, and his essay was read by the assistant secretary of the Society. The paper dealt exclusively with Tomato growing in Guernsey, and gave a detailed list of diseases which attack the plants there, and the difficulties with which the cultivators have to contend. The essayist proceeded to state that many people in England ran away with the idea that the soil in Guernsey was rich, and naturally suitable for Tomato growing, but this was not the case as, in his opinion, there was plenty of land in England better than much of that in Guernsey that was regarded as unfit for cultivation.

In spite of this, the Tomato formed one of the most remunerative crops grown in the island, and hence its culture was one of the principal industries, over fifteen hundred people being directly engaged in its cultivation and exportation. The climate is a very favourable one, the average temperature for the winter months being as high as 43·5° Fahr., whilst the range of temperature did not exceed 10° Fahr. The essayist then proceeded to enumerate the most fatal diseases with which Tomatos were liable to be attacked in Guernsey. The common Yellow Blight, a fungus known as Cladosporium fulvum had been, he said, productive of a great deal of damage, and he advocated sudden and frequent changes of temperature and moisture as a means of checking its ravages upon plants under glass. Black Stripe, another disease which, as far as he could learn, had only made its appearance in Guernsey since the under-glass cultivation of the Tomato had been commenced, had caused a great deal of pecuniary loss to cultivators. In this case, the prompt removal of affected plants was the only efficacious method of dealing with a disease which first made its appearance as a black spot or stripe in the haulms or stems of the plant.

Mr. Collenette went on to say that by far the most disastrous affection to which the Tomato is subject in Guernsey is that known as the Sleeping Disease, hundreds of pounds loss annually being occasioned by its ravages. The Sleeping Disease was described as being extremely insidious in its attacks, the mischief being done, and the plants doomed, before its presence was perceived. The first sign that anything was amiss was usually the loss of colour by the leaves, which after a time began to show whitish patches here and there owing to the obstruction of the chlorophyll by the mycelium of the fungus. At this stage the root begins to lose its smaller fibres, these rotting off wholesale. Next, the cortex becomes discoloured, and then the cambium layer in its whole circle turns brown, the plant, of course, dying. When the plants were not attacked until the fruit had reached a good size, it was often possible to ripen the crop. Such fruit lost none of its good appearance by coming from infected plants, and much of it was sold in the market in the usual way. This, Mr. Collenette was of opinion, was a great evil, inasmuch as it greatly assisted in the dissemination of the disease, for, although such fruit were apparently innocuous, it contained, as he had found by careful microscopical examination, the minute spores or spore-like bacteroids of the fungus. The essayist recommended culture in pots where houses had been infected, and thus allow the soil to lie fallow for a time, during which applications of lime and green copperas should be made, the use of organic manures being studiously avoided. A short discussion followed, and a vote of thanks to the essayist terminated the proceedings.

THE CULTURE OF VEGETABLES.*

When asked to read a paper on some subject this evening it occurred to me that a golden opportunity had arisen to say something on Vegetable Culture, for as you are all aware, this is one of the most important branches in gardening and one that appeals to the consideration of every gardener.

The culture of vegetables should always have precedence of other things in the garden, because as they are really necessaries of life, and as such, should have first consideration. Fruit I consider as next in importance and flowers last, for although flowers are most beautiful in themselves and add much to the joy and beauty of our homes, yet we cannot claim for them the same importance in our existence as vegetables, for, while these latter have not such bright colours, they have in themselves a beauty of their own; for who is he worthy the name of a gardener who cannot admire well-grown vegetables as much as any flower cultivated?

At most of our exhibitions, vegetables form a leading feature from a cultural point of view; but the public generally do not seem to recognise that fact as much as they might do, for where there are bright colours and pleasant odours there you will find the public collected, and the cultivator of the humble vegetable stands a poor chance of having his efforts recognised to the extent he deserves. Even the gardening press seem to shirk to some extent the merits of well-grown vegetables, for how often do we find in the reports of exhibitions that "owing to pressure in our space we are obliged to omit the vegetable classes," and yet the same reports contain full and accurate accounts of many plants which require but little trouble beyond that of transit to and from the exhibition. This, of course, seems to be a somewhat sweeping assertion to make, and we are glad that there are signs in the near future of a greater interest being taken in the culture of vegetables, for by having exhibitions exclusively devoted to them as has been proposed, the public will have an opportunity of becoming better acquainted with the productions of the soil, and the gardener of having his merits better recognised.

To be able to keep a constant supply of good vegetables is a matter of considerable difficulty to many, owing to the limited space at their command. To be placed in such a position is, however, one of the best tests of the abilities of a gardener, for here in the midst of difficulties he will either triumph or fall, according to the experience he has gained, and the excellence of the different methods of applying the same to the best advantage. In large gardens these difficulties are, of course, much reduced by the greater space allowed for each crop.

We now come to the more practical part of this paper, viz., how then to produce the best vegetables. I shall begin with the Potato, as being the most important of them all. The soil claims our first attention; a light sandy loam, which would naturally be somewhat dry, being the best medium. Trenching is an absolute necessity if first-class crops are expected, and yet more often do we find this important factor in the growth of all vegetables neglected. Quantity and quality should here be the object in view, and without deep cultivation neither of these points can be attained, for the key to the situation is undoubtedly deep culture.

Manures also play an important part, but in applying these some forethought is necessary, as nothing in the way of green or raw manure should ever be used. Lime may be applied with considerable advantage, as it will help to rid the soil of insects and bring other manures previously applied into a more soluble state, besides acting as a manure itself. Soot should also be used with advantage, whilst wood ashes form one of the best manures to be had. The latter will, if scattered over the ground and well forked in, furnish the more necessary ingredients for the growth of the Potato. In forking the ground over care should be taken to break it up very finely. Everything should be in readiness for planting about the end of March or early in April for the main crop.

The tubers for planting should be selected beforehand early and placed thinly in shallow trays, where they can receive plenty of light and air, but are free from frost. By this means a short sturdy growth will be produced at the end of each set, the smaller and side growths being removed, thus concentrating the whole energy of the tuber upon the development of the future plant. In planting, the rows should be from 2½ ft. to 3 ft. apart, according to the strength of the variety, and from 18 in. to 2 ft. between the sets, as by this means plenty of light and air will be able to reach all parts of the haulm, and strong well-matured growths will be the result, whilst the disease which is so prevalent in moist seasons will have less chance of affecting the plants. The lines may be drawn 6 in. deep and the sets carefully placed therein and covered over. When the growths have reached the height of 9 in. or 10 in. the plants should be finally earthed up, in doing which plenty of soil should be drawn up around them in order to prevent the young tubers from being exposed to the light. Nothing further will be required till the crop is ready for lifting.

In many gardens the forcing of Potatos has to be resorted to, where, by means of heated pits and frames and other conveniences, new Potatos may be had all the year round. The varieties of Potatos are very numerous, and in this respect the gardener will have to find out by experience which sorts are the best suited to his particular locality. In one part of the country a certain variety may be all that can be desired, whilst practically worthless in another, according to the character of the soil and the situation. The following I have found excellent both in quality of produce and as good croppers:—For forcing and first crop, Ringleader, the Old Ashleaf, and Sharp's Victor; second earlies, Windsor Castle and Beauty of Hebron; and for the main crop, Sutton's Satisfaction, and Magnum Bonum.

(*To be continued.*)

* A Paper read by Mr. J. Gibson, at a meeting of the Chiswick Gardeners' Improvement Association, December 19th, 1894.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Amongst the numerous Orchids exhibited at the meeting of the Royal Horticultural Society, on the 12th inst., the under-mentioned received certificates according to merit :—

Sophronites grandiflora.—The large and richly-coloured flowers of this Orchid, as well as the small size and accommodating nature of the plant, are well known to every Orchid grower and Orchidophile. Seldom is any attempt made to grow it to large size, but the specimen exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, filled a large-sized pan and carried sixty-three fully expanded flowers of good size and glowing scarlet. First-class Certificate.

Dendrobium Apollo grandiflorum. *Nov. hyb.*—The seed parent of this hybrid was D. nobile pulcherrimum crossed with the pollen of D. Ainsworthii splendidissimum, itself a hybrid. The habit of the plant is similar to that of D. nobile, as might be expected, and the slightly compressed stems often carry leaves till flowers are produced. The flowers are of remarkable size, and the oblong sepals are dark rose on the back and pink on the face. The petals are oblong-ovate, undulate, and creamy-white with a rich purple tip extending down the centre. The huge lip is orbicular and the most conspicuous part of the flower; about half of it is occupied with a rich purple blotch, and the rest is white with a purple tip. First-class Certificate. Exhibited by Mr. James Cypher, Cheltenham.

Dendrobium euosmum virginale. *Nov. var.*—The seed bearer in this case was D. Endocharis, itself a hybrid from D. japonicum crossed with D. aureum. The pollen parent of the variety under notice was D. nobile intermedium. The club-shaped stems vary from 6 in. to 12 in. in length, and bear their flowers in clusters towards the top. The oblong sepals and narrowly-ovate petals are pure white. The lip is ovate and creamy-white with a large purple blotch at the base. The snowy purity of the flowers contrasted with the blotch on the lip, and their fragrance combine to make this a gem of quiet beauty worthy of the cultivator's attention. Award of Merit. Exhibited by Messrs. J. Veitch & Sons. Chelsea.

Laelio-cattleya Myra. *Nov. hyb. bigen.*—The seed parent of this bigeneric hybrid was Cattleya Trianaei crossed with the pollen of Laelia flava which has largely influenced the progeny. The pseudo-bulbs at present are only 1 in. to 2½ in. long, and taper each way somewhat like that of L. albida or L. autumnalis, whereas the stems of L. flava are 5 in. to 8 in. long and swollen into pseudo-bulbs at the base. Each pseudo-bulb in the present case bears a solitary, oblong, rigid leaf, 2 in. to 3½ in. long. The terminal scape is elongated and bears one or more flowers about the size of those of the pollen parent. The sepals are ligulate, but the petals are oval, three times as broad, and all are of a pale creamy colour. The lip is somewhat funnel-shaped, with a creamy-white, undulated lamina, a lemon-yellow throat, and striated with purple lines down in the tube. Though the colours are pale and modest in aspect, both plant and flower are very distinct, neat, pretty, and cannot fail to find admirers. Award of Merit. Exhibited by Messrs. J. Veitch & Sons.

Phaio-calanthe irrorata rosea. *Nov. var.*—P. irrorata itself was raised from Phaius grandifolius crossed with Calanthe vestita Turneri nivalis. That under notice was a reverse cross from Calanthe vestita gigantea, fertilised with the pollen of Phaius grandifolius. The sepals are oblong-lanceolate and of a beautiful rose colour, as is the whole flower. The petals are obovate. The lip has a large, dilated lamina turned up at the sides on either hand of the column. The leaves are lanceolate and plaited. Of the three forms of this Phaio-calanthe now in cultivation, the present is undoubtedly the most highly-coloured, and in our opinion the prettiest. Award of Merit. Exhibited by Messrs. J. Veitch & Sons.

Cypripedium Fowlerianum. *Nov. hyb.*—This was raised between C. Harrisianum superbum and C. bellatulum, the latter being the pollen parent. The upper sepal is roundly-oblong, of large size and of a dark purple with darker veins and a white edge. The petals are also large, oblong-spathulate, and brownish-purple, but darkest on the upper longitudinal half. The lip is of a dull, dark purple, but of quite a different shade from the rest of the flower, and greenish at the lower end of the pouch. Award of Merit. Exhibited by Messrs. F. Sander & Co., St. Albans.

Cattleya Percivaliana magnifica. *Nov. var.*—The sepals and petals of this variety are of a warm-rose, the petals being ovate, and beautifully crisped at the margin. The lip has a broad, much undulated and crisped lamina, pale lilac on the margin, but of a deep rich purple inwards, intensified to crimson on the lower half. The interior of the tube is orange. Both for size and intensity of colour this may be reckoned amongst the finest of its class. Award of Merit. Exhibited by Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey.

Dendrobium Cassiope, Ashworth's var. *Nov. var.*—The parents of this variety were D. nobile albiflorum and D. japonicum, the latter being the pollen bearer. The terete stems are 9 in. to 12 in. long, bearing flowers in clusters of two or three together. The oblong petals are white as are the ovate-oblong petals with exception of a pale purple tint at the apex. The side lobes of the lip are wide open and creamy-white with a downy purple blotch at the base; the terminal lobe is remarkably long with a pale purple tip and constitutes the most striking feature of the flower. Award of Merit. Exhibited by E. Ashworth, Esq. (gardener, Mr. H. Holbrook), Harefield Hall, Wilmslow, Cheshire.

Masdevallia Fraseri.—The parents of this uncommon hybrid were M. ignea and M. coccinea better known as M. Lindeni the latter being the pollen parent. The hybrid is intermediate, and of a high order of merit, recalling some of the most highly-coloured forms of M. Harryana. The short tube is dull orange-red. The lateral lobes of the sepals are obliquely oval, of a rich reddish purple with darker veins, and terminate in short cusps. The upper one is small, pale yellow, tinted with red, and prolonged into a tail 1½ in. long. Award of Merit. Exhibited by Sir Trevor Lawrence, Bart.

Dendrobium undulatum.—This Australian species seems to be getting more common than it has ever been before. The stems are very stout and in their native habitats attain a considerable length, bearing great rigid leaves, but in cultivation they produce flowers while yet relatively short. The sepals are oblong and the petals are similar but much longer, and all are pale brown with yellow edges and are much undulated or even twisted. The side lobes are pale yellow, striated with brown, and the small terminal lobe is much darker with a three-ridged, white crest on the disc. The flowers are borne in long racemes and may be described as pretty. Botanical Certificate. Exhibited by J. Forster Alcock, Esq., Northchurch, Hants, and by C. J. Lucas, Esq., (gardener Mr. Duncan), Warnham Court, Horsham.

Coelogyne sparsa.—On the whole, this is a very small species but very floriferous and really pretty on account of the abundance of its neat flowers. The sepals are lanceolate, the petals linear and white. The inner face of the side lobes of the lip are beautifully netted with brown; and across the base of the terminal lobe, joining the base of the lateral ones, runs a conspicuous, orange-brown band. Botanical Certificate. Exhibited by C. J. Lucas, Esq.

Cattleya Trianaei The Countess, *Nov. var.*—The sepals of this beautiful variety are pale lilac. The petals are only a shade or two darker, but they have a blotch at the apex formed by a netting of dark purple; they are also remarkable for their width, being almost triangular, but rounded at the apex, and sufficiently clawed at the base to allow them to expand properly. The tube of the lip is long and comparatively slender, as is frequently the case with the forms of C. Trianaei, and it is considerably darker in colour than the petals. The lamina is remarkably short, bifid, crisped, much eroded at the margin, and of a rich dark purple, more or less tinted with crimson towards the base. The usually orange-yellow disc is here reduced to a very pale band, forking at the apex like the letter Y, while the tube is almost white and tinted with the softest lilac. The varieties of C. Trianaei are now very numerous, but that which has been named "The Countess" is handsome, of good substance, and has been admired by not a few. This beautiful variety was brought under our notice by Mr. P. McArthur, The London Nurseries, Maida Vale, W.

FRUIT UNDER GLASS.

Vines.—In the earliest houses where the rapidly swelling berries entail a great amount of strain upon the canes, care must be taken that these latter are treated liberally with regard to the water supply. If the borders are well drained it is surprising what an immense quantity of water strongly-growing Vines will take. The rock which has, perhaps, most frequently been the cause of the shipwreck of the hopes of the Grape cultivator in the giving of insufficient driblets of water which, while they fail to soak the lower strata of the soil in the border, impart a moist appearance to the soil near the surface, and if only a superficial examination of the border is given the results are that although damp upon the surface, the Vines are really suffering for lack of water.

The evaporating pans may now be kept filled with manure water, and thus quantities of the health-given ammonia will be given off. This is a practice which, although it has much to recommend it from the grower's point of view, will, however, scarcely find favour with those who possess a delicate sense of smell. A night temperature of 70° Fahr. must be maintained in the advanced houses, the later ones being accorded the same treatment as before recommended for Vines in the early stages of growth, in brief, a gradually increasing temperature as growth proceeds, and plenty of moisture both at the roots and in the atmosphere, the amount of atmospheric moisture being, of course, reduced when the plants are in flower. Where this is the case, it will be necessary to give the rods several light taps in the middle of the day to assist the work of pollination.

Strawberries.—As soon as the fruit has been plucked from the plants they should be straightway removed to make room for others. If no further use for them can be found they should be consigned to the rubbish heap without delay, thus setting the pots at liberty. If, however, a few of them are needed for filling up gaps in outdoor plantations, they should be placed in a cold frame for the present or in a sheltered corner outside. Thin out the fruit of plants which have just "set" to eight or ten to a plant, and as the best usually result from the first opened flowers, the later flowers should be pinched off before they expand.

Melons and Cucumbers.—Those plants which are being grown in houses and trained to trellises in the usual way must be stopped as soon as they have made about a foot of growth after reaching the trellis. Where the obtaining of early fruit is the object, the first female flower produced should be pollenised. In such cases, it will only be possible to obtain one fruit from a plant. If two are desired, however, the operator must wait until two female flowers are open at the same time on the one plant, and these should be pollenised on the same day. It is often a matter of difficulty to induce Melons to swell equally, one fruit often outstripping the rest in size and thus robbing them of a great portion of their rightful nutriment. Where the roots of the plants have begun to make their way through the surface of the soil, as they should be doing if they are growing freely, a top dressing of rich loam should be given. This must be made as firm around as practicable by means of a wooden rammer.

Where Melons are grown in pits or frames and allowed to run over the surface of the soil from lack, perhaps, of more convenient places in which to accommodate them, the fermenting material should receive especial care in preparation, for upon it the cultivator has to depend for the maintenance of the necessary heat. It should consist of a large proportion of leaves mixed with stable manure containing, if possible, a goodly quantity of horse droppings. A sufficiently high as well as a lasting heat will thus be obtained, and every grower of Melons knows that this is one of the most important points claiming attention in Melon culture. In making up the bed it should be borne in mind that a good depth of fermenting material is also necessary if the bed is to keep up the required heat long enough to mature a crop of Melons. Tread firmly, therefore, and bring the manure as close to the glass as practicable or the plants will be very much farther removed from the light than is good for them, from the sinking of the material consequent on decomposition.—*A. S. G.*

HARDY FRUIT GARDEN.

If proper advantage has been taken of the past favourable weather planting will now be about concluded. As soon as possible any of these newly planted subjects that have not received a mulching of manure should be attended to, or the drying winds will take a great deal of the moisture out of the soil.

Figs.—In many places it is the custom to cover these up with some protective material at the approach of winter to preserve them from the effects of frost. If not already done such covering should be removed without delay in order that the trees may be pruned and trained. If proper attention has been paid to the stopping of growths during the previous summer their pruning will not take up a deal of time. Old branches that have become bare or that have exceeded their limits should be cut clean out to make room for the younger fruiting wood. If necessary, growths may be encouraged later on to come up from the bottom to fill up any vacant spaces that may occur, or to extend the spread of the tree. Remove all prunings to the rubbish heap as soon as possible, where, as soon as sufficient matter has been collected, fires should be lighted to consume them.

Grafting.—Old or barren trees that have been headed back in readiness for grafting, may now be operated on. See that the knives which are to be used for the purpose are sharp, for it is of great importance that the cuts should be cleanly made, also that a supply of clay and of tying materials are at hand. Whatever particular system of grafting finds favour, the principle is the same, viz: that of bringing the cambium layer in both stock and scion into close contact, afterwards claying over and tying firmly to keep these layers of formative tissue in contact with each other.

THE VEGETABLE GARDEN.

Though the frost remained such a long time in the ground, the weather since the 7th has been such as to enable digging and sowing to be proceeded with without hindrance, which has considerably altered the aspect of the kitchen garden. Many of the plants raised under glass may with safety be transferred to the open quarters if a little protection be offered till the roots have taken hold of the soil. Cauliflower that has been protected in cold frames during winter will be sufficiently hardy if it has been exposed to the full sun and air during the day to withstand any frost that we may now get, though sometimes we have cold east winds at night which pinches them sadly before root action is active. Should there be any signs of the plants suffering turn an inverted flower pot over them at night to ward off the cold. Peas that were raised in pots may also be planted out if evergreen boughs are stuck alongside the rows to shelter them for a few days till established. Peas treated in this manner are usually ready for gathering before those sown in the autumn. November sowings cut a poor figure this season, as most of them are sadly frosted, particularly on cold heavy soils. Cabbage that were raised under glass may also be planted out, but as these will still be tender it will be well to afford protection both from the bright sun and cold winds. Lettuce that have been afforded the protection of a cold frame during winter should be transferred to a warm border, when they will soon get large enough for use. Those raised from seed sown in pans must be well hardened off previous to transplanting, or they will suffer considerably when removed. Where large Onions are desired plants raised in heat should be well hardened before being planted in the open and care must be exercised when planting so as not to injure them.

Seed Sowing.

Seed sowing in general may now be taken in hand. Onions and Parsnips should be the first to receive attention. Many, no doubt, as the season is now getting advanced, will be in too great a hurry to put in the seed, not paying sufficient attention to preparing the ground. Where digging, if the soil is turned up in large spits and these are not thoroughly broken to pieces, cavities will be left between them which will not be filled up till there has been heavy rains. When the roots of Parsnips enter these it causes them to throw out fibres so that instead of having a straight clean root there are several unshapely ones. This is not so likely to happen when the ground is dug in the autumn as it becomes settled down before spring, when, if forked over and all the lumps are broken previous to sowing, the roots are able to push their way through the soil there being no impediments in the way to hinder their progress. With Onions it is essential that the soil be made firm on the surface, for if the seed be sown on loose ground the bulbs grow thick necked. Do not sow the seed too deep or too thick, and allow ample room between the rows for the hoe to be run between them with ease.

Globe Artichokes.

Remove the protecting material covering from these and loosen the soil round them that the heat may penetrate more readily. Plants have suffered considerably this season, and where suckers are wanted for making new plantations they may be hastened by covering the old stools with hand lights. This is a vegetable that is not well grown in all gardens, the reason, no doubt, being on account of the old roots being allowed to remain too long in one place. If a few roots were planted each season, these would take the place of those that are worn out, and better results would be had than by overcrowding with poor weakly suckers.—*Kitchen Gardener.*

THE FLOWER GARDEN.

Although the nights still continue cold and frosty, the days are quite warm and spring-like, and thus things are beginning to move at last in spite of the check caused by the night frosts. The beautiful dry weather we are now experiencing is most favourable to the pushing on of the thousand and one little jobs that always clamour for attention after the final break up of a long period of severe weather like that which has stamped the winter of 1894-95 as well-nigh unique. Forward the straightening of the grass edges, and attend to the rolling of walks and paths as opportunity presents itself. The drains and water courses should also be looked after now, for if left until presently they will stand a chance of being forgotten until a heavy downpour of rain suddenly brings to mind the fact that they are either wholly or partially stopped up, and thus much washing of walks will be occasioned that might otherwise have been prevented by the exercise of a little forethought now.

Continue the war of extermination against all Dandelions and Plantains in lawns and roll occasionally, so as to allow the mowing machine to work with greater ease and effect presently. Push on the laying of fresh turf with all speed, as to get it completed in time for the spring rains to assist it in establishing itself before the sun becomes too scorching.

Climbers on Walls.—The covering of Russian mats or branches of evergreens with which these were protected at the approach of winter, may now be finally removed. The mats, after being thoroughly dried, may be stored away or put to other uses as circumstances require, but the evergreens should be burnt up out of the way at once, as they will be of no further service. Strenuous efforts should now be made to get the pruning and training of all the wall plants which have not yet been operated on completed as soon as possible, more especially where, as is often the case, herbaceous borders run along at the foot. For these will need to be dug over, and it is not possible to do this before the trampling upon them is all over.

Carnations and Picotees.—As soon as the soil is dry enough preparations should be made for planting these out. The ground which it is proposed they should occupy should have been well manured and dug during autumn, and the surface roughly thrown up for the frosts of winter to pulverize and sweeten. A good dressing of soot and wood ashes should now be given, and this well forked in a week or so before planting is actually commenced. Where large quantities of Carnations are grown for cut flower, the best plan is to allow about 15 in. between the plants and about 18 in. between the rows, leaving room for an alley every three or four rows. Such a system affords the greatest convenience for the staking and looking after of the plants presently as well as for the cutting of the flowers. Choose a dry warm day towards the end of the month for planting, and give the plants a good watering in to settle the soil about them.

Gleanings from the World of Science.

Effect of Manures on Potatos.—The Technical Education Committee of the Wilts County Council continued their cultural experiments last year, and their use of various manures in the hand cultivation of Potatos at their allotment station, Christchurch, Warminster, Wilts, is full of practical interest to gardeners in general and allotment holders in particular. The land was laid out in plots, each of the area of a perch, as a ready means evidently of calculating the results. Four of these perches were treated with complete chemical manure, and gave a return of 1,070 lbs. of Potatos, equivalent to 19 tons 2 cwts. per acre. Another four were treated with farmyard manure, aud gave 1,015 lbs., or 18 tons 2¼ cwts. per acre. Four of the plots received no manure at all yet they gave a return of 677 lbs., or 12 tons 1¼ cwt. per acre. The complete chemical manure therefore gave the best results, and was a mixture recommended by Dr. J. M. H. Munro. It consisted of a mixture of 5·2 per cent. of nitrogen, 4 to 4·25 per cent. of soluble phosphoric acid, and 4 to 4·5 per cent. of potash. The cost of this, including the mixing, did not exceed £3 5s. per acre, the amount applied being 12 cwts. Now it will be seen that this so-called complete chemical manure does not include the half of the elements of plant food, but only three of the most important and which are those most likely to be deficient in any given soil and for any particular crop. We are somewhat surprised that it should not have included lime, but upon reflection we remember that the most of Wiltshire is on a chalk formation, so that lime would be more than sufficiently abundant in most soils there.

Varying quantities of complete Chemical Manure.—Two perches were dressed with complete chemical manure at the rate of 6 lbs. each, equivalent to 8 cwts. per acre, and this gave a return of 452 lbs., or 16 tons 2¾ cwts. per acre. Other two were dressed with 9 lbs. each, that is at the rate of 12 cwts. per acre, and gave 460 lbs. of Potatos, equivalent to 16 tons 8½ cwts. per acre. In the third experiment, two perches were each dressed with 12 lbs. of the manure, or 16 cwts. to the acre, and the return was 489 lbs. of Potatos, or 17 tons 9 cwts. to the acre. It will be seen that the heavier the dressings of manure, the heavier were the crops of Potatos. On the other hand, three contiguous plots were left unmanured, and the return was 10 tons 17½ cwts. per acre.

Results from incomplete Manures.—Six perches were set apart for experiments with the manure above-mentioned, from which one or other of the constituents were omitted. Two perches were treated with 3 lbs. each of kainit and superphosphate, omitting the nitrate. The returns were 321 lbs. of Potatos, equivalent to 11 tons 9 cwts. per acre. Two perches were treated with a similar quantity of nitrate and superphosphate, giving a return of 392 lbs. of Potatos, equal to 14 tons per acre. The remaining two perches were dressed with the same weight of nitrate and kainit, and the return was 449 lbs. of Potatos, equalling 16 tons per acre. As a check upon the above, three perches were not dressed with anything, and they gave a return of 427 lbs., or 10 tons 3½ cwts. per acre.

The value of nitrogen for Potatos.—If there had been any doubt of this the omission of nitrogen from the experiment above given would entirely dispel it. Where nitrogen was omitted the return was the smallest, and where phosphate was omitted it was largest, thus proving that nitrogen is the most important, potash the next in order, and phosphate of comparatively little value, except in combination with the other two. The omission of nitrogen brought the return of Potatos almost as low as in the unmanured plots. Even in the latter the crop of Potatos was remarkably good, and could only be accounted for by the careful tillage and spade culture to which the land had for some years been subjected. The average crop of Potatos for the county of Wilts is only 6 tons per acre. These experiments of the Wilts County Council are therefore object lessons of the utmost utility, and cannot fail to exercise a beneficial influence upon all cultivators of the soil in the neighbourhood of the trial grounds and even far beyond them.

ACHIMENES.

These beautiful Gesneraceous plants have already attained to a degree of popularity to which it is granted to but comparatively few of our garden flowers to reach, and throughout the summer many a glimpse of their bright showy presence greets us from even the most unexpected corners. That they are favourites with all classes of the flower-loving public goes without saying, although the amateur is not able to command the heat necessary to have them in bloom early in the season. Still, as has been proved over and over again, Achimenes can be grown, and grown well, too, with the expenditure of very little fire-heat, and this only in the early stages of the plants' growth.

Grown in pots, and nicely staked, a quantity of Achimenes will produce a really gorgeous display, the colours, of which there are such an infinite variety, being so vivid and striking in their profusion of brilliancy. Many of them, too, show themselves off to perfection when grown in a basket suspended from the roof. The chief drawback to their culture from the amateur's point of view, is that they require a stove heat to start them into growth. If it is desired to have them in bloom during a fairly long season, a batch should be started about the middle of February. From thence onward, till the month of April, succession batches should be placed in heat, thus securing plants in flower during the whole of the summer. In potting them up, the small tubercles should be carefully removed from the old soil and sown in a fresh compost consisting of one part good loam, the same of fibrous peat, and two parts of good leaf-soil, together with plenty of silver sand and a few nodules of charcoal. Some growers do not add the last-mentioned ingredient, but that it is of the utmost service in assisting to keep the soil sweet is undoubted; and from the large quantities of water which pass through the soil in which Achimenes are growing it is evident that there is a danger of the soil becoming sour under careless or unskilful treatment.

A thirty-two sized pot will be found to be about the handiest size in which to grow them, as a sufficiency of root-room is thus given, and at the same time the size of the pot does not preclude the possibility of using it with the plants it contains for the filling of any ornamental vases or stands within doors when required. Although such exceedingly showy subjects, Achimenes are not suitable for indoor decoration in any other than a very light position, for if placed in anything like a dark corner the want of light soon causes the dropping of the flowers, after which, as may be supposed, the plants present a rather melancholy appearance.

After potting, the plants should be placed in a brisk moist heat, under which conditions it will be found that growth is very rapid. As soon as the shoots are about 2 in. long, however, preparations must be made to remove them to a somewhat lower temperature, for too long continuance in a very warm place will be sure to cause the plants to become drawn and spindly, a state of affairs that detracts considerably from their beauty and usefulness. An ordinary greenhouse temperature will amply suffice for them after they have reached this stage.

Staking.—Too much stress can hardly be laid upon the great importance of careful and efficient staking; indeed, it is useless to expect to have fine shapely plants unless this is looked after at an early stage of the plant's career. To wait until the growths have lopped all round the sides of the pot and have, in the natural course of things, started to turn the points of their shoots to the light and to grow upwards again, is a practice that cannot be too strongly condemned. The contrast between the gouty, deformed plants that result from this kind of treatment, or rather mistreatment, and those that are obtained where staking is attended to early enough in the day, is sufficiently striking. Occasional supplies of liquid manure as the pots become filled with roots will greatly assist in developing large and finely-coloured flowers. Perhaps weak farmyard manure will give as much satisfaction as anything, but as this cannot always be obtained when fresh, resource may be had to Peruvian Guano, which, if carefully used, is an invaluable manure.

Insects, particularly green-fly, will sometimes prove a nuisance during the growing season, when light fumigations must be given before too extensive a footing has been acquired by the mischievous insects. As the plants go out of flower the supply of water should be gradually reduced in proportion as growth becomes feeble and finally ceases altogether. The plants may then be dried completely off and the pots placed on their sides to rest for the winter months beneath the greenhouse stage, as a temperature of from 45° to 50° Fahr. is a necessity to insure the tubercles passing through the winter safely.

Propagation.—The multiplication of the plants may be effected by a variety of methods. Cuttings will root very readily if the cutting pots are plunged in a nice bottom heat. It is, moreover, not necessary to cut them off at a node, as roots are produced freely from any part of the stem. The scales of the corms will, if rubbed off and sown like seed in a pan filled with fine soil, germinate freely, and plenty of plants may be obtained by this means. Lastly, they may be propagated by seeds, which, from their infinitesimal size, require exceedingly careful handling when sowing. Only a slight covering of sand should be given them, and watering being conducted very lightly, or the seed will be washed in heaps.

Spiraea astilboides floribunda.

From the readiness with which the different species cross with others, numbers of hybrids have been placed upon the market that exhibit such a wealth of variety that it is almost a matter of difficulty to make a selection without doing an injustice to some of the numerous fine varieties The undermentioned will, however, be found to be well worthy of cultivation:—A. longiflora, longiflora major, Vivicans, Rollisoni, Argus, Firefly, Diadem, Eclipse, purpurea elegans, Mauve Queen, longiflora alba, and Madame A. Verschaffelt.—*G.*

SPIRAEA ASTILBOIDES FLORIBUNDA.

The showiest and most ornamental form of S. Aruncus would be much appreciated for forcing purposes were it not for its inconvenient height, S. astilboides resembles it in miniature, and has proved both ornamental and most serviceable for forcing purposes. The variety under notice is a great improvement upon the type, inasmuch as the panicles of bloom are larger, more freely branched. and the individual blossoms much more numerous This has the effect of making it a choicer and more showy subject than the original S. astilboides, which has indeed been an acquisition to gardens for some years past. The plant under notice has the recommendation of being perfectly hardy and amenable for culture on the rockery, in the herbaceous border, and for forcing purposes. It is a bolder and more handsome plant than Astilbe japonica, now so universally cultivated for forcing purposes, and will in a few years' time be much in request for conservatory decoration during the spring months. The accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, Chelsea, gives a good idea of a plant that has been grown in the open ground and allowed to attain some size. Smaller plants with fewer stems are generally found to be more serviceable for pot work, as they are more graceful and can be more readily made to associate with other subjects. The usual height of the plant is 2 ft., and under good management that will not be exceeded.

ABOUT LAWNS.

It must be admitted that a close velvety lawn is something to be proud of. What can be more charming or more effective than a wide spread of green well-kept turf, broken here and there by a bed of such flowers as hardy annuals or Paeonies, Sunflowers, Phloxes, or a stately Conifer. The preparation and formation of lawns are often too hastily and imperfectly done, while it is in this operation that patience and care is most assiduously required, for if badly done at first, faults observed afterwards cannot easily be remedied without cost.

The best time to prepare the ground for a lawn is the autumn, when the frosts of winter and spring will thoroughly pulverise the soil, and when the earth is in good working condition, not in dry weather. The ground must be dug to the depth of from 12 in. to 18 in., and care should be taken to take out all weeds and coarse-growing grasses, and then be left until spring. March and April are the best months to sow the seed, but before sowing the soil should be well raked with a heavy iron rake until the surface is perfectly smooth and free from stones, made level, and carefully rolled to obtain a hard surface. At this stage the ground is in condition for the seed; a light rake must now be used to break the surface a little so that the seed may fall into the interstices or broken soil. The seed may be sown broadcast, at the rate of from three to four bushels per acre, or sixty to eighty pounds; one pound will sow fifty square yards. Many fall into the common error of sowing insufficient seed, which results in an uneven, thin, and in fact, altogether a badly made lawn. It is always a wise and safe plan to provide oneself with more seed than is absolutely necessary for a given space than too little.

Should the weather be favourable the grass will be ready for the first cutting in about two or three weeks, and any weeds that may put in an appearance must at once be extirpated. The grass should be cut with a sharp scythe; the fallen grass may be left upon the ground to prevent the sun's rays from burning the young grass plants. The grass should be mown and rolled frequently to obtain a close green sward. To renovate an old lawn the surface must be made loose with an iron rake to receive the seed. When the seed is sown it must be top-dressed with fine soil and be rolled. If the lawn should suffer through drought, it must be regularly watered with a fine hose every evening.—*W. L.*

A LITTLE KNOWLEDGE.

The saying that "a little knowledge is a dangerous thing" is always remarkably well exemplified at this season of the year in the sowing of seed, and the subsequent management of the seedlings, be they intended to produce products for the decoration of glass structures, flower garden, or the kitchen garden; therefore, I hope that the excellent and timely remarks on the subject of Seed Sowing, by "Experience," p. 453, will be read and studied, especially by all those who "think they know."

As your correspondent points out, some people cannot seem to gauge what they require, sowing ten times the amount they want, but I am inclined to believe that it is not always done through ignorance, but sometimes perversity, to make off with a lot of seed, and at the same time to fill their glass structures! When, if they really knew, the space is wanted for other things, and could be turned to far

better account by those "that know." But in these days of "the new woman," "Amateurism," and the twaddle anent the "Education of Gardeners," it seems difficult indeed for those "that know" to find a suitable *locale* where they can carry out their ideas, they must be under the ban of being told by those that think they know.

I have "taken to" boxes and pans galore of Lobelia, in fact, if they had all been pricked off there would have been sufficient to supply a dozen flower gardens. Stocks and Asters the same; days had to be spent in pricking them out, when time was sorely needed for other pressing work; then, at planting out time, they had to be poked in anywhere to make use of them, and a lot had to remain and flower in the bed in which they were pricked out. But I could easily infer that the sower, provided with a multiplicity of seed, boxes, soil, and sand, had found many hours' occupation in the operation of seed sowing.

Then, again, I have seen the Brassica tribe sown far too thickly, and to make matters still worse under trees. I suppose the sower thought they would be so nicely sheltered, but the sequel was weak, drawn, and lanky plants at planting time, ten times as many as was really wanted, but then that did not signify, the overplus had to occupy the seed beds until winter, and then be carted into the woods for rabbits, after they had nicely drawn the ground. That kitchen garden was minus walls, so there was often a rabbit hunt, sometimes with the help of half-a-dozen spaniels, capital things among growing crops! One thing, there was not much need to go over the Onion bed and knock the tops down to facilitate their ripening!

There was also an excellent supply of wild birds, thrushes and blackbirds galore, and bullfinches the same—how we did wish that garden was nearer Whitechapel! Those bullfinches nearly cleared the Raspberries when ripe, although we were at the trouble to net them right over; after that I smiled a cynical smile at those advertisements of netting dealers, "protect your gardens from the ravages of birds." But my employer was a humane man, he stoutly refused to have them shot, and pooh-poohed the idea that bullfinches did any harm in the garden, an erroneous idea altogether—most gardeners know what destructive little brutes they are to the buds. Those dear, fascinating, little squirrels cleared off most of the Apricots when they were the size of Walnuts. Then, again, we were "dead nuts" on cats; they are apt to get poaching in that part of the country, so rats and mice had a high old time, the latter "set at" the Cucumbers and Melons in brick pits, so that we were unable to get any the latter part of the season.—*Pathfinder.*

SPIRAEA CONFUSA.

I SEND you a plant of Spiraea confusa; I have found it one of the very best plants for early forcing that I have met with. I have had it in flower since Christmas. Another thing in its favour is that it lasts well when cut. Is it a new plant, or what? I cannot find it in any list. I had a dozen sent me for trial, and am so pleased with it, that I shall grow it in quantity for cutting; and what a lovely decorative plant it is!—*J. R. Petch, Saffron Walden, Essex.*

[The Spiraea mentioned by our correspondent is a native of Northern Asia, and its correct name, according to the acceptation of modern botanists, is S. media; and S. confusa and S. oblongifolia are said to be synonyms. The date of its introduction is not given, but it has every appearance of having been amongst us for many years, and its merits overlooked or neglected. It has got into some lists, however, under the name of S. confusa, which is now getting disseminated over the country and into private establishments, where it is highly esteemed for forcing and decorative purposes. It has even been figured as above in the catalogue of Messrs. Veitch & Sons, and the plant from which the illustration was prepared was closely similar to that sent by our correspondent, except that it was confined to one stem at the base.

The plant sent us consisted of numerous stems, the habit of the plant being to throw up numerous suckers close to the base of the old ones. The strongest of the stems were only 2½ ft. long, but the plant was much dwarfer owing to the arching and even recurving habit of the slender, twiggy branches The ovate and rhomboid leaves were more or less incised or cut above the middle, and of a beautiful glaucous hue, more decided above than below. The pure white flowers, like Hawthorn in miniature, are produced in umbels at the end of small shoots that spring from every bud along the wood of last year. A well-grown plant has a snowy appearance with the quantity of blossom. The shrub is well adapted for forcing on account of its dwarfness and the fact that it is only necessary to develop the buds of last year's wood into twigs of 2 in. to 4 in. long bearing the flowers.

Many years ago, Loudon described both S. media and S. longifolia as varieties of S. chamaedrifolia. He also gave S. chamaedrifolia vulgaris, S. c. subracemosa, and S. c. incisa as varieties of the same species, and although he described S. ulmifolia, S. flexuosa, S. crataegifolia, S. betulaefolia, and some others as species, yet he suspected them all to be merely forms of S. chamaedrifolia. Some more modern books do actually give two of the forms as varieties of the latter, namely, S. c. ulmifolia and S. c. flexuosa, while S. media is regarded as a distinct species, with S. confusa and S. oblongifolia as synonyms. The specimen sent us as S. confusa does not agree exactly with S. chamaedrifolia media as described by Loudon, nor with S. media, as described in Nicholson's "Dictionary of Gardening," but more nearly with S. chamaedrifolia itself. We have therefore strong reasons for believing that all of the above are merely forms of S. chamaedrifolia, which is a widely variable species recorded by Loudon from Siberia, Kamtschatka, Dahuria, the north-west coast of North America, China and Japan. It was originally introduced in 1789, and flowers naturally in June and July. S. c. media is said to be wild in Canada, and upon rocks in Dahuria, and should have narrower leaves than S. chamaedrifolia, and slightly hairy on both surfaces. Now, the leaves of the plant sent us were fairly broad and perfectly smooth.

Then it is our opinion that any of the forms of S. chamaedrifolia may be forced with perfect freedom, and that there is really nothing new about S. confusa at all, but that it is an old friend and not the less beautiful nor less useful for that. On the contrary, we should advise gardeners to hunt up their old shrubberies to see whether they have got any of the forms of S. chamaedrifolia in them, and if not, to procure it whether under the name of S. confusa or not. Those who are required to do a deal of forcing will find it a most welcome addition to the list of shrubs for forcing, and one that will add beauty and variety to the greenhouse, conservatory, or dwelling house, and prove most serviceable for cut flowers.—ED.]

SPIRAEA CONFUSA.

FOLIAGE PLANTS AND THEIR CULTURE.

(*Concluded from p. 459.*)

ALOCASIAS.

This genus is closely allied to the Caladium, and like it belongs to the Aroid family. A. Jenningsii is one of the small-leaved species and is best grown in shallow pans. Among the large foliage kinds may be found several handsome plants, such as A. Lowii, A. metallica, A. Tbibautiana, and A. Zebrina. The best material for potting most of the Alocasias in is a mixture of light fibrous peat, chopped sphagnum moss, silver sand, and a few pieces of charcoal. The plants require a great quantity of water during the summer months, therefore plenty of crocks should be placed in the pots so that the water can percolate through the soil freely. Such plants as A. Macrorhiza variegata, however, require very rich fibrous loam, with which should be mixed a good quantity of dried and well decomposed cow manure, leaf mould, and silver sand. The Alocasia, like the Caladium, requires a warm stove temperature and shade from the direct rays of the sun.

THE ORNAMENTAL FOLIAGED ANTHURIUMS.

This genus supplies some of the best of our decorative stove plants. The deep green colouring of the broad leaves of Anthurium crystallinum, with its conspicuous net-work of white veins that look as if they were studded by a million crystals, is at once fascinating and distinct. Whilst the extraordinary dimensions of the foliage of A. Veitchii, which has been known to produce leaves 3 ft 10 in. in length by 14 in. in width, the surface of the leaves being light green and wavy, may be justly considered to stamp the plant as one of the most remarkable in cultivation. A. magnificum and A. Warocqueanum are choice subjects and worthy of a place in every collection of stove foliage plants.

CULTURE.

The compost for potting should be similar to that recommended for Alocasias, but great care should be taken that every particle of fine peat is removed, leaving nothing but the light fibre, with which one third chopped sphagnum moss and a few lumps of charcoal or broken potsherd must be mixed to ensure porosity. The pots should be half filled with drainage so that the plants may be elevated on a mound well above the rim of the pot, and a broad surface thus provided for the long aerial roots, which are thrown out from the stems of the plants, forming so many canals through which the moisture contained in the atmosphere of the house passes, and is thus conveyed to various parts of the plant. Place the plants in a warm stove temperature and in a shady position having a moist atmosphere. During very hot days the temperature of the house should be regulated by shading heavily rather than by excessive ventilation. The plants require abundance of water during the growing season, but the supply should be gradually diminished on the approach of winter.

THE MARANTA.

Sometimes called the "Arrowroot plant," as a kind of Arrowroot is obtained from the fleshy root of some of the varieties. Propagated by divisions of the crowns, they succeed best in fibrous peat. Among the Marantas there are many species that are choice and pretty, M. roseo-lineata is one of the dwarf-growing kinds; the leaves are dark green, prettily striped with rose. M. regalis is a very compact grower, with dark green leaves, striped with bright crimson. M. Veitchii attains a large size, and its leaves are beautifully spotted and streaked with various shades of green and grey. M. zebrina is also a strong grower, with elegant foliage, striped and barred with shades of light and dark green. The plants require a shady position, and a warm stove temperature.

THE ARALIA.

This genus contains a number of plants that are much appreciated for their light and delicate foliage, which renders them so valuable for table decoration, those of special merit being A. Veitchii, A. Veitchii gracillima, and A. elegantissima. They succeed in good loam, peat, and silver sand, and may be propagated from cuttings taken and placed in a good bottom heat. Sometimes the choicer kinds are worked on stocks of A. reticulata. There are several species that succeed in a greenhouse temperature, but the above and several others require the heat of the stove.

ANANASSA SATIVA VARIEGATA.

This is simply a variegated form of A. sativa, the true Pine Apple, and belongs to the natural order, Bromeliaceae. It makes a capital table plant when well coloured. The plants should be confined with regard to pot room rather than over potted. For compost, a mixture of loam, peat, and silver sand will do. To use rich soil is not advisable, for while it encourages the plants to grow more rapidly, they lack that magnificently brilliant scarlet tint, for which it is so justly admired. A. Porteana is a later introduction, and is also most useful as a table plant.

THE GENUS PANDANUS.

This supplies a long list of handsome plants, which are generally known as the "Screw Pines," on account of the screw-like formation of the foliage of some of them. P. Veitchii, P. javanicus variegatus, and P. utilis make excellent table plants when of a suitable size, and when too large for that purpose are of immense value for the filling of large vases for house decoration, &c. They should be potted in fibrous loam, and a stove temperature accorded them.

FOLIAGE BEGONIAS.

These are distinct from any other race of foliage plants, on account of their quaint, curiously-formed, and variously-marked leaves, which contrast so favourably and effectively with Ferns or other subjects of light and feathery habit when properly arranged. They may be easily propagated from leaves, which may be divided in several pieces, and inserted edgeways in pans or pots that have been thoroughly drained, and filled nearly up to the rim with peat and silver sand, space being allowed for a good layer of silver sand on the surface. Select well-matured leaves, as they are not so liable to damp off. The cutting pan should be placed in a shady position and protected from drip. As soon as the young plants make their appearance they should be potted off into small pots in a compost of loam, peat, a small portion of leaf mould, and silver sand. The plant will be benefited by watering with weak manure water when established. Shade from the sun and a stove temperature are also essentials.

CISSUS DISCOLOR

is the most useful trailing stove foliage plant in cultivation. It was introduced to this country from Java, and being a rapid grower it is admirably suited for covering walls, or for training on a trellis. The plants are easily propagated from cuttings or from layers. The preparation compost should be of an open nature, anything retentive of moisture being injurious, and should consist of fibrous loam and peat. The plants when growing require a liberal supply of water at the roots, which necessitates perfect drainage so that the super-abundance of moisture may pass off without allowing the soil about the roots to become sour or stagnant. The plants are benefited by a weak manurial stimulant of some kind, and to ensure perfectly coloured foliage must not be subjected to strong sunshine. Another free-growing plant and one well worthy of culture is found in C. gloriosa, an introduction from Costa Rica. The Cissus is subject to all kinds of insects that infest stove plants such as thrips, flies, mealy bug and scale. The free use of the syringe will keep the two former in check, but bug and scale must be emoved with the sponge.

PALMS

and their decorative qualities are so widely known that they need no further comment. For general purposes, small or medium-sized plants are most in request. Many of the Palms are so accommodating that, if properly attended to with regard to water at the roots, they will keep in perfect condition in comparatively small pots. In addition to the high position in the esteem of the public they have gained as decorative foliage plants, they are also of important commercial value; Palm oil, so largely imported from the Western Coast of Africa, is obtained from Elaeis guineensis; Dates, which are used as a dessert fruit in this country, and form a staple part of the food of the Arabs of Northern Africa, are the produce of Phoenix dactylifera.

Licuala acutifida produces the handsome walking-canes imported into this country under the name of "Penang Lawyers." The Oreodoxa oleracea is called the Cabbage Palm, as the undeveloped leaves are used as a vegetable when cooked. The Cocoa-nut, enormous quantities of which are imported into this country annually, is the produce of Cocos nucifera.

The nuts of Attalea Cohune, from Central America, are used in the manufacturing of toys; Attalea funifera, from Brazil, yields the Piassaba fibre used for broom-making, whilst the nuts are utilised for making handles of doors, umbrellas, egg-cups, etc. Arenga saccharifera, from the Indian Archipelago, furnishes a fibre from which a kind of rope is manufactured, also brushes and various ornaments; a great quantity of "toddy" and sugar is also obtained from this Palm, and is largely grown by the natives for this purpose. Phytelephas macrocarpa, found on the banks of the Magdalena, Columbia, supplies the well-known vegetable ivory, as the nuts are used as a substitute for ivory in the making of various articles. The first plants of the Ivory Palm known to this country were raised from seed sent over from America to Kew Gardens. I saw a noble specimen of it growing in the large Palm house at Kew when I visited it some few years since. A walk through a Palm house such as the one at Kew is very instructive, for there may be seen in their true characters magnificent specimens of Palms of various kinds towering up in majestic grandeur above everything else, giving one an idea as to the marvellous proportions they attain in their native and tropical habitats.

Areca lutescens, Cocos Weddeliana, C. plumosa, Geonoma gracilis, G. Schottiana, Kentia Belmoreana, Verschaffeltia splendida, and numerous others require stove temperature; but such plants as Rhopalostylis (Areca) sapida, Chamaerops excelsa, Cocos australis, Corypha australis, Kentia canterburyana, Latania Borbonica, Seaforthias, etc., will succeed in a greenhouse or conservatory with a temperature ranging from 45° to 55° Fahr. The plants, when in a small state, should be potted in good loam and peat, but as they become larger less peat should be used. Pot firmly, and during the summer months syringe freely. Occasional waterings with liquid manure will benefit established plants; a sprinkling over the surface of the pots of Thomson's vine manure or Clay's fertilisers, which should be worked into the soil with a pointed stick, will also produce good results. A moist atmosphere should be maintained during the growing season and shade given from the sun.

THE NEPENTHES OR PITCHER PLANTS.

Here we have a curious and most interesting race of foliage plants. Most of them succeed best when they are grown in hanging baskets, those made of teak wood being the best. They require a warm stove temperature, with abundance of moisture, and shade from bright sunshine. The compost in which they are to be grown should consist of peat and chopped sphagnum moss. The continuation of the mid-rib of the leaves has a cord-like appendage which is capable of clinging to trees, &c. At the extremity a pitcher is produced, containing a sweet fluid, to gain which flies and other insects are tempted to enter, and are thus imprisoned. Mr. F. W. Burbidge, M.A., during his botanical explorations "in Borneo," visited that enormous mountain, "Kina Balu," where he tells us he found the Nepenthes in various stages of growth. "Clambering over shrubs and low trees, their stems throwing out roots into the mossy branches, and their great coloured urns depending from every leaf."

He says:—"The great Nepenthes grow in a zone between 5,000 and 10,000 ft. in altitude, where there are rains every night. The bushes and undergrowth, together with the moss-covered branches of the dwarf trees, are always saturated with moisture.' So that it will be needless for me to say the Nepenthes require abundance of water, indeed, they should never be allowed to get dry. They may be propagated from seed, as well as from offsets that are produced at the base of the shoots, which should be inserted in small pots, and plunged in moss or cocoa-nut fibre having a bottom-heat not lower than 70° Fahr. There are now numerous kinds in cultivation, many of which are garden hybrids.

THE SARRACENIAS, OR SIDE SADDLE PLANTS,

are natives principally of the Northern States of America, and, like the Nepenthes, belong to the insectivorous section of plants. The pitchers of some of them are handsomely coloured. A compost of peat and sphagnum moss containing a few nodules of charcoal, will suit them admirably. The pots being thoroughly drained with clean potsherds. A close pit or frame is the most suitable accommodation for the plants during the winter months, sufficient heat being given to exclude frost; but when the plants show signs of starting into growth in the spring they should be accorded a temperature from 55° to 60° Fahr. The Sarracenia differs from the Nepenthes in the entire leaf being an elongated pitcher, which is supplied with a number of glands on the inside to secrete honey, to obtain which flies and other insects are tempted to enter the cunningly constructed pitcher, which has a covering of hairs inside, fixed point downwards, so that retreat for the insect is impossible. When a fly is caught a liquid is poured out into the pitcher, through which the decomposition of the fly is hastened and ultimately absorbed by the plant as nourishment. Sarracenias may be propagated by divisions of the plants in spring.

GREENHOUSE FOLIAGE PLANTS.

In addition to those I have named as suitable for the stove, there are numerous "greenhouse foliage plants" deserving of culture. Of these several Aralias are highly decorative and of hardy constitution, also Aspidistras, both green and variegated, besides many Dracaenas, amongst which D. australis, which is easily raised from seed sown in heat, is especially noteworthy. Eulalia japonica variegata is indispensable for grouping with other plants; Grevillea robusta is a useful table plant. To keep up a constant supply of suitably sized plants of this, a pinch of seed should be sown every spring. Roupala Pohlii (syn. corcovadensis) and R. elegantissima are also valuable as table plants. Indeed, from the immense numbers of useful and beautiful plants, one might mention a great many others, but those already mentioned must suffice as examples.

The incessant efforts of the hybridiser and the collector are making new and important additions to the even now long list of good decorative plants, so that without the aid of a single flower there may be harmoniously blended together a group of foliage plants, which, for variety and brilliancy of colouring, for lightness and elegance of form, and for pleasing effect, will vie with the choicest collection of flowering plants, whether they be stove, greenhouse, or Orchidaceous.—*G. Camp, Culver, Exeter.*

GARDENING MISCELLANY.

STRAWBERRY STEVENS' WONDER.

SOME years ago this variety was received by Mr. J. R. Stevens, Clayton Nursery, Hassocks, as a seedling without a name. He commenced growing it and increasing it to thoroughly test its qualities, and since then he has been discarding Sir Joseph Paxton to make room for the new comer, both for ordinary purposes and for forcing. It packs well and stands carriage to market as well as Sir Joseph Paxton. The leaves are small, dark green, plentiful, and remarkably dwarf, covering the soil in the pots. The fruits are large, bluntly conical, or sometimes lobed, and pale scarlet. The so-called seeds are darker in colour, and rather deeply embedded in the flesh. A dozen pots well loaded with fruit were exhibited at the meeting of the Royal Horticultural Society on the 12th inst., and they were stated by an eye witness to be only an average sample of some 4,000 fruiting plants to be seen at one and the same time a short time ago. A First-class Certificate was awarded the variety.

CALYPSO BOREALIS.

AMONG the Orchidaceous plants that may easily be grown in the rock garden in a partially shaded position, this pretty little plant should find a place. It is comparatively rare, however, that we come across it in ordinary collections of Alpine plants. This is all the more wonderful when we take into consideration the beauty of its flowers, which are

somewhat akin to those of a Cypripedium in form, and the little trouble that its cultivation entails. The flowers are solitary, delicate rose and brown in colour, a yellow crest being a prominent feature of the lip. The lateral lobes cohere over the central one, which is generally bifid at the tip. The genus only contains the one species, which is common to the higher latitudes of the northern hemisphere. It is thus perfectly hardy with us. Mr. T. S. Ware, of Tottenham, exhibited a potful of it in fine condition at the Crystal Palace Exhibition of Spring Flowers on Saturday last.

CALATHEA ZEBRINA.

For some time past this plant has been an especial favourite in very many private gardens, where, in most cases, the old name of Maranta zebrina still clings to it. Taken as a whole, gardeners are rather inclined to be somewhat conservative in their ideas, and once any given name has been associated with a plant for a long period that particular name, whether it be correct or not, is used for an exceedingly long time in spite of any change of title that may take place. Although the genus Calathea contains many beautiful and valuable plants, it may, without doing any of them an injustice, be truthfully said that C. zebrina is the handsomest of them all, as anyone would confess who had seen its velvety-green leaves barred with the greenish-purple markings which run almost at right angles to the midrib. A strongly growing plant will produce leaves from 2 ft. to 3 ft. in length, and fully 8 in. in width, and a good specimen of it in a healthy condition is almost all that a foliage plant should be. Propagation may be conducted by means of division of the crowns, spring being the best time to perform this operation. Good drainage, plenty of water during the summer, a stove heat, and a liberal use of the syringe are also needed. C. zebrina hails from Brazil from whence it was brought about the year 1815.

ARALIA VEITCHII GRACILLIMA.

This being the variety on which my contribution on p. 437 was based, I have given it now its proper title. With all due respect to "W. G.," and also the great length of time he has read horticultural literature, I think he will admit that especially in our profession of horticulture one is always learning. I was quite aware of the prevailing idea that it is difficult to root the rarer kinds of Aralias, and hence my note. To correct "W. G.," allow me to say that I never mentioned anything about striking them as cuttings or in any other way, which means taking the portion to be rooted clean away from the plant. This must not be done till roots are emitted through the binding material.

I never on any account write about anything I have not either done myself or seen done by others. The operation in question I have done myself, and I only wish "W. G." lived anywhere near at hand and could pay me a visit, for I think I could soon convince him that regarding Aralias he had something yet to learn. As experienced men will know that the top portion of the plant in question must necessarily be the best furnished, and therefore must be the best for any purpose, sale or otherwise. Plenty of heat, moisture, and delicate handling with a knife like a razor, and a surgeon's delicacy of manipulation, will bring about the desired results, and most successfully.

I am not going to say that grafting is not the sharpest way of producing weak, puny specimens, but never in my opinion can they be got furnished at the bottom by this means. Many good men I know recognise the value of the upper portions of Dracaenas, Crotons, and other subjects in the making of perfect plants. I can hardly understand part of "W. G.'s" note. Once he says that he did not know they were so easy to root, and then a little lower down he says that nearly all the species of Aralia will root and grow freely, but some are better from seeds. I could wish that he had made his meaning a trifle plainer. I, too, have had considerable experience in propagating especially in grafting and know what failure means. Knowing that Aralia Sieboldii was a cool subject and that A. Veitchii gracillima required more heat, I thought the two would go together especially as one was stronger than the other, but the experiment did not answer, as though the graft callused the stock damped off. As I have said above I knew the difficulty there is in rooting them or I should not have written as I did.—*J. G. Pettinger, Strawberry Dale Nursery, Harrowgate.*

SOCIETIES.

Crystal Palace.—The exhibition of spring-flowering plants which was held on Saturday, March 16th, at the Crystal Palace, was favoured by exceptionally fine weather, and was attended by a large number of visitors whom the bright day had doubtless tempted to leave their homes. The exhibits were numerous and comprised a large quantity of excellent material in the several classes for which prizes were awarded according to schedule. Spring-flowering plants were, of course, the chief feature of the show, the bulbous section being strongly represented, Hyacinths, Narcissi, Tulips, Hippeastrums, Cyclamen, etc., were shown in quantity as well as quality. Foliage plants and Ferns also were by no means lacking, and altogether the show was a most satisfactory, as well as a bright and attractive one.

In the open classes Mr. James Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, was awarded the first prize for thirty-six Hyacinths in pots. He had such varieties as La Grandesse, Czar Peter, Grandeur à Merveille, Gigantea, Souvenir J. H. Veen, Electra, Lord Derby, and The Sultan, in really grand condition, the two last-mentioned sorts particularly being the finest examples of their kind that we have yet seen. Messrs. James Winter & Son, Bon Marché Nursery, Gipsy Road, West Norwood, took the second place. In a class for thirty-six Tulips, three bulbs in a pot, Mr. James Douglas was again awarded the premier position with a splendid collection. The plants were throughout dwarf in habit, the flowers very large, and the colours exceedingly vivid, and than the samples here shown of Proserpine, Ophir d'Or, White Joost Van Vondel, and Keizer's Kroon, nothing finer could be desired. Mr. William Howe, gardener to Henry Tate, Esq., took the second place.

Mr. James Douglas also had the best collection of Polyanthus Narcissi, three bulbs in a pot, showing Adonia, rich yellow with an orange centre, Mont Cenis, Jaune Supreme, Grand Monarque, and Gloriosa in praiseworthy style. The second prize here fell to Mr. William Howe. The latter gentleman was also successful in obtaining the first prize for twenty-four pots of Narcissi of the Daffodil section, having fine specimens of N. bicolor Horsfieldii, N. Sir Watkin, and N. Telamonius plenus; Mr. James Gibson, gardener to E. H. Watts, Esq, Devonhurst, Chiswick, taking the second place. Mr. John G. Mowbray, gardener to Major the Hon. H. C. Legge, Fulmer Gardens, near Slough, had the best collection of thirty-six Cyclamen in pots with splendidly-flowered plants of good white and purple varieties; second, Mr. Thomas Pestridge, Boston Park Road, Brentford, W. The first prize for twelve Amaryllis went to Mr. James Douglas with very good plants of Thalia, Mrs. Laing, Clio and Melpomene; also the first award for the best twelve Cinerarias. Mr. W. Barrell, gardener to Mrs. Thornton, The Hoo, Sydenham Hill, showed nine pots of Mignonette in good order, for which a first award was given.

Mr. James Gibson distanced all competitors for twelve Hyacinths, distinct, Koh-i-noor, Electra, and La Grandesse, being some of the best varieties shown by him. He was also successful in obtaining first awards for twelve pots of Tulips, three bulbs being grown in a pot, and for twelve pots of Polyanthus Narcissi. Mr. C. Lane, gardener to E. H. Coles, Esq., Burntwood, Upper Caterham, Surrey, had the finest samples of Lily of the Valley in pots. With the exception of one small table Chinese Primulas were not represented. In a class for twelve plants in pots Mr. James Bateman, gardener to Mr. King, Southwood, Sydenham Hill, took the premier position with meritorious examples of red, white, and blue-flowered varieties of the single section. Mr. C. Lane and Mr. G. Spong, gardener to C. D. Lord, Esq., Dunearn, Sydenham Hill, took second and third places respectively. The first prize for twelve Cyclamens in pots fell to Mr. William Slogrove, Getton.

The first award for a group of Cyclamens arranged with Palms, Ferns, etc., for effect, and covering a space of sixty feet square, went to Mr. John Mowbray. The plants here exhibited were exceedingly floriferous and all that could be desired in the way of habit, whilst the individual flowers were of large size and excellent substance. Messrs. John Laing & Sons, Forest Hill, were granted a first award for a very tastefully arranged group of stove and greenhouse flowering plants, arranged in an oval space twelve feet by nine and faced all round. The quality of the material comprising the group was excellent. Crotons Thompsoni and Reidii, Caladiums and Palms of different kinds among the foliage and Ericas, Azaleas, Imantophyllums, and winter-flowering Begonias among the flowering plants being in meritorious condition; whilst Orchids were represented by some nicely flowered pieces of Coelogyne cristata, and its white-flowered variety, C. c. alba, Cymbidium Lowianum, Dendrobium nobile, Odontoglossum Alexandrae, etc.

The miscellaneous exhibits contained much that was praiseworthy and materially assisted in adding to the attractiveness of the show. Mr. Thomas S. Ware, Hale Farm Nurseries, Tottenham, London, obtained an extra prize for a collection of hardy herbaceous and alpine plants in flower. Narcissi of both the Daffodil and the incomparabilis sections were well represented together with the rare Galanthus Perryi, and the pretty little Saxifraga Burseriana. The rare little Orchid Calypso borealis was also shown as well as examples of Iris reticulata and its variety purpurea, Scilla Siberica, and Leucojum carpaticum. An extra prize was also awarded to Messrs. J. James & Son, Woodside, Farnham Royal, Slough, for a splendid display of Cinerarias. The plants were exceedingly dwarf and sturdy in habit and the flowers large, richly-coloured and of almost perfect form. This constituted a very meritorious exhibit.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, showed a number of the China Rose, Duke of York, and Camellias in pots together with a quantity of cut blooms of the latter in meritorious condition, (extra prize). Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood, staged a quantity of stove foliage and greenhouse flowering plants in a tasteful and praiseworthy manner for which an extra prize was given. Some nicely flowered Ericas, Cinerarias, Lachenalias, Tulips, etc., were conspicuous by the brilliancy of their colours. A number of floral bouquets, buttonholes, sprays, wreaths, etc., which came from the same firm displayed considerable taste in their construction.

A beautifully arranged group of foliage and flowering plants that was set up by the Crystal Palace authorities at the lower end of the ordinary show tables was especially meritorious and invited a great deal of deserved commendation, both from the excellence of the material it contained as well as for the praiseworthy manner in which the plants were arranged.

Grassendale Spring Show, *March 16th.*—The fifth spring show of this Society was held in the Parish Room and certainly charmed the visitors by its brightness, after the long and cheerless winter. The weather which is always an important factor, was delightful, the sun being bright and continuous. The entries numbered 130, or about the average number. The bulbs were certainly not up to the usual mark, either in size of spike or bell. Mr. R. Singlehurst, (gardener, Mr. J. Kelly), took the lead for twelve and six distinct varieties of Hyacinths, Mont Blanc and Lady Derby being the finest. With six pots, three in a pot, Mr. W. S. Gladstone, (gardener, Mr. J. Grant), secured Mrs. Rose's special prize, having good spikes, nearly equal to single bulbs, with six pots of Narcissus. Mr. W. S. Gladstone was also well to the fore, and with six pots of single Tulips the same exhibitor secured Messrs. Dickson & Robinson's (Manchester) special prize with fair flowers. Other spring flowering plants were well represented, and there was a good competition in most of the classes. For the most tastefully arranged basket of plants, prizes offered by Messrs. R. P. Ker and Sons, there were seven competitors, and their exhibits were an improvement on last year; but still left room for more. Mr. A. L. Jones lead the way with a base of Panicum, a ground work of greenery brightened up with small Crotons, Lily of the Valley, and other flowering plants. Certificates of merit were awarded to Mr. G. W. Moss for a group of Amaryllis of some merit, to Messrs. R. P. Ker and Sons for a group of Clivas which made a feature in the show, the trusses being large, the flowers well defined and telling in colour. The arrangements were ably carried out and Mr. R. Fawkes gave entire satisfaction in his secretarial duties.

Royal Botanical of Manchester.—The annual spring show of this Society was held in the Town Hall, Manchester, on Friday and Saturday of last week, and wanted only a better attendance to make it a great success; for it was a good show and deserved

better support. Medium Gold Medals were awarded to F. Hardy, Esq., Aston-under-Lyne, for a very beautiful display of Orchids and other flowering plants, among which were numerous fine Dendrobes, Cattleyas, Cypripediums, etc.; and to E. Ashworth, Esq., Wilmslow, for a choice collection of Dendrobes, mixed with other rare plants. Another collection of of Orchids mainly consisting of beautiful species and varieties of Odontoglossum came from W. Thompson, Esq., Stone, (Mr. Stevens, gardener) and a Silver Medal was his reward. Mr. J. Cypher, Cheltenham, Messrs. J. Cowan & Co., Liverpool, and Messrs. Charlesworth & Co., Bradford, took First-class Certificates for interesting groups of Orchids also, and the Messrs. Heath, of Cheltenham, were contributors also to this section of the exhibition.

Messrs. Sutton & Sons, Reading, contributed a valuable object lesson in Cineraria culture, in the form of a group of superbly grown and flowered plants of their splendid strain, which called forth a First-class Certificate. A similar award was also made to Messrs. Dickson, Brown & Tait, Manchester, for an admirable group of Hyacinths, and other spring-flowering bulbous plants; to Messrs. W. Edwards & Son, Sherwood, Nottingham, for their decorative plant and flower holders; and to Mr. Joseph Broome, Sunny Hill, Llandudno, for an interesting collection of flowers grown in the open air. Messrs. Dickson, of Chester, also sent a capital display of Narcissi, etc.

Gardeners' Improvement Associations.

Ayrshire, *March 11th*.—At the meeting of the Ayrshire Gardeners' Improvement Association, held at Ayr on the above date, Mr. M. Temple, Carron House Gardens, Falkirk, read a paper on Vegetables, before a large gathering of gardeners and amateurs. In the course of his remarks Mr. Temple said it required no argument from science or any other source to convince our race that vegetables are essential to our diet in giving health and tone to the human system, and maintaining the purity of our blood. It had been in all ages an established fact that man's instincts had led him to use edible vegetables in a great variety of forms as daily food, and when the supply was abundant the health of the community was proportionately good. The lecturer then went on to dilate on the different systems of cultivation which he noted in England, Scotland, Ireland, and Wales, and expressed his views on the methods which he had seen attended with greatest success, after which he proceeded in alphabetical order to describe the general culture of the principal vegetables grown in our country, such as Beans, Peas, Leeks, Onions, etc. Amongst the many varieties of Peas which he had seen grown, useful either for exhibition or general purposes, he considered the following to be as good as any, viz.: Dickson's First and Best, Duke of Albany, Dr. M'Lean, Telephone, Autocrat, and Ne Plus Ultra. Amongst Leeks, he had tested all the varieties sent out, but had never found anything to beat Scotch Musselburgh and the Lyon. The best sorts of Onions which he had seen grown in Scotland were Banbury Improved, Cranston's Excelsior, Aisla Craig, and Bedfordshire Champion. In conclusion, Mr. Temple said that all vegetables must be attended to with equal care in every detail of cultivation, nothing must be passed over as unimportant, and no requirement must be withheld if complete success was a matter imperative.

On the motion of Mr. M'Connochie, Mr. Temple was accorded a very hearty vote of thanks.

Birmingham, *March 11th*.—At the fortnightly meeting of this Association, held on the above date, the Honorary Secretary, Mr. J. Hughes, read an essay on "Cordon-trained Gooseberries: Varieties and Culture," sent by Mr. T. Beddard, gardener to the Right Hon. Lord Leigh, Stoneleigh Abbey. The essay, which was of a thoroughly practical character, was rendered additionally interesting from the fact that the "cordon" system of growing the Gooseberry has been extensively practised at Stoneleigh for many years past, both on horizontal wire trellises in the open quarters of the garden and against the walls in two or three aspects, so as to secure a more than ordinarily long season of ripe fruit for dessert. The system also lends itself more readily and effectively to the application of netting, etc., in the preservation of the fruit from birds, wasps, and other marauders. The prevention and extirpation of foes such as insects and caterpillars, which the trees are liable to be infested with, was remarked upon, and as efficient insecticides a solution of fir-tree oil or clear lime-water syringed over the trees when in leaf was recommended. In the enumeration of the several varieties of Gooseberries selected at Stoneleigh for the purpose in question, a chief predominance was given to the well-known old Warrington for the main crop, and as a larger-fruited one the old Crown Bob, and the more recently introduced variety, Whinham's Industry, for its heavy-cropping attribute. Some of the large exhibition varieties also received a fair modicum of praise for their lusciousness. In the discussion which followed, interesting and instructive details were dwelt upon by several growers, more especially as to the various modes of pruning the trees, and in reference to the size to which a Gooseberry tree trained against a wall can attain. A hearty vote of thanks, proposed by Mr. W. B. Latham and seconded by Mr. Walter Jones, concluded the proceedings.

Shirley Gardeners' and Amateurs,' *March 18th*—The first annual general meeting of this Society was held on the above date, when the president, Mr. W. F. G. Spranges, presided over a fair attendance of the members. The balance sheet showed the receipts to have been £21 7s. 9d, and the expenditure £20 6s. 5d., and from the report it appeared that the Society commenced the year with thirty members, and completed it with 111, thus showing a most substantial increase. Some minor alterations of the rules were made, and the president, vice-presidents, officers, and committee for the ensuing year were elected. The president, Mr. W. F. G. Spranges, said he should be glad to contribute £5 towards the expenses of a visit to some notable horticultural establishment some time during the summer. There was an exhibition of spring blooming plants, and contributed by Mr. B. Ladhams, F.R.H.S., Mr. J. E. Wilcox, Mr. G. Wells, and Mr. H. Curtis.

LAW NOTES.

The Lincolnshire Seed Case.—At the County of London Sessions, Newington, S.E, on the 12th inst., before Sir Forrest Fulton, Q.C., acting as *locum tenens* for Sir Peter Edlin, Q.C., Charles Samuel Robinson, 32, the Three Tuns Inn, Deeping St. James, Market Deeping, Lincolnshire, pleaded guilty to obtaining £73 14s. from Messrs. Cooper, Taber & Co., Limited, Seed Merchants, Southwark Street, S.E., by false and fraudulent pretences. Mr. J. P. Grain (instructed by Mr. C. Butcher, Solicitor to the Nursery and Seed Trade Association, Limited), prosecuted, and Mr. Kershaw defended.

The facts of the case were given in the number of the Gardening World for March 9th, and when the prisoner came before the Commcn Serjeant, Mr. Kershaw urged in defence that the prisoner whilst temporarily pressed for money, yielded to sudden temptation, and also that at the time the offence was committed, the particular seed in question (Purple-top Swede Turnip), have gone up in value.

The prisoner was bound over in his own recognisances in the sum of £200, and to find sureties in a like amount to come up for judgment if called upon; and His Lordship, addressing him, said:—Charles Samuel Robinson, you are being very mercifully dealt with, and as the prosecutors have accepted the two sureties in £100 each, put forward in your behalf, you will now be liberated. I decided to take this course in your case, because I am reluctant to send a man to prison who has hitherto borne, as you appear to have borne, a highly respectable character, but you must remember that if at any time you are guilty of any dishonest act whatsoever, you may be brought here, when the facts of this case will be explained to the then presiding judge, and you will be liable to be sent to prison. I therefore strictly warn you to be very careful in future.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Mint and Lavender.—*D. Mackie*: In our opinion Potatos would find a surer sale in Scotland and give less trouble than either Mint or Lavender. Of the two latter we should give preference to Mint because hardier, of quicker growth, and of the easiest propagation. It would stand your wet climate better than Lavender, and as far as we know would find a readier market in the north during the Pea season; but we should allow you to know best about that matter. We understand that you would sell the produce in the green state, and in that case Glasgow and Edinburgh would be the most likely markets for it. Lavender is propagated by cuttings taken in autumn and inserted under hand-lights in light sandy soil; in spring it is ready to plant out either in beds for a year or in its permanent quarters. It would take a lot of cuttings to get up a stock, and would have to be done gradually unless you care to incur some expense in procuring cuttings. Mint, on the other hand, can be propagated by cuttings by division of the stools, and the suckers that are usually produced with great freedom. The cost of stocking the ground would be considerable if you intend doing it in one season, more especially in the case of Lavender, but it would vary according to circumstances, and we should advise you to increase the stock from year to year as it grows. In your wet climate you would want drying sheds to make certain of securing the crop in good condition, unless you can dispose of it in the green state. As far as we know rabbits would not do much harm to the crop. If you trench and manure the ground to begiu with, the cost of merely weeding and hoeing afterwards would not be much.

Names of Plants.—*H.C.*: 1, Galanthus Elwesii; 2, Galanthus nivalis; 3, Erica carnea; 4, Daphne Mezereum; 5, Taxus baccata adpressa; 6, Elaeagnus pungens variegata. *A.N.*: 1, Dendrobium Findlayanum; 2, Cattleya Trianaei var.; 3, Odontoglossum crispum Andersonianum; 4, Dendrobium nobile var. *W. Walker*: 1, Syringa persica, not the common one which is S. vulgaris; 2, Forsythia viridissima; 3, Eriostemon buxifolius; 4, Helleborus atrorubens. *C.W.H.*: 1, Pinus Laricio austriaca; 2, Tsuga canadensis.

Hardy Bamboos.—*J. Black*: There are several which in ordinary seasons stand very well in the open air, more especially if sheltered from strong winds, both while making their growth and in winter, when the leaves are frozen and likely to be broken off while in this rigid state. Exceptions must be taken to severe winters like the past. Amongst the taller kinds we should select Arundinaria japonica (often called Bambusa Metake), also A. Simoni, Phyllostachys nigra, and P. viridi-glaucescens. Hardy and dwarf species that may be planted between and in front of them are Bambusa Veitchi, B. nana, and Arundinaria Fortunei variegata.

United Horticultural Provident and Benefit Society.—*A.C.*: The Secretary is Mr. W. Collins, 9, Martindale Road, Balham, S.W.

Hazel-nut Hedge.—*W. Broadhurst*: In order to renew the hedge for fruiting purposes, you may cut it down within three feet of the ground, cutting away all weak and useless wood to allow of a good growth for the strong shoots, that result from cutting down the old stems. For the mere purpose of a fence it would be to your interest to allow as many shoots to grow as possible, in order to secure density. For fruiting purposes, however, you must keep the stems thin to encourage the production of good fruiting wood. Keep the base clear of suckers, for nothing is so detrimental to fruiting as a thicket of wood at the base, which robs the others of their due share of nutriment, besides preventing the proper circulation of air. You cannot expect much if anything of a crop even the second summer after cutting the plants back so severely; but the formation of fruiting wood will take place in due time. Though the main branches are moderately thinned out, yet the hedge will be sufficient for shelter as well as a screen, as the case may be, and at the same time give a supply of fruit.

Communications Received.—J. F.—A. O.—C. H. T.—S. & S.—T. J. M.—F. K.—G. W.—H. J. H.

TRADE CATALOGUES RECEIVED.

Barr & Son, 12 and 13, King Street, Covent Garden, W.C.—Herbaceous Perennials and Alpines.

Max Deegen, Köstritz, Thüringen, Germany.—Dahlias, Roses, &c.

Pitcher & Manda, Short Hills, New Jersey, U.S.A.—General Illustrated Plant Catalogue.

Nathan Smith & Son, Adrian, Michigan, U.S.A.—New Chrysanthemums, Carnations, and Roses.

Fred W. Kelsey, 145, Broadway, New York, U. S. A.—Choice Hardy Trees and Shrubs.

LONDON SEED TRADE.

March 19th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a brisk demand for all Agricultural Seeds. Trefoil dull. Red Clover, White Clover, and Alsike unchanged. Perennial Ryegrasses dearer. Italian Ryegrass neglected.

COVENT GARDEN MARKET.

March 20th, 1895.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples.....per bushel	3 0 9 0	Grapes, per lb.	1 0 3 6
Nova Scotia Apples per barrel	12 0 21 0	Pine-apples. —St. Michael's each	2 6 6 0
Cob Nuts and Filberts, per 100lbs.	18 0		

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers.....doz.	6 0	9 0	Seakale...per basket	2 6	3 0
Celery.....per bundle	1 6	2 0	Smallsalading, punnet	0 4	
Cucumbers .....each	0 3	0 9	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0	Ferns, invar., per doz.	4 0	18 0
Aspidistra, doz.....	18 0	36 0	Ferns, small, per 100	4 0	6 0
" specimen plants	5 0	10 6	Ficus elastica, each	1 0	7 0
Cinerarias, per doz.	9 0	12 0	Foliage Plants, var., each	2 0	10 0
Cyclamen, per doz.	9 0	12 0	Hyacinths, per doz	9 0	12 0
Dracaena, various, per doz.	12 0	30 0	Lycopodiums, doz.	3 0	4 0
Dracaena viridis, doz.	9 0	18 0	Marguerite Daisy, per doz.	6 0	12 0
Erica, various, doz....	9 0	18 0	Myrtles, doz.	6 0	9 0
Euonymus, var. doz.	6 0	18 0	Palms in variety, each	1 0	15 0
Evergreens, invar. doz	6 0	24 0	Palms, Specimen ...	21 0	63 0
			Primulas, doz.	4 0	6 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	3 0	4 0	Pyrethrum doz. bun.	2 0	4 0
Azalea, doz. sprays	0 6	1 0	Roses (indoor), doz.	0 6	1 0
Asparagus Fern, bun.	2 0	3 0	" Tea, white, doz.	1 0	2 0
Bouvardias, per bun.	0 6	1 0	" Yellow, doz. ...	2 0	3 0
Carnations doz. blms.	2 0	3 0	" Safrano (English), doz. ...	1 3	2 0
Double Daffodils, doz. bchs.	15 0	18 0	Roses (French), yellow, doz. blooms	1 6	2 0
Single Daffodils, doz. bchs.	24 0	30 0	Roses (French), red, doz. blooms. ...	2 0	2 6
Eucharis ...per doz.	4 0	6 0	Smilax, per bunch ...	4 0	6 0
Gardenias ...per doz.	4 0	6 0	Stephanotis, doz. sprays	4 0	6 0
Geranium, scarlet, doz. bunches	6 0	8 0	Tuberoses, doz. blooms	0 4	0 6
Lilac (French) per bch.	5 6	6 0	Violets (English) doz. bun.	1 6	2 6
Lilium longiflorum per doz.	4 0	6 0	Violets (French) Parme, per bun.	3 0	4 0
Marguerites. 12 bun.	1 6	3 0	Violets (French) Czar, per bun. ...	2 0	3 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) Victoria, doz. bun.	2 6	5 0
Orchids, doz. blooms	1 6	12 0			
Pelargoniums, 12 bun.	6 0	9 0			
Primula, double, doz. sprays	0 6	1 0			
Poinsettia, doz. blooms	4 0	6 0			

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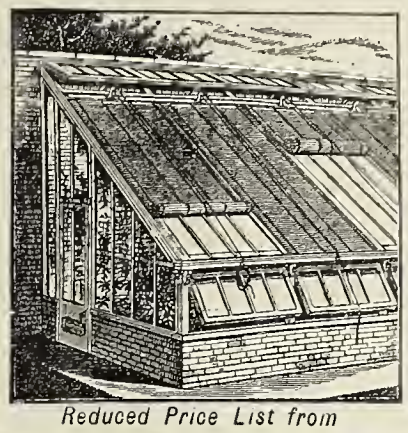

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FLOWER SHOW FIXTURES, 1895.

MARCH.

26.—R.H.S. Drill Hall Meeting.
26, 27.—Brighton and Sussex Horticultural Society's Spring Show.
28.—Liverpool Spring Show.

APRIL.

9.—R.H.S. Drill Hall Meeting.
9, 10.—Birmingham Daffodil Show.
18.—Norwich Spring Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24.—Royal Botanic Society's Spring Show.
24.—Chesterfield Spring Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

13.—R.H.S. Drill Hall Meeting.
14.—Bishop Stortford Flower Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
6, 7.—Bromley (Kent) Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bradford Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23,—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MARCH 30th, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, April 1st.—Sale of Greenhouse and Hardy Plants at Messrs. Protheroe & Morris' Rooms.

WEDNESDAY, April 3rd.—Sale of Japanese Lily Bulbs at Messrs. Protheroe & Morris' Rooms.

FRIDAY April 6th.—Annual Dinner of the Royal Gardeners' Orphan Fund, at the Hotel Metropole, 6.30 p.m.
Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

MODE OF ACTION OF FROST UPON PLANTS.—Amongst memorable winters in bygone times is that of 1813-14, known as the Great Frost, which continued with little intermission from the 26th December to 21st March, when it suddenly broke up. That of 1837-38, known as Murphy's Winter, was more like the past, inasmuch as December was very mild, but was succeeded by weather of arctic severity on the 5th January, which continued with hardly a day's intermission till the 24th February, when it suddenly became milder. The writers of the period frequently referred to it when speaking of the relative hardiness of plants; and so the winter of 1894-5 may be taken as a criterion by the present generation. The various conditions

and circumstances should be taken into consideration by those who make records of the destruction caused amongst plants by the frost. The mild character of the weather up to the end of the year kept most kinds of vegetation in a state of activity and therefore in a dangerous condition for the resisting of severe frost. The dry state of the atmosphere that prevailed almost continually throughout the severe weather had the effect however of greatly mitigating the evil effects that must otherwise have ensued. Evergreen trees and shrubs, but particularly the latter, have suffered most seriously, including the Cherry and Portugal Laurels, Enonymus, Laurustinus, and subjects of that nature. Amongst British plants, evergreen shrubs or trees are relatively few after deducting the Conifers, the Holly, and members of the Heath family. The Holly is the only broad-leaved one, if we except the Arbutus in Ireland; and this should show that evergreen subjects are but ill adapted for our climate. Deciduous subjects are already budding freely, and the injury to that class will be found chiefly amongst those that were lifted and transplanted before the frost.

The quantity of water present in the cells of a plant during frost, as well as the duration and lowness of the temperature, must be taken into account in any discussion of the injury effected. A low temperature for a short time need not be fatal to a plant, but the degree varies in each specific case. The death of plants, or any portion of them, is caused by the rupturing of the tissues when the sap gets converted into ice. One of the effects of freezing is that the cell sap gets gradually attracted to the surface, and there frozen, while the protoplasm in the interior gets more concentrated, diminished in quantity, and drier so to speak. Kunisch made some observations on the subject, and he was of opinion that the lowering of the temperature and the consequent disturbance of the equilibrium of sap and protoplasm had the effect of bringing about chemical changes in the latter prejudicial to the well-being of the plant, independently of the injury caused by the rupturing of the tissues. The brown colour assumed by evergreen leaves subjected to a low temperature is believed to be brought about by changes of this kind. Ice in a cell does not kill it provided the protoplasm does not get disorganised. If the plant is thawed slowly, the water outside the cells is gradually reabsorbed, and little injury is caused thereby. Should the thaw be rapid the water is not reabsorbed, but passes into the intercellular spaces, and the plant, or those portions of it so affected, gets killed. The damage brought about during the past winter must be due therefore to the long duration of the frost, rather than its severity. Had there been an alternation of severe frost and rapid thawing during January and February, we should have had to deplore a greater amount of damage to evergreen trees and shrubs than has actually taken place. A specimen of Euonymus japonicus latifolius albus coming under our observation, has withstood the frost where another succumbed during a recent winter of far less arctic severity. This was against the wall of a house; but it must be noted that the plant killed was grown in a pot, whereas the other is planted in the soil. In connection with this subject it may be interesting to note the ingenious observations of Martius who compared each plant to a thermometer, its zero point being that at which it is just able to live. This varies with each species, and for the matter of that with each variety in some cases. As with the minimum, so with the maximum, for all plants get killed above as well as below a certain degree; and the range between these points constitutes the range within which each specific plant is able to live.

Repairing losses amongst shrubs.—Those whose shrubberies have suffered greatly may be tempted to fill them up with the most common materials for the sake of having the ground covered. Too many of our shrubberies are already overdone with Cherry Laurels, Rhododendrons, and such things which give the whole a monotonous appearance, and render the same losses liable to occur any winter, for Cherry Laurels have suffered greatly, and in some cases are killed wholesale. Those that are still alive at the base may be cut back, and the dead and doubtful ones grubbed up and conveyed to the rubbish heap. On the contrary the present opportunity may be seized upon to render several of the borders the brightest and most interesting places in the garden. This may be done with herbaceous plants, hardy and tender, such as has been amply demonstrated at Kew for many years past, and with great success in the borders by the T range of glass houses. Visitors are much attracted by this style of gardening, for the quantity of blossom, from the time the spring bulbs come into bloom till the hardiest of herbaceous subjects are cut down by the rain and frost and cutting winds of autumn, is very great, varied and continuous.

Foremost amongst the subjects suitable for this purpose are Dahlias, in all their richness of variety, show, fancy, Cactus, pompon and single. They may be intermixed with the shrubs to the great advantage of both, the taller varieties of Dahlia being placed towards the back of the border. The judicious arrangement of the different colours is not the least important matter, and for this purpose the gardener should make out a list of his varieties with their colours before the time for planting arrives. Other subjects to be planted at once are Hollyhocks, Sunflowers, perennial Asters, Antirrhinums, if ready, whether seedlings or rooted cuttings, also Chrysanthemums maximum, C. uliginosum, Gladioli, Lilies, Anemone japonica and its varieties, and a host of other showy perennials of this character which the gardener may possess. Annuals should also play a prominent part, including such things as Stocks, China Asters, Phlox Drummondii, Chrysanthemum coronarium, C. carinatum and their varieties, French and African Marigolds, and others too numerous to mention. The surplus bedding plants, or the more suitable of them, may be planted in due time, including Tobaccos, Petunias, Violas, Verbenas, and anything that can be spared and will add to the display. China Roses, Sweet Briers, Polyantha Roses and others may be added at discretion. Our intention here is merely meant as a suggestion, and gardeners may carry it into effect in borders even close to the mansion house, without any fear as to the decorative effect throughout the whole length of our season. The borders planted in this way must not on any account be overhung by tall trees, otherwise their roots will improverish the soil and their tops will shade the plants in such a way as to spoil the effect and frustrate the success of the undertaking.

Complimentary Dinner and Presentation to Mr. W. G. Head.—On Friday evening of last week, Mr. W. G. Head, Garden Superintendent of the Crystal Palace, was entertained by a few friends at a complimentary dinner at Victoria Station, and presented with a purse of gold in token of the regard and esteem in which he is held by the exhibitors and judges at the Crystal Palace Shows, and as a slight recognition of his many acts of courtesy and kindness. Mr. Richard Dean, who presided, in proposing the health of the guest of the evening, claimed for their honoured friend that he was a typically British horticulturist, inasmuch as that during his lengthened gardening career he had filled positions of trust and responsibility in England, Scotland, Wales, and India, and always with credit to himself as well as to horticulture; while, as a man, he was respected by them all for his uniform courtesy and urbanity, and it was that they as exhibitors or judges at the Crystal Palace Shows might present him with some slight memento of the kindly regard they entertained for him that they had invited him to meet them that evening. The toast was received with musical honours, and Mr. Head suitably acknowledged the compliments.

The Haarlem Bulb Show.—The quinquennial exhibition of Hyacinths, Tulips, Narcissi, and other bulbous plants at Haarlem form one of the additional wonders of the world. In spite of the recent long and severe winter, very little damage seems to have been done to the bulbs, for (as we learn from a correspondent of the *Daily Graphic*) it would be impossible to have anything finer than the specimens now on view. Hyacinths with densely-packed and symmetrical flower-spikes from six to eight inches long, Tulips as large as pæonies, and, in one case at least, as black as jet, and practical illustrations of a bewildering variety of ways in which this class of flowers may be used for decorative purposes—these are just two or three impressions with which the visitor comes away from the seventeenth of these exhibitions. It won'd not be possible, even for the most enthusiastic horticulturist, to master the many phases of the show, for there are over 200 classes, and all the chief growers of the North of Holland have competed. The chief novelties of the show are the black Tulip already mentioned, a deep purple Arum Lily, which is more curious than beautiful, and an exceedingly striking new double Tulip, with light pink and large globular-shaped flowers, named in honour of Lord Rosebery, which is certain to become popular when placed on the market. The only English firm to complete with the Dutchmen on their own ground is that of Messrs. R. P. Kerr and Sons, Liverpool, who receive a gold medal for a very choice collection of Amaryllis.

The Terrific Gale of Sunday last is responsible for a vast amount of damage to trees and other property all over the country, but more especially in the south and south-east. The effects of the gale were severely felt in Hyde Park, and fears were entertained at the local police office for the safety of pedestrians. All the paths across the park, which are quite unprotected from the weather, were rendered unsafe on account of the terrific wind. The carriage ways were also impassable, and constables were deputed to warn drivers of the dangers attending any attempt to make use of the roads. All the afternoon the gigantic trees were blown violently to and fro, the branches often touching the ground. At four o'clock considerable consternation was caused when a magnificent Oak, about a hundred yards from Hyde Park Corner, was uprooted and hurled across the carriage way. In its fall the tree smashed the huge iron rails which run all along the road. Two men who were clinging to the rails a few yards off, to prevent being blown away, narrowly escaped injury. Information of the disaster was at once communicated to the park authorities, and men were set to work to cut off the branches of the fallen Oak. The hurricane blew down about 2,000 trees on the Sandringham estate, a large proportion being about twenty years old and of special interest. Thirty yards of the garden wall, 20 ft. high, was also levelled, and other damage caused. It is reported that the destruction of trees upon the adjoining Castle Rising Estate is enormous, numbering 3,000; and a similar number are said to have been blown down on the Fitzwilliam Estate alone. The Marquis of Huntly's "family" of silver birch trees, the finest in England, has been completely destroyed.

A Gardeners' Association for Ireland.—A meeting was recently held in Dublin for the purpose of aiding the gardening profession in Ireland. The Chairman, Mr. W. J. Watkins, said the objects of the meeting were to form an Association which would be a bond of union amongst the gardeners of Ireland. There was a wide-felt want for an association where gardeners could be more closely got together than

they were at present, especially in Ireland. They were determined to leave no stone unturned until they made the Irish Gardeners' Association worthy of its name. There was no gardeners' association existing throughout the whole of Ireland, and Dublin should be the first place to take this matter up. Their Association should be non-sectarian and non-political. They were not antagonistic to the Royal Horticultural Society; but that Society should do something to promote the gardeners' profession. Mr. Shaw, secretary, said that the great object of their Association would be their mutual improvement. They could get persons who had been successful in cup competitions to come to their meetings and tell them how they attained that success. They had in Dublin a large commercial population who loved flowers very much, and who had no opportunity of admiring them because they were in their shops while these flowers were exhibited in some nobleman's backyard. They wanted an exhibition to be held where these flowers could be sent and be properly appreciated. Mr. Todd proposed, and Mr. Russell seconded, "That an Irish Gardeners' Association be established in Dublin," and the resolution was carried.

DEUTZIA GRACILIS.

When we consider all things, this old plant is probably the best, easiest, and cheapest for producing a quantity of pure white flowers early in the year. Do not commence with a strong heat, and do not let them be in full light at first. Beneath the bench of an ordinary greenhouse for a few weeks until the eyes have swelled and are bursting is a good place, especially if we keep them moist at top and so assist the swelling. A hot and dry atmosphere, or too much haste at first, often results in much blind and uneven growth. This plant flowers upon the wood of the previous season, and if treated steadily and then introduced to a warm stove temperature comes into bloom very quickly and evenly. When the bloom is on the point of bursting, they may once more have ordinary treatment. In the usual course of things a warm greenhouse is quite sufficient, but it pays to keep them under the benches during the first stages.

Many are apt to place them on one side and neglect after their season of bloom is over. This is folly; because the young growths from the base, which by this time are well forward, will make by far the most valuable flowering wood for the ensuing season. Cut away the older growths that have carried blossom, and feed the new growths. Keep them in a vinery or cool greenhouse until the outside weather is sufficiently warm to avoid any sudden checks. When thinned out as advised, the pots can stand close together in many out-of-the-way corners of the houses, and if kept well watered and fed a little, will give us grand growths that will ripen early and be extra useful for next winter's bloom. A little care of this kind will secure grand crops of bloom from the same plants season after season.—*Experience.*

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects received certificates from the Royal Botanic Society on the occasion of their first spring show on the 20th inst.

Rhododendron Optima.—This is one of the hybrid Rhododendrons of the Javan type. The leaves are oblong, leathery and large. The flowers are also of unusual size for the group showing that improvement continues to be effected. They are of a rich Indian yellow with a rosy line round the edge, and a thick tube of moderate length. The stamens are red and stand out in bold contrast to the rest of the flower. Floricultural Certificate. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Amaryllis Idsworth.—The scapes of this variety are dwarf, being only about 18 in. high, carrying 4 fine flowers, widely funnel-shaped with a short tube, and broad overlapping segments. The latter are dark crimson with a shining lustre in the throat of the flower which is shaded with maroon. It is a bold and richly-coloured variety well suited for exhibition purposes. Floricultural Certificate. Exhibited by Messrs. J. Veitch & Sons.

Streptocarpus Gratus.—The leaves of this variety are few, oblong and of large size, the first attaining a length of 18 in. or more. From the base of these arises a large clump of flowers borne on 12 to 15 or more scapes, each bearing several flowers. The scapes are only 3 in. to 6 in. high, and the large flowers are of a beautiful rosy-purple hue, lined with dark purple at the base of the lower lip. The quantity of blossom, the rosy flowers and the early period at which they may be had in bloom, are all recommendations that agree strongly in favour of this handsome hybrid. Floricultural Certificate. Exhibited by Messrs J. Veitch & Sons.

Kentia Dumoniana.—The specimen of this Palm exhibited by Messrs. B. S. Williams & Son, Upper Holloway, bore a crown of eight leaves varying from 2½ ft. to 3 ft. The petiole is smooth, flat above and arched, while the blade of the leaf itself is pinnate, and beautifully arched or recurved. The segments are linear, long and graceful, while about four of the basal are narrower and stand up at right angles to the rest of the surface. The Palm is well adapted for decorative purposes as in K. Belmoreana. Botanical Certificate.

Clivia Model.—The plant is very vigorous, and even notable for the great breadth of its leathery leaves. The flowers are borne in massive trusses, and are relatively short but companulate and wide with broad imbricate segments of a rich orange colour, and yellow in the throat. Floricultural Certificate. Exhibited by Messrs. B. S. Williams & Son.

Clivia Firefly.—As the name would seem intended to indicate, the flowers of this valuable variety are of a fiery tint which we should describe as glowing orange-scarlet. They are funnel-shaped and borne in large, massive trusses. The leaves are leathery and 2 ft. to 3ft. long. For greenhouse and conservatory decoration it is invaluable at this time of the year. Floricultural Certificate. Exhibited by Messrs. B. S. Williams & Son.

Leucojum vernum carpaticum.—For description see p. 469. Botanical Certificate. Exhibited by Mr. T. S. Ware, Hale Farm Nursery, Tottenham.

Primula denticulata alba.—There are now several distinct varieties of the Himalayan P. denticulata in cultivation differing in the colour of the flowers and in some cases in the size and vigour of the leaves. That under notice is very vigorous in growth and has pure white flowers, produced very freely in umbels varying in size in proportion to the strength of the plant. The variety is an acquisition to this class of plants. Botanical Certificate. Exhibited by Mr. T. S. Ware.

The following new plants were certificated by the Floral Committee of the Royal Horticultural Society on the 26th inst.:—

Amaryllis Gorgeous.—The scapes of this variety are only about 18 in. high, and the leaves are produced almost contemporaneously with them. The flowers (of which there are two on a scape), are shortly and widely funnel-shaped, of regular, symmetrical form, and of a rich, glowing and fiery crimson, with a lustrous gloss, especially in the throat, which is shaded with a deeper tint. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Streptocarpus gratus.—This is a new strain, being a hybrid between S. Dunnii and the older type of varieties. For description, see above. Exhibited by Messrs. J. Veitch & Sons.

Mignonette Bush Hill White.—The flowers of this variety have very few or no anthers, and are, therefore, practically white owing to the number and much divided character of the small petals. The lower flowers of the stronger stems are also very remarkably proliferous. After flowering, instead of producing seeds, a small spike bearing numerous flowers arises from the interior of the capsule. They are delicately and agreeably fragrant. Exhibited by Messrs. Hugh Low & Co, Clapton.

Clivia Model.—For description of this grand and showy variety see above. Exhibited by Messrs. B. S. Williams & Son.

FLOWER CLOCKS.

The periodicity of plants in opening and closing their blossoms has enabled many ingenious botanists, including Linnæus, to form floral dials, or clocks, by means of which the different hours of the day may be ascertained. Commencing at three o'clock in the morning (for no flower wakes up before the lark), the Goat's-beard blossoms form one of the best floral indices of the hours of the day, opening at sunrise and closing at noon. This plant while flowering is easily recognised by its sea-green stem, 2 ft. high, and by its long green leaves, almost as slender as long wheat, which distinguish it at once from the other species of compound flowers with their variously cut foliage. After blossoming, the plant may be known by its round downy ball of light brown seeds, to which the plant owes it rustic name of "Goat's-beard." It is also called noon-day flower, Jack-go-to-bed-at-noon, and Star of Jerusalem. The Daisies sprinkling our meadows received their pretty name from their opening only to the morning light, and many persons have felt like Chaucer—"And whanne that it is eve, I renne blithe as soon as ever the sunne ginneth west to seenee this flowre, how it will go to rest." He also says:—"That well by reason men calle it maie, the daisie or els the eie of the daie." And Spenser, in the "Faerie Queene," speaks of "The little dazy that at evening closes." The common Centaury (Erythraca centaurium) is another plant which wakes up with the sun. It is a frequent flower on heaths, and on cliffs by the sea, from June to September; but in cloudy weather the beautiful rose and golden-coloured blossoms are all closed up, nor are they ever to be seen in full beauty after three o'clock. At about four o'clock the Dandelion spreads its golden blossoms to the rising sun, and five o'clock is announced by the flowering of the Smooth Hawk's-beard (Crepis tectorium) growing upon the walls.

Towards six o'clock the Viper's grass (Scorzonera) blossoms; while from six to seven the flowers of various kinds of Sow's Thistle (Sonchus) and Hawkweed (Hieracium) make their appearance. Precisely at seven o'clock the flowers of the common Lettuce (Lactuca sativa) burst forth into bloom, and between seven and eight Venus's looking-glass (Specularia speculum) begins to show its pretty self, from which it may perhaps be inferred that the goddess is not a very early riser. At eight o'clock, if the sky be neither cloudy nor rainy, the Scarlet Pimpernel (Anagallis arvensis) unfolds its blossoms. Nine o'clock is marked by the flowering of the creeping Mouse-ear Hawkweed (Hieracium lubium). From nine or ten of a summer's morning the red Sandwort (Arenaria rubra), with its starry blossoms like silver pennies, may be seen spangling the grass in their full loveliness; but by four o'clock each blossom is closed up from the dews which twilight brings. At ten, a poisonous sort of Juniper, the Purple Savin (Juniperus Sabina), opens its flower leaves. Punctually at eleven the common Star of Bethlehem (Ornithogalum umbellatum) expands its star-like white and green blossoms, flowering during two or three weeks, but never unfolding except in bright sunshine, and even then not before eleven; hence gardeners often call it eleven-o'clock-lady, and the French term it *la belle d'onze heures.*

Commencing at one o'clock, there is the Succory (Chicorium), and, at two, the Squill Hyacinth (Scilla pomeridiana). The common Marigold (Calendula officinalis) is put down in the calendar for three o'clock; but experience shows this to be uncertain. By four o'clock, the four o'clock flower (Mirabilis dichotoma) blooms; and at five the flower of the wall Hawkweed (Hieracium muracum), makes its appearance. From five to six, the pale rose-coloured petals of the sweet-scented, night-flowering Catchfly (Silene noctiflora) disclose themselves. And on portions of the sides of those towering and majestic cliffs which border the shore for several miles to the east of Dover thousands of these starry blossoms have been seen in their full glory about eight p.m., growing on stems about a foot high, and exhaling a powerful perfume resembling prussic acid.

At six o'clock the Evening Primrose (Oenothera biennis) opens its large primrose-coloured, somewhat fragrant blossoms, just when the summer twilight is on its way. Its mode of expanding is curious, the petals being held together at the summit by the hooked ends of the calyx, the segments of the flower-cup at first separate at the base, and the yellow petals peep through these openings a long time before the flower is fully blown. The expansion is very gradual until the blossom is free from the hooks at the top; but, when this is effected, it unfolds very quickly for a minute or two, and then stops, after which it opens slowly, spreading itself out quite flat. The whole of this process sometimes occupies half-an-hour, and often a little sudden noise is heard as it jerks the topmost hooks asunder. The flowers hang next day discoloured and

flaccid, so that the plant has little beauty until evening. Occasionally, however, a blossom may be seen fully open even at midday. The night-flowering Stock (Matthiola tristis), is all day withered, needing the air of night to fresben it into vigour and sweetness. Between seven and eight o'clock in the evening during the summer the queen of night flowers, the magnificent night-flowering Cereus (Cereus noctiflorus) begins to open its blossoms, and by eleven p.m. these are in full blow. The calyx of the flower when open is nearly a foot in diameter. The inside is of a splendid yellow colour, appearing like the rays of a bright star, while the outside is of a dark brown. The petals, being purely white, add considerably to the lustre of the golden star, and while they are in bloom these flowers are unsurpassed for beauty and fragrance. Another Cereus (Cereus nycticalis) is also night-flowering, beginning to open between seven or eight, and being fully expanded by ten o'clock. At eight o'clock, in hot weather, the beautiful flowers of the Marvel of Peru (Mirabilis jalapa) unfold themselves, but it sometimes happens, if the weather is cool, or the sun is obscured, they open in the daytime. The nine o'clock flower, the latest, is called the Mournful Geranium (Geranium triste). Linnæus named all night-flowering blossoms as mournful plants (Florus triste), and many, this Geranium included, deserve the name from their dull colour.

The expansion and closing of flowers is supposed to be regulated by light and moisture. A plant accustomed to flower in daylight at a certain hour will, however, continue to expand its flowers at the wonted period, even when kept in a dark room. Decandolle made a series of experiments on the flowering of plants kept in darkness, and in a cellar lighted by lamps. He found that the law of periodicity continued to operate for a considerable time, and that in artificial light some flowers opened, whilst others, such as some specimens of convolvulus, still followed the clock hours in their opening and closing. Some flowers bloom and fade in a day, and are therefore called epbemeral; whilst others continue to open and close for several days before withering, the corolla usually beginning to fade after the flower has been fertilised. Many flowers or heads of flowers do not open during cloudy or rainy weather, and hence have been called meteoric. The closing of the flowers in these circumstances is doubtless intended to protect the pollen from the injurious effects of moisture. The scarlet Pimpernel (Anagallis arvensis), also known as the shepherd's barometer or poor man's weather-glass, is the best floral barometer: because, not only does the flower never open on a rainy day, but long before the shower arrives it is conscious of its approach and closes its petals. This peculiarity was noted by Derham in his Physico Theology; by Lord Bacon, who calls it winco-pipe; and by Leyden. Not only does the Pimpernel shut up its blossoms during rainy and cloudy weather, but it is one of the best of the clock flowers, opening its petals in our latitudes at about ten minutes past seven in the morning, and closing them a few minutes after two in the afternoon.—*Evening Standard.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Cypripedium Brysa.—The seed parent of this hybrid was C. Sedenii candidulum, itself a hybrid, and C. Boissierianum. The upper sepal is oblong, almost white, and finely netted with pale green. The lanceolate, twisted petals are soft rosy-pink. The lip is much inflated, of peculiar shape, with a large circular opening to the pouch, the edge of which is crenate; externally it is wholly of a soft pink. The unfolded side lobes are creamy, spotted purple, and sufficiently large to be a conspicuous feature of the flower. The pollen parent is a comparatively little known species from the Huanuco district of Peru, where C. caudatum was discovered at the same time, so that their botanical history is the same, though their garden history is so different. C. Brysa is a great improvement upon C. Boissierianum in the matter of colour, robust in constitution, and free flowering. It belongs to the Selenipedia group, a section of the genus confined to the New World and not extending so far north as Mexico. C. Boissierianum was so named and described by Reichenbach in 1854, but in 1882 he again described it as C. reticulatum, probably in reference to the netting of the upper sepal and under the impression that it was new. It has also been given as the seed parent of C. Brysa, and judging from mere appearances this might have been the case. At all events it is pretty, distinct, and deserves a place in collections. A Botanical Certificate was awarded it by the Royal Botanic Society on the 20th inst. when exhibited by Messrs. J. Veitch & Sons, Chelsea.

Dendrobium atroviolaceum.—This very distinct and striking species was introduced from New Guinea in 1890. The specific name refers entirely to the lip. The sepals are sharply pointed, and the lateral ones are so broad at the base as to be triangular-ovate. They are yellow on both surfaces, tinted with green, and densely spotted with blackish-purple on the back, but the spots show themselves, though more faintly on the inner face. The rhomboid petals are pale yellow at the base, fading to soft sulphur-yellow above that, and thinly spotted on both surfaces with a hue that is almost black. These colours remind us somewhat of Brassia verrucosa, and are as interesting as they are striking. The very distinctly three-lobed lip is dark violet on the inner face, and of a dull greenish hue externally tinted in places with dark violet. The inner face of the lateral lobes is the richest in hue, and is faintly marked with green lines; the middle lobe is more plainly striped, but partly hidden by the unfolding of the sides. The flower given us by Messrs. F. Sander & Co., St. Albans, measured fully 2¼ in. across the petals. The colours and their peculiar combination constitute the paramount interest attaching to this comparatively new species. Judging by the number of times we have seen it in bloom since its introduction, it must flower freely and regularly in its proper season.

Dendrobium Wardianum Elvinia, *Nov. var.*—The general aspect of this variety is very striking on account of the manner in which the sepals and petals are twisted. The twisting detracts from the real size of the flower, but notwithstanding this it measures 4 in. across the petals without any stretching or flattening of the latter whatever, and 3½ in from the tip of the dorsal to the tip of the lateral sepals, which are more curled than the other segments. The basal half of both sepals and petals are of a waxy, shining white, while the upper half is of a dull milk-white, tipped with rose in the case of the petals. More than half the lip is of a bright orange, both externally and internally, with the two customary maroon blotches at the base; the apical third is white with a pale rose tip. The outer face of the sepals is faintly tinted with pink, and there is the faintest suspicion of a blotch at the apex of the inner face. Independently of colour, the half twist of the petals and the great inward curve of the lateral sepals are sufficient to characterise this variety. It is named in compliment to Lady Elvinia Rose. The ordinary form of D. Wardianum with flat petals accompanied the above as well as the gracefully refined and charming D. nobile elegans, with its light coloured flowers. We received all of them from Mr. P. McArthur, The London Nursery, 4, Maida Vale, W.

Lycaste Skinneri alba.—A remarkable specimen of this much favoured Orchid is to be seen in the collection of Max Robinow, Esq., Hawthornden, Didsbury, and it is a real credit to his gardener, Mr. Blomiley, under whose fostering care the collection has so much proved. The specimen has forty good bulbs, and seven strong leads, and is showing sixty flowers, some of which are just opening, and though not fully developed are already 6 in. in diameter. I do not remember having seen such a grandly leaved plant before, for many of them are 3 ft. long and 4 in. broad. It is a treasure to be proud of. There are also several good Vandas in bloom which scent the place with their sweet perfume. The plants, V. suavis and tricolor, are dwarf, and many have two spikes.—*A. Outram, F.R.H.S.*

Orchids at Chardwar.—When at Chardwar, Bourton-on-the-Water, to-day, March 21st, I was pleased to see a splendid lot of Miltonia Roezlii, ten plants in 4-in. pots having eighty blooms, many of the spikes having four blooms. The perfume on entering the house is delicious. I noted also a splendid specimen of Oncidium flexuosum with thirty-six spikes, and Oncidium barbatum with a very strong spike; two good specimens of Dendrobium nobile, each carrying 100 fine blooms; the curious D. Johanis with two good spikes; many blooms of D. superbum; a very fine variety of D. primulinum, and many other choice Orchids.—*J. C.*

THE PLANT HOUSES.

The Stove.

The past few days have been warm and spring-like enough to rejoice the gardener's heart, and after the cold winds with which March was ushered in such genial weather is doubly welcome. Still, increased light and heat although pleasant in themselves bring in their train a host of duties that must receive immediate attention if things are to progress satisfactorily.

Shading.—It will be no longer safe to further delay the fixing of the blinds. In some cases they have been left on the houses all the winter, letting them down at nightfall to assist in keeping up the temperature of the house. Although this practice has much to recommend it, it spells ruin to the blinds, which will barely last for more than a season or two at the utmost when left out all winter. Steps should now be taken therefore to replace worn-out blinds by new ones where the old ones are not capable of being repaired. See that the ropes that are used to work them are in good order, and that the wheels of the pulley in which they run are oiled, for nothing is so trying to the temper during a sudden burst of sunshine than to find the cords will not run.

Permanent Shading.—Where blinds cannot be fixed owing to awkward corners in the roof, the glass must be painted over with a light coating of Summer Cloud Shading, which may be obtained from any vendor of garden sundries. A very light application, just sufficient to exclude the fiercest rays of the sun, should be given now, making it heavier in a few weeks' time. It should not be put on however until it is absolutely necessary.

Stephanotis floribunda.—Where this is grown in an ordinary collection of stove plants, the growths will by this time have reached a good size. These must be neatly tied in before they get tangled together. The syringe too should be kept vigorously at work among this, as well as among the rest of the inmates of the stove, for green-fly has a decided partiality for the tender tips of the young growths of Stephanotis. Be particularly careful that the water supply is ample, especially if the plant is being grown in a pot or tub, for, with the vigorous growth it should be making if in a healthy condition, large quantities of water will be required.

Stove Ferns.—Where these are grown in the stove a special corner should be assigned them where the spray from the syringe will not reach them. Do not be too free with the watering-can upon those plants which have been newly-potted, Gymnogrammas more particularly. Keep a sharp lookout for slugs and cockroaches, which at this time of the year exhibit particular rapacity, biting off the young fronds almost as fast as they appear. A little phosphorus paste should be spread on pieces of slate or cardboard for the latter and laid upon the stages at night-time, taking care however that it is beyond the reach of children or animals. The most efficacious way of dealing with slugs is to go round several times during the evening with a lantern, when the enterprising animal may often be caught.

Dracaenas.—Plants that were ringed according to instructions a few weeks ago will now have made sufficient roots to warrant the removal of the tops. These should be carefully potted up and kept close for a few days, shading them well and dewing them overhead with the syringe several times a day. The stems of the old plants may be cut up into small pieces of about 1½ in. in length, having a couple of nodes each, and plunged in Cocoanut fibre in a brisk bottom heat, where they will soon start into growth, or, if desired, the old plants may be left as they are to break naturally, which they will do from the topmost node first, the break being removed and inserted as a cutting, and the old stem thus induced to make another growth. This is a slower method of obtaining a stock of plants than the first-mentioned, but it is nevertheless a sure and dependable one.

Greenhouse and Cool Conservatory.

The fixing of the blinds here must be executed as promptly as possible, for the bright sun will soon cause many of the flowers to drop if allowed to beat upon them in its full radiance. Air must be admitted freely by both top and bottom ventilators, and the atmosphere of the house should be kept as cool and sweet as possible. A night temperature of about 50° Fahr. should be maintained. Watering must now be looked over twice a day, the principal watering being given at night, at which period the

plants derive very much greater benefit from it than they do when it is performed in the morning. As the various climbers break into growth more or less vigorously attention must be paid to their tying and training. Such plants as Tacsonias and Passifloras will need but little tying; a little attention twice or thrice a week to see that the growths are free from each other will however be necessary, as these climbers always look best when the growths are allowed to hang from the roof at their whole length than they do when trained stiffly to wires or rafters. Lapagerias, Jasmines, Roses, etc., should be tied up as growth advances, and should be gone over every little while for this purpose before the shoots get long enough to render manipulation difficult.

Ericas and Epacrises.—If treated properly these should have been affording a brave show throughout the whole of the winter months. Ericas are by no means difficult to grow, but like most other plants they have their likes and dislikes, and these must be taken note of if good results are expected. A sufficiency of water at all times is the great secret of Heath culture. The present is rather a critical time with them. Plants which have gone out of flower should be cut hard back if it is desired to have nicely shaped and symmetrical specimens. They should be removed from the greenhouse, placed in a cold frame or pit near the glass, and syringed daily to assist them in breaking into growth.

Pits and Frames.

At this season of the year the work of potting must be pursued with all the vigour possible. Numbers of subjects on all hands are calling for shifts, and thus the wisdom of the advice given early in the season to lay in a stock of suitable soils, also to see that any pots that may have been empty were washed in readiness for an emergency, may be judged.

Celosias and Cockscombs.—These are exceedingly useful decorative plants, and will come in useful for the conservatory presently. Any seedlings that are big enough to handle should be potted off into thumbs now before the roots get matted together. Place them on a shelf near the glass to prevent them from getting drawn, for in this case they will be of comparatively little use. Keep the syringe at work amongst them and watch them very carefully for red spider, which is very partial to them. A sowing of a pinch of seed may now be made to furnish a later batch of plants.

Pelargoniums.—If not already done no time should be lost in putting in cuttings of Zonal Pelargoniums to afford plants for winter blooming. These will be furnished by plants which have bloomed during the past season. Notice should have been taken of the sorts which are the most desirable, for so many varieties are now upon the market, amongst which are numbered so many inferior ones that a weeding-out of the least worthy varieties should take place each year. The old plants if potted up and grown on in a gentle heat will make good material for the filling of ornamental vases in the flower garden where a scarcity of suitable sized subjects prevails. If no need for them in this direction is apparent they may be consigned to the rubbish heap as soon as a sufficient stock of rooted cuttings has been obtained.

Carnations.—Cuttings of the hybrid perpetual section which were inserted some time ago and placed in heat to strike as advised will now have become rooted sufficiently and should be potted off singly into thumb pots. Add a goodly mixture of sharp sand to the potting soil together with some crushed bricks; keep the plants close, shade and water carefully for a time, also maintaining a strict watch for green-fly, which will frequently attack the plants at this stage of growth to their no small detriment.

Achimenes.—If a batch of these useful and highly ornamental plants has not been started no time should be lost in seeing about it. Just enough of the tubercles should be potted up to form a nice little batch, the others being placed in heat, started at intervals of about three weeks, so as to form suitable successions, and thus insure a supply of plants in bloom throughout the whole of the summer. A temperature like that of the early vinery will soon start them into growth, although care must be taken not to leave them in it after the shoots are about a couple of inches in length.

Poinsettias.—These are often exceedingly curious subjects to strike, and it is sometimes difficult to obtain a sufficient stock, for we have known whole batches of cuttings to damp off from causes unknown, whilst in another case perhaps every cutting will strike easily, and this under exactly the same conditions. Accordingly the old plants should be saved until it is certain that a sufficient supply of rooted cuttings are obtained. Press the soil firmly about the base of the cuttings, which should be taken off with a heel, using sandy soil, and plunge the pots in a brisk bottom heat until rooted. Where it is the custom to construct a hot-bed for the striking of cuttings in the spring, advantage may be taken of any available corner in it for Poinsettias, for in such a place we have found by practical experience that they root best.

Cold Frames.—A thorough overhauling should be given these at once, for they will soon be filled to overflowing with hosts of bedding plants of all descriptions, and as every inch of space will then be valuable, all old or useless material should be cleared out of them. Frames which have been employed to shelter Violets throughout the winter may now be lifted completely off, and removed to a vacant corner of the yard, where they will come in handy when the usual call out for more room is heard. The Violets will take no harm whatever from being thus exposed, as it is not at all likely we shall get frosts severe enough to injure them. Although during the winter months they have needed comparatively little water, they must be well looked after in this respect now, in order that they may make strong and healthy growths in readiness for division when the time comes.

In dealing with the generality of the subjects occupying cold frames plenty of air at all times should be given, excepting, of course, newly potted plants or any that have been recently removed from a warmer temperature, in which cases a few days' coddling will be necessary.—*A. S. G.*

THE ORCHID HOUSES.

Calanthes.—The deciduous section of this fine winter-flowering Orchid, which embraces C. vestita rubro-oculata, C. v. luteo-oculata. and C. Veitchii, will in most cases have started into growth. If not already done, turn them out of the pots in which they have been growing and remove all the old decayed bulbs and soil. The last made bulbs may then be placed rather thickly together in moss, using shallow boxes for the purpose, until the growths have attained a length of about 2 in. and are putting out roots on their own account, when they will be in a fit state to pot up. They will require scarcely any water direct until the growths are a good height, but the atmosphere about them should be kept fairly moist. For grouping purposes amongst Ferns, when in flower, we favour the one bulb to a small pot system, but for ordinary purposes three or even four fair-sized bulbs may be put into a 7 in. pot. The compost best suited to their requirements consists of two parts good turfy loam, one of peat, and one of dried cow-dung or horse-droppings, such as is used when making up a bed for Mushrooms. Add to this some silver sand to keep it open, and you have a compost which they will appreciate. I have before now mentioned that there is no better place for Calanthes than a shelf in the stove, so that anyone with such a structure can manage them well. When well established they will require some kind of stimulant other than what is provided by the manure in the soil. Clay's fertiliser or Guano suits them very well, but always commence with weak doses. A practised eye will soon grasp what suits them best.

Anguloas.—These curious Orchids, too, will also now be starting into growth, and should be re-potted. They push up their quaint flowers with the young growths, but there need be no fear of the plants receiving any check by being potted now. On the contrary, the new roots will have something fresh to take hold of when they appear, and will be better able to support the flower spikes. We have left them until they have gone out of flower before disturbing them, but do not like the practice, as there is always a danger of breaking the roots. The compost recommended for the Calanthes will grow these well, but instead of two parts loam make it two parts peat.

Cymbidium Lowianum.—The re-potting of this fine winter-flowering Orchid should be done now; they are easy to grow, but require fresh material every season, and that rather rich. Such as is used for Calanthes suits them admirably, as also similar treatment when established as regards manure.—*C.*

Gleanings from the World of Science.

Argon.—The opponents who denied the existence of this lately-discovered element in the atmosphere, are for the present silent. Whether they are sullenly and silently acquiescing in its actual existence, or are quietly preparing for another attack upon it remains to be seen; but the Chemical Society evidently takes its existence for granted and has conferred the Faraday medal on Lord Rayleigh its discoverer. Judging from this fact, the element argon may be regarded as having "a local habitation and a name" in orthodox chemistry. The suggestion uppermost in the minds of all concerned about it, is, that although argon has not been found capable of entering into combination with any of the other elements, it may be so under the vital influences of the cells of plants, and that the latter may be able to absorb it from the atmosphere and assimilate it into their tissues. Hitherto however, this has not gone beyond the stage of a plausible theory. The discoverer and friends of argon would doubtless like to be able to lay some useful function to its charge in the economy of nature. Professor Ramsay is indeed making experiments with this end in view, though as yet doubtful of the results. The occurrence of nitrogen and argon together is regarded as accidental, for they have no affinity nor similarity whatever and both are remarkably inert. This latter character is held accountable for their being found in company.

The splitting of forest trees.—Now and again at rare intervals, on the occasion of severe winters, we hear of the splitting of forest trees. This is usually attributed to the freezing of the sap in the interior of the tissues, as in the case of the bursting of water-pipes. Paradoxical as this may seem it is due to a contrary cause. The wood contracts, under the influence of frost, and if the shrinkage is great, the surface splits from the circumference inwards to some considerable distance, just as cut timber does when subjected to drought. The tissues expand again on the departure of frost and the fissures close up, though they never heal. Mr. Clayton of Bradford has been making observations and measurements on trees with a view to a solution of the question, and he finds that trees in February during the prevalence of frost measure $\frac{1}{8}$ in. to $\frac{3}{8}$ in. less in circumference than they do in October before the advent of frost.

Manures for vines.—The results of experiments on the manuring of vineyards, made by M. Müntz and laid before the French Academy of Sciences, may be interesting and useful to those who grow grapes under glass in this country. Nitrogen and potash are much more freely absorbed by the vines than is phosphoric acid, and that nitrogen is the most effective. Curiously enough this does not seem to be universal according to the findings of M. Müntz. In the vineyards of the south, nitrogen is absorbed in greater quantity, relatively, than potash while the proportions are reversed in the north. The vineyards of the south yield a much more abundant harvest than those in the north, yet they require no greater amount of manure. On the contrary the manurial elements required to produce a given quantity of wine is three or four times greater than is necessary to secure the same quantity in the south. This must be attributed to the more favourable climate and the greater activity of the roots and leaves of the vines in performing their functions.

The Cornish Chough.—Few gardeners have an opportunity of making the acquaintance of this bird, which is a member of the crow family, confined to the rocky sea shores and yearly getting more and more rare though the shooting of the birds and the taking of their nests. The young birds are the most coveted inasmuch as a brood may fetch £10 to £20. The extinction of the bird would be a decided loss to all connected with the cultivation of the soil, inasmuch as it destroys various beetles and other insects injurious to plant life. The young birds usually fly about the end of July and would thus escape owing to the protection afforded by the close season. To frustrate this the wily Cornishmen rob the nests of the first batch of eggs, so that the old birds make a fresh nest and lay again, thus making the second brood a fortnight later, when the Cornishmen can secure the young without incurring the penalties of the law. Last July there were only eight pairs of Choughs in North Cornwall: and in order to prevent the extermination of the bird, the Home Secretary has issued an order forbidding the taking or destroying the eggs of the Chough.

A LITTLE KNOWLEDGE.

No one who has any sense of humour could fail to be interested in reading the article appearing under the above heading on p. 472 of THE GARDENING WORLD. From the graphic account that "Pathfinder" there gives of the woes and troubles of a gardener, it would appear that he is an exceedingly ill-used person. From all accounts the garden (?) in question would appear to have been more of a menagerie than anything else, where a varied collection of birds and animals were accustomed to disport themselves and to have the proverbial "high old time." But however well this may have suited the disposition of the birds and animals in question it is very certain that such a laxity of order and absence of system and method could not have failed to have upset the peace of mind of any gardener possessing a love of neatness.

That such a state of affairs as "Pathfinder" describes should be allowed to exist, is, to say the least of it, lamentable, although, sad to say, it is not exactly a rare or an uncommon occurrence. Accordingly, "Pathfinder's" wail of complaint may find an echo from many a gardener in whose jurisdiction things are not exactly as they ought to be. In some cases this is the fault of the employer, in others it is due to the gardener himself. Among other things for which the gardener is to blame is, as has been stated, the sowing of seed in unskilful profusion, or in unsuitable positions, a proceeding which, while it may gladden the heart and fill the pockets of the seedsman, most certainly does not conduce to the credit of the gardener. According to the present system of bedding, which so commonly obtains in the gardens of this country, the houses are choked up for six or seven months of the year with hosts of bedding plants too numerous in variety to mention, and this to afford a display for only some four or five months at most.

We should imagine that most gardeners would be glad enough to see the time when the weather will allow the contents of pots and boxes to be transferred to beds or borders as the case may be, and would consider themselves well rid of them and of the trouble they occasion. This, however, does not seem to be the case, for how often do we see bedding plants which have been left over allowed to remain encumbering the place throughout the whole of the summer, being watered and looked after just the same as the rest of the plants. It would be hard indeed to imagine anything more ridiculous than this. The plan which is put in practice in very many good gardens to get rid of superfluous stuff is well worthy of extensive imitation, viz., to distribute any bedding plants which may be left over at the end of planting-out time amongst cottagers in the immediate vicinity, the small flower garden of many a working man's abode being thus rendered gay during the summer months with material that would otherwise have been wasted or worse than wasted. Still, an experienced gardener ought to be able to gauge his requirements better than to waste his time and trouble, as well as increasing his seed bill, propagating and rearing a lot of plants for which he will experience no need.

To make such elaborate and unnecessary preparations may sometimes be the result of perversity, but far more usually is it caused by the ignorance greater or less of the gardener, or in other words, his possession of a little knowledge only. This is a notoriously dangerous article to possess, and the evil effects resulting from it are too well known to all of us to need recapitulation here. It is quite possible also that there may be a great deal of "twaddle" talked about the "Education of Gardeners" in this *fin de siecle* age, but that it is a subject which needs to be kept before the eyes of the horticultural public it is impossible to deny. Pioneers in every great or important work have been laughed at and treated with scorn and contempt in every portion of the world's history! and for why? simply because they have advocated something new and strange, which sounded as puerile folly in the ears of their contemporaries, who had become so wedded to the existing order of things that they wilfully stopped their ears to the pleadings of wisdom, and deliberately kept their eyes closed lest they on opening them should be impressed with the urgent need for a change.

And just as history repeats itself, so do we find that there are those who consider the ideas promulgated by advocates of the necessity of furnishing gardeners with a better education as mere "twaddle," or as chimeras and phantasies called up by the disordered working of minds diseased. That a mitigation of existing affairs is abundantly necessary and urgently needed is proved by "Pathfinder" himself when he publishes to the world a statement of the way in which a garden, to the superintendence of which he had succeeded, had been previously managed, or to be scrupulously correct, mismanaged. Truly a gardener has need to be a man of many parts, ready of expedience and full of resource, when the fowls of the air and the beasts of the field take it upon themselves to rob and plague him.

With regard to "Amateurism," we are rather surprised that "Pathfinder" should mention it in the same breath as "The New Woman," whose grotesque form arouses the satire and provokes the merriment of most, but calls forth the admiration of few. True, the manners and customs of the amateur gardener are sometimes curious in the eyes of a professional man, and the expedients to which he will sometimes resort are often fearful and wonderful, particularly the former perhaps some unbeliever will say. Be that as it may, the ubiquity of the amateur gardener is astonishing, and we may well add satisfactory, both for the prosperity of horticulturists in general and the welfare of the public at large. Besides all this, the ranks of strictly amateur gardeners contain men of no mean ability as cultivators, men who have shown to the world by practical demonstration that it is possible to be an amateur and yet a gardener.

It is very questionable indeed if many a professional gardener properly understands the trials and troubles of the amateur; for what may appear to the former, with his firmer grip of the subject and his wider experiences as a cultivator, only a mole-hill may seem to the latter with his necessarily restricted experiences, a veritable mountain, an obstacle well nigh insuperable. We have no hesitation whatever in making the statement, however, that it is to the exertions of the painstaking amateur as well as to the enthusiasm with which he proceeds to infect his neighbours that the popularity of horticulture as a profession is in a great measure due. This very real and valuable service which the amateur has rendered to those who have to make their living by following up the profession in one or the other of its branches, should therefore be requited by treating the lover of plants for their own sake with contempt, or by throwing the cold water or ridicule upon his well-meant efforts, but by helping him out of his difficulties as far as possible.—*G.*

ROYAL BOTANIC SOCIETY.

SPECIAL interest attached to the meeting of the Fellows of the Royal Botanic Society held on Saturday afternoon last, from the fact that notice of motion had been given with regard to the important question of opening the beautiful gardens in Regent's Park to the public. Mr. G. W. Bell occupied the chair, and after the transaction of some formal business, Mr. J. S. Rubinstein called attention to the decision of the Council in November last, to try an experiment in the direction indicated by permitting the public to use the grounds "on one day in the ensuing spring," namely Whit-Monday. He asked whether the decision was to be carried into effect, and, if so, what charge was to be made. The Chairman replied that the Council had resolved to open the gardens on the occasion in question, and that the charge of admission would be sixpence. Mr. Rubinstein then asked whether a band would be provided by way of attraction, and received the answer that the best arrangements possible would be made. The same gentleman moved, "That this meeting recommends the Council to issue a circular letter to all the Fellows, in order to ascertain whether they approve or disapprove of opening the gardens to the public by payment on two or more 'off' days in the week." He pointed out that the terms of the Society's charter made it clear that the Fellows were entitled to take such a step, and proceeded to say that, as an honorary auditor of the institution for six years, he had viewed with great regret their declining income and increasing liabilities. It was absolutely necessary to find some new source of income, and he was surprised that the Council had not deemed it expedient to act upon the previous suggestion he had made in that direction. Thousands of strangers passed through London, and if, as he proposed, the grounds could be opened an payment of a small charge on one or more days in the week he was certain a very different state of things would be witnessed to that which now prevailed when, on the invitation of Fellows, some seventy or eighty persons at the outside visited the gardens on the "off" days. He further urged that bands should be provided. The resolution was seconded by Mr. A. G. Marten, Q.C., who remarked that many thousands of persons were interested and skilled in gardening, and would gladly avail themselves of the opportunity of being instructed in these lovely grounds. He reminded them that the gardens were held by the Crown, and soon the rights of the society would expire. If it could then be urged that facilities were afforded by the Society to the public for recreation and instruction, they might find it easier to obtain a renewal of their charter and priveleges. Dr. Howard also thought the time had arrived when something of the kind suggested ought to be done. The Chairman then said that the question raised wonld receive full and careful consideration, and if it was found possible to carry out the recommendation it would no doubt be done. By some, however, it was thought such a scheme would not raise the Society's income by as much as £10. But if the Council came to the conclusion that the innovation proposed would increase the funds it would certainly be tried. On being put to the meeting Mr. Rubinstein's proposition was negatived, upon which he assured the Chairman that, having regard to what had fallen from his lips, he was satisfied, notwithstanding that his motion had failed.

FLOWERS AND THE VOICE.

MISS MAY YOHE has confided to an interviewer the interesting fact that she cannot bear to have flowers near her when singing, as their perfume utterly destroys her voice. The lady added that she could not account for this "curious fact." The effect of flowers on the voice has recently excited a good deal of attention in France, and Dr. Joal, of Mont Dore, has published an elaborate paper on the subject. He relates a number of cases which have come under his own observation in which thickness, huskiness, and even complete loss of voice are always caused by penetrating odours. In some persons it is only the perfume of particular flowers that produces this effect; in others, the odour of incense or musk, or the smells of the kitchen, tanyard, or smithy, act in the same way. The bad effects of flowers on the voice is so well known among singers that M. Faure, Madame Krause, and other eminent teachers caution their pupils against having them in their dressing rooms, and a jealous *prima donna* has been known to secure herself against the possible triumph of a rival by treacherously presenting her with a magnificent bouquet just before she went on the stage. Testimony to the evil effects of flowers on the voice is borne by Madame Christine Nilsson and other famous singers, and by laryngologists like Dr. Fauvel and Dr. Gouguenheim, of Paris. The flower which has the worst reputation in this respect is the Violet, but there is no evidence that it is really more harmful to the voice than other sweet-smelling flowers, such as the Rose, the Mignonette, the Heliotrope, the Lily of the Valley, the Gardenia, the Lilac, and the Tuberose. The explanation of this curious idiosyncrasy is probably to be found in a special sensitiveness of the olfactory mucous membrane to the action, mechanical or chemical, of certain odorous particles. The mechanism is, roughly speaking, congestion of the mucous membrance and underlying erectile tissue of the nasal fossæ, followed by reflex vasomotor disturbance of the vocal apparatus. Dr. Joal says that the effect manifests itself not only in congestion of the nose, nasopharynx, and larynx, but in paresis of the constrictor muscles of the glottis and spasm of the bronchial tubes. The respiratory capacity as tested by the spirometer is notably reduced, and the voice not only loses brilliancy and volume, but part of its compass, and the singer is much more easily fatigued than in his natural state. The moral seems to be that singers who are the subjects of this particular infirmity must banish not only flowers but all strong perfumes from their environment, if they wish their voice to be at its best; in particular they must be careful not to accept bouquets from injudicious admirers or rival artists.—*British Medical Journal.*

CHRYSANTHEMUM HAIRY WONDER.

Since Mrs. Alpheus Hardy first appeared, there is we believe none of the race of hirsute Chrysanthemums which has created such an amount of interest both among growers, exhibitors and amateurs as Hairy Wonder. It is a Japanese variety of good average size with long spreading florets, more or less decidedly incurved towards their tips, but in such a way as to leave the centre flat or nearly so, but perfectly full. The basal portion of the florets is tubular, while the upper portion is spread out flat. They are of a bright reddish-bronze as they first expand, and gradually change to a warm golden-bronze. The variety is of easy cultivation, so that the difficulty experienced with Mrs. Alpheus Hardy need not be feared in this case. The best blooms are obtained from the late crown buds, and the plant requires to be grown in an 8-in. pot. The coarseness and prominence of the hairs, but particularly those which are aggregated towards and at the tips of the florets, as well as the neat and shapely form of the bloom, are evidently the points which attract the general public; and since the plant is easily grown we expect that in a year or two, the variety will be widely cultivated throughout the country. The accompanying illustration will give an idea of what the bloom is like. We are obliged to Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E., for the opportunity of figuring it.

Chrysanthemum Hairy Wonder.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, Gardening World 1, Clement's Inn, Strand, London, W.C.

THE CULTURE OF VEGETABLES.

(*Continued from p. 469.*)

THE ONION.

This, like the Potato, is a most important and highly-prized vegetable, and well worthy the attention accorded it. The splendid examples so often seen at exhibitions seem to have given some people an idea that it is a great waste of time and money to grow such large specimens, as they do not keep, are strong in flavour, and in fact good for nothing, except for the show board. No greater mistake than this could possibly be made, because these large Onions make a splendid dish when boiled and served whole, besides being much milder in flavour than the ordinary ones. For flavouring purposes the ordinary ones are, however, superior to them, being much stronger.

The soil for Onions should be rather stiff and heavy, and can hardly be made too rich. It is all the better if it is trenched in the early winter 2 ft. deep, adding plenty of well-rotted farmyard manure between the spits, and leaving the surface as rough as possible for the weather to break up and pulverize. In the winter and spring, soot and salt should be sown over the soil freely, and if the weather is favourable in March, a heavy coating of wood ashes should be forked in, and the seed sown thinly in rows 15 in. apart. The best method of obtaining the large specimens is by sowing in boxes or frames under glass at the end of January or the beginning of February, the seedlings, when fit to handle, being pricked off into frames, a space of 3 in. between the plants being allowed, and kept growing on until the second week in April, when they must be hardened off and planted out in rows 18 in. apart and 9 in. between the plants. By this means double the weight of the ordinary crop can be obtained, and this is a great consideration in a small garden.

Winter Onions are often a valuable crop, materially assisting as they do to extend the season. These should be sown in the ordinary way in August, and transplanted in February. The main crop should be thinned to 6 in. between the plants, and the soil between the rows frequently stirred and kept free from weeds. As regards varieties they are numerous, but Cranston's Excelsior is possibly the best all round Onion grown. This variety I prefer to the popular Ailsa Craig, for although there is little difference in appearance between the two, the former is a much freer seeder, consequently much better value can be had for the money, as good seed of Ailsa Craig is a scarce commodity and an expensive one. In many gardens the Onion maggot is very destructive, and hard to get rid of once it gets a footing. A good preventative, however, is soot, which should be sown over the soil once a week all the season. Petroleum, diluted in soap and water is also useful if sprinkled frequently over the crop by means of the syringe.

PEAS.

To have green Peas as early in the season as possible is the desire of all gardeners, and various are the methods employed for the carrying out of this purpose. The first of these is to sow in November, the second to sow as early in January or February as the weather will permit, and the third to sow in pots under glass, transplanting out as soon as it is safe to do so. Personally, I prefer the latter method as giving the surest crop. In any case, a warm border, sheltered from the cold winds and facing south, is preferable. A soil rich in potash, lime, and plenty of soot being also added, is best for Peas. Successional sowings every fortnight are also necessary in order to keep up a constant supply, and if the soil is very light, trenches prepared as if for Celery will answer well, filling these up with decayed vegetable humus which has been decomposed with lime for preference.

The seed should be sown very thinly, and staking will be necessary as soon as the plants are well through the ground. A sowing of soot or lime along the lines will also help to ward off most of the attacks of the many enemies of the Pea. If pods of extreme size are required topping should be resorted to beyond the second truss of bloom, and plenty of water and liquid manure should be poured into the trenches. Mulching is a matter of considerable importance to the Pea crop, and should always be practised, in dry seasons particularly, whilst in wet ones this practice has the advantage of allowing the crop to be gathered without working the soil into a mud in wet weather.

The Pea requires a considerable amount of water, and should never be allowed to become dry at the roots. This, in my opinion, is the true cause of the mildew evil. The varieties of Peas are legion, and although generally no great advance has been made in the earliness of the crop the marrowfat section has made a steady advance, and is now on an equality with the round-seeded varieties. Therefore, there is little need to include anything but the marrowfat sorts, as it is well known that the quality of the latter is much to be preferred. Care must be taken not to sow too early, and for first crops I would advise the use of the refuse from the potting bench or wood ashes as a covering for the seeds. This will serve to keep them somewhat drier, and they will not be so liable to rot where this precaution is taken. For the earliest crop Chelsea Gem, Sutton's May Queen, and English Wonder are good reliable varieties; for main crops, Stratagem, Duke of Albany, and Sutton's Magnum Bonum are excellent; whilst for late purposes Ne Plus Ultra and Sharp's Queen cannot be beaten.

RUNNER AND DWARF BEANS require similar treatment to the Pea, but should not be sown so early, the last week in April being quite soon enough, as they are so liable to be cut down with late frosts. The dwarf varieties form an excellent winter vegetable when grown under glass, and may be had from the time the crops are finished outside until they come in again the following season. Nine-inch pots is a good size to use, or they may also be successfully grown if planted in boxes or frames. Probably near London the fog is the greatest enemy to those who grow French Beans under glass for winter use. Ne Plus Ultra and Canadian Wonder are two of the best varieties, and Sutton's Prizewinner and Tender and True are also excellent sorts.

The BROAD BEAN is also a useful vegetable and is easily grown, as it is very hardy. For an early crop a sowing should be made somewhat thickly on a warm border in November, and the plants lifted carefully and transplanted in rows in rich soil the following February. By this means they can be had much earlier than when sown in pots or boxes and transplanted. A succession may be easily kept up by frequent subsequent sowings. Pinching the tops should receive attention, as this will serve the double purpose of inducing the pods to grow to a larger size, as well as to prevent attacks of the blight, which is so very difficult to eradicate when once established. The long-podded varieties give the best return, Aquadulce being an especially good sort.

CARROTS, BEETROOT, AND PARSNIPS.

These all came under the same heading, as their culture is much the same. Here again, as with other vegetables, deep culture pays. The soil should be trenched to the depth of 2½ or 3 ft., and, if possible, laid up roughly for the winter. No raw manure should be used, or forked and scraggy roots will be the result, but wood ashes, lime, or soot form excellent manures to mix with the soil. The usual method of growing these crops is by sowing the seed in rows, afterwards thinning the plants to the necessary distance; but to any one who is pressed for space and has a determination to keep the kitchen pot boiling, other measures have to be adopted, so that the greatest weight and the best quality of roots may be taken from the ground. Instead of sowing in the ordinary way, holes should be made with an iron bar and filled with sifted wood ashes and soil well mixed, adding a little soot. The holes for Parsnips may be made 2½ or 3 ft. deep, and for Carrots and Beet about a foot less. A few seeds should be dropped on the top of each hole, and when large enough, the seedlings should be thinned to one, leaving the strongest.

It will be noticed that in sifting the soil nothing is left to obstruct the root from going straight down, and it will be found that nearly every one will develop into perfect shape and size, every inch of ground thus being made to give a heavy return. Parsnips should be sown in February, using The Student or Dobbie's Selected; and Carrots in March for the main crop; but, although succession sowings of varieties of the Horn type should be made from February to July, these will be found to be exceedingly useful for pulling from when the roots are young. Sutton's New Red Intermediate and Veitch's Matchless are hard to beat, and for forcing and early drawing, few are better than Early Gem. Beetroot should be sown about the first week in April, but the Turnip-rooted variety may be sown on a warm border a little sooner to get an early crop. Pragnall's Exhibition and Sutton's Blood Red are excellent varieties if obtained true to name.

(*To be continued*).

GARDENING MISCELLANY.

IRIS RETICULATA.

SOME ten years ago, or more, this Iris was most in repute for cultivation on the rockwork, but as time goes on it has been more and more plainly demonstrated that it is well adapted for forcing for conservatory and cool house decoration, like older and better known bulbs everywhere utilised for this purpose. The dark violet-purple segments, with the bright golden blotch on the falls, with the violet blotches on the lower part of the same, give a charm to the whole flower, whose decorative value can hardly be over estimated. There are a few varieties of it in cultivation, differing chiefly in colour, but in our opinion none of them surpass, even if they equal, the type in intrinsic beauty. I. r. Krelagei, sometimes named I. r. purpurea, has slatey-purple flowers, quite distinct from the original, and most appreciated by those who grow a collection of bulbous Irises for the sake of variety and contrast; but its lack of the delicate and pleasing odour possessed by the type is a point against it. The dwarf habit of the netted Iris is a distinct recommendation in its favour, and particularly to those whose accommodation for tall or large plants is limited.

VIOLET CELERY WITH LARGE STALKS.

IT appears that a new race of Celery with short stalks and strong ribs is being developed upon the Continent. A short time ago a variety was put into commerce under the name of Pascal, which has numerous, short, thick, dumpy leaf-stalks forming a clump. It has been well tried in cultivation, and has proved the best short Celery for the open border, and is very green, but blanches easily and keeps well. A new variety with violet leaf-stalks has just been put into commerce by MM. Vilmorin-Andrieux et Cie., Paris, and is figured in the *Bulletin d'Arboriculture* for March. It surpasses Pascal (from which it was derived) in the bulk and substance of its enormous petioles. The new variety is expected to displace the Celery known as Violet de Tours, so generally cultivated, yet found to be surpassed from all points of view. The new Violet Celery with large stalks develops rapidly without ever growing or becoming spongy as it gets old.

PARISIAN DWARF BEAN.

OUR contemporary the *Bulletin d'Arboriculture* speaks very highly of this variety of Dwarf or Kidney Bean; and anything that succeeds in passing the Halle or Covent Garden of Paris, is sufficient proof that it is possessed of appreciable qualities. It had scarcely made its appearance in the Paris market when it was received with great favour. It is a dwarf variety and extremely vigorous, with very long, straight, thick pods of an intense green, marked with some black stripes, which disappear in cooking. The pods get large enough for use about six days in advance of the ordinary varieties grown under the same conditions and sown at the same time. It is most convenient and suitable to use them while yet quite young, and the seeds but little advanced. An illustration in the periodical above quoted, shows a dwarf plant bearing an abundance of long, narrow, straight and shapely pods.

TUSSILAGO FARFARA.

OF all our British wildlings this plant is one of the most conspicuous from the earliness of its flowering season. Even now, undaunted by the severity of the late winter, its bright yellow flowers are covering many of our hedge-banks and pieces of waste ground as with stars, all the more noticeable from the fact that they appear before the leaves, and because they are the only common wild flowers that have as yet put in an appearance. The Coltsfoot, as it is commonly called, is very partial to stiff, clayey soils, although it is not at all particular where its lot is cast, as it proves a troublesome weed in most, if not in all, parts of the country, also ranging throughout Europe and Central and Russian Asia, well-nigh to the Arctic Circle in more or less abundance. But weed or not, its presence is welcome, telling as it does of brighter days and more genial weather yet to come—a veritable harbinger of spring.

SOCIETIES.

Royal Horticultural, *March 26th.*—The exhibits were both numerous and extensive on Tuesday last. The Orchids were by far the most conspicuous, several of the groups being of considerable size. Other exhibits consisted largely of forced subjects including Daffodils, Azaleas, Clematis and others. Clivias were a strong feature as well as Caladiums, and hardy herbaceous subjects grown in pots. A large group of Orchids set up with Palms and Ferns was exhibited by Messrs. B. S. Williams & Son, Upper Holloway, Vanda suavis, Cymbidium eburneum, Calanthe Sanderiana and Cypripediums including a fine piece of C. Morganiæ were conspicuous elements in the collection. The plant of Cymbidium eburneum was of large size and well flowered (Silver Banksian Medal). A showy and interesting group was also set up by Messrs. F. Sander & Co., St. Albans. The Dendrobiums were most varied and beautiful because well flowered. A large and floriferous piece of Bollea Schroderiana attracted a considerable amount of attention. Other species of note were Pescatorea Lehmanni, Lycaste Lawrenceana, Angraecum Sanderianum, Eulophiella Elizabethae, Batemannia peruviana, the green flowered Cypripedium Lawrencianum Hyeanum, the Cattleyas and Odontoglossums (Silver Flora Medal). A mixed group of various interesting Orchids was staged by Messrs. J. Veitch & Sons, Chelsea. Very interesting was Odontoglossum excellens raised artificially between O. Pescatorei and O. triumphans, the former being the seed parent. A deep rose variety of Odontoglossum crispum was very attractive; noteworthy also were Miltonia cuneata, Dendrobium atroviolaceum, D. Cordelia, D. Murrhinianum, D. Cybele nobilius and Cymbidium eburneo-Lowianum (Silver Flora Medal). A group of Orchids backed up with Palms and Ferns were staged by Messrs. Hugh Low & Co., Clapton. The varieties of Miltonia Roezlii were both numerous and in quantity, being quite the feature at the group. They were strongly and agreeably fragrant. Other interesting subjects were Dendrobium Brymerianum, Odontoglossum Edwardi, Oncidium Krameri and Cypripediums (Silver Banksian Medal). A group of well-flowered Dendrobiums was staged by Mr. James Cypher, Cheltenham. The varieties of D. nobile were very numerous including D. n. nobilius, D. n. Statterianum, D.n. pulcherrimum, D.n. Cypheri, D.n. pendulum and others. D. rubens grandiflorum is a fine hybrid (Silver Banksian Medal). Messss. W. L. Lewis & Co., Southgate, showed a mixed group of Orchids, including showy varieties of Odontoglossum triumphans, Cymbidium Lowianum, Cattleya Trianaei, and Cypripediums. Very attractive and interesting was a large, well-flowered piece of Dendrobium capillipes in a basket (Silver Banksian Medal). A huge piece of Dendrobium nobile nobilius, bearing 389 flowers, was staged by Elijah Ashworth, Esq. (gardener, Mr. H. Holbrock), Harefield Hall, Wilmslow. The tallest stem was 3 ft. 9 in. He also had a Dendrobium, possibly a natural hybrid between D. Devonianum and D. Chrysanthum, also D. Schneiderianum, and D. nobile Ashworthii (Silver Banksian Medal). Cattleya Trianaei Parkesii was staged by W. C. Parkes, Esq., Llanberis Tower, Tooting. W. C. Walker, Esq. (gardener, Mr. Geo. Cragg), Percy Lodge, Winchmore Hill, exhibited Cymbidium eburneum. The hybrid Cypripedium Vannerae, and C. Rothschildianum, Vanner's var., were shown by W. Vanner, Esq. (gardener, Mr. W. H. Robbins), Camden Wood, Chislehurst. Some fine varieties of Odontoglossum, including O. Ruckerianum Juno, were exhibited by De. B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. Dendrobium Donnesiae, a supposed natural hybrid, and Odontoglossum crispum Kathleen were shown by J. Bradshaw, Esq. (gardener, Mr. H. Whiffen), The Grange, Southgate. A splendid plant of Phaius grandifolius, bearing 183 flowers, and another with 145 were shown by Mr. C. T. Cayley, Esq. (gardener, Mr. H. Paulton), Ivy Mount, Leigham Court Road, Streatham. A remarkable looking Orchid named Bulbophyllum burfordiense, with an enormous flower, also Dendrobium Tattonianum, D. cruentum, Vanda caerulescens, Eulophiella Elizabethae, and Odontoglossum crinitum sapphiratum were exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking. He also had three splendid spikes of Schomburgkia crispa. R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Flodden Road, S.E., showed a hybrid Cypripedium named C. Olenus. Odontoglossum radiatum, O. hystrix, and O. amplissimum, all forms of O. luteo-purpureum, were shown by H. Weetman, Esq. (gardener, Mr. Bernard Dunn), The Hawthorns, Little Haywood. A collection of cut flowers of various showy and interesting Orchids was exhibited by Baron Schroeder (gardener, Mr. H. Ballantine), The Dell, Egham. Very fine were Odontoglossum Leeanum, Sobralia macrantha, Cattleya speciosissima, C. s. Schroederiana, C. Baroness Schroeder, Laelia vitellina, Dendrobium macrophyllum Dearei, with white flowers, D. m. Burkei, with large, pale flowers, and some others, which are either very rare or of great beauty Silver Banksian Medal).

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, N., contributed a fine display of hardy spring-flowering plants and a large quantity of Alpines in really fine condition, especially considering how trying the plant season has been, for which a Silver Flora Medal was awarded. Narcissi of various kinds were well represented, and clumps of the Grape Hyacinth Muscari botryoides and its beautiful white variety M. b. album, Primulas rosea, Cashmeriana and denticulata alba, Daphne Blagayana, together with Saxifragas; Irises and Hepaticus of various sorts, added a wonderful charm and variety to an exceedingly bright and pretty collection.

Mr. G. Wythes, gardener to the Rt. Hon. Earl Percy, Syon House, Brentford, staged a quantity of flowering and foliage plants and ferns. A well-flowered plant of Clivia miniatum occupied a central and prominent position. Hyacinths, chiefly of the single white section, Polyanthus, Narcissi, Tulips, and Cyclamen, were represented, and some neat little specimens of Anthurium Scherzerianum were also well worthy of mention (Silver Banksian Medal). Messrs. Barr & Son, King Street, Covent Garden, exhibited bunches of flowers of Narcissus bicolor Empress, N. Sir Watkin, N. Grandis, N. obvallaris, N. King Umberto, N. Golden Spur, and N. princeps, in praiseworthy order; also the bright little Anemone fulgens, Chionodoxa Lucilae, and C. Sardensis, Frittilaria aurea, Iris reticulata, I. r. Nelsoni, I. r. Krelagi, and I. r. coerulea, Ficaria ranunculoides flore pleno, Saxifraga oppositifolia, and its varieties alba and splendens, and Megasea Stracheyi in effective and meritorious condition (Silver Banksian Medal).

Messrs. Wm. Paul & Son, Waltham Cross, received a Silver-gilt Flora Medal for a fine exhibit of Camellias in pots; also cut blooms of the same. The plants shown were well-flowered examples of their kind, Princess Charlotte, Adeline Benvenuti, Dona Camilla de Faria, Marchioness of Exeter being especially good. A contribution which came from Messrs. J. James & Son, Woodside, Farnham Royal, Slough, in the shape of a number of Cinerarias in pots was of a particularly meritorious character, and deservedly obtained a Silver Floral Medal. The habit of the plants was exceedingly dwarf and stocky, and the flowers were of large size and exceedingly fine form, some fine whites and blues being specially conspicuous. A Silver Banksian Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, who had Clivias of various kinds up to an exceedingly high standard of merit. Surprise, Model, Aurantiaca, Holloway Beauty, and Mme. Van Houtte were among the best of the varieties here shown. The Japanese Camellias Emin Pasha and Mme. J. Buchanan, also two or three small specimens of the Otahaiti Orange in fruit were shown by the same firm. Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, had several baskets of Clematises in excellent condition, the plants, although small, being very floriferous, and the blooms large and fine (Bronze Banksian Medal).

An important and exceedingly meritorious exhibit came from Earl Cowper, K.G., Panshanger, Herts (gardener, Mr. J. Fitt), in the shape of a number of superbly flowered sprays of the beautiful stove climber Beaumontia grandiflora. This plant is usually so exceedingly shy of flowering that the display here given was rendered all the more remarkable, and a Silver Banksian Medal was awarded in recognition. Some fine trusses of bloom of Clerodendron splendens and of Azaleas pontica alba and Bouquet de Flore, also coming from Panshanger, were well worthy of mention.

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., had a number of well-grown Caladiums, comprising fine varieties as Charlemagne L'automne, Comtesse de Condeisa, Triomphe de Compte, Mercedes d'Argent, and John Peed in first-class order, a Silver Banksian Medal being given.

A bunch of finely-grown Asparagus cut from permanent beds in the open air and forced every year by means of fresh leaves, which came from Mr. G. Wythes, appeared to be of first-class quality, and received a Cultural Commendation at the hands of the Committee.

Royal Botanic, *March 20th.*—The first spring show of the Royal Botanic Society, Regent's Park, was held on the above date, and though the weather looked threatening, the rain kept off and a good attendance of people thronged the wide corridor during the afternoon. The entries of spring flowers were not so numerous as we have seen them, but complaints are loud that many bulbs in pots have been injured and some completely destroyed. The first award for Hyacinths was taken by Mr. Jas. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, whose spikes were large and in fine condition, all things considered. The Sultan, King of Blues, La Grandesse, Koh-i-noor, and Lord Derby, were amongst the best flowered of his varieties. Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, took the second place with large, but less compact spikes. Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park, was third with much smaller plants. Mr. J. Douglas again led the way with Tulips, the blooms of which were of grand size. Mr. R. Scott and Mr. H. Eason were second and third respectively with much smaller flowers. Mr. R. Scott came to the front with seventeen pans of Crocuses, which were a mass of bloom, Mr. J. Douglas was second with an exhibit a little past its best. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was accorded the first prize for a group of herbaceous plants including Saxifraga Burseriana, Primulas, Cyclamens, Hepaticas, and other spring flowers. The Hon. F. D. Smith, M.P. (gardener. Mr. H. Perkins), Greenlands, Henley-on-Thames, had a splendid group of Amaryllis set up with Palms and Ferns, for which he was deservedly awarded the first prize. The strain of Amaryllis shown by Mr. J. Douglas was not so good, nor were any other plants used in his group, but he was accorded the second prize. He had a fine group of well-flowered Deutzias and another of Polyanthus Narcissi, for which he was awarded the first prize in both cases. Mr. Scott was second for Narcissi, but first for Lily of the Valleys and greenhouse Azaleas. Mr. H. Eason was second for Azaleas. Mr. Thos. Pestridge, Boston Park Nursery, Brentford, had a group of well-flowered Cyclamen set up with Palms and Ferns, taking the first prize.

The miscellaneous groups were pretty numerous. Messrs. B. S. Williams, Upper Holloway, exhibited a large group of Palms, Clivias, Coelogyne cristata alba, Calanthes and other Orchids, as well as various stove plants grown either for flowers or their fine foliage. The Clivias were the boldest feature of the group, for which a Large Silver Medal was awarded. The same firm received a Small Silver Medal for an exhibit of bouquets and floral devices made up of Roses, Lilac, Trumpet Lilies, Carnations, etc. Mr. T. Jannoch, Dersingham, Sandringham, had an interesting and fragrant group of Lily of the Valley grown in pans and on cone-shaped structures such as he exhibits at various periods of the year, summer and winter. (Small Silver Medal.) Messrs. J. Veitch & Sons, Chelsea, had a mixed group of new plants, consisting of Rhododendrons of the Javan type, Amaryllis, Orchids, and Streptocarpus, several of which received certificates. Messrs. J. Laing & Sons, Forest Hill, showed a large group of Palms, Crotons, Azalea mollis, Caladiums, winter-flowering Begonias, etc. (Small Silver Medal) Messrs. Barr & Son, Covent Garden, exhibited Daffodils, the Poet's Narcissus, Chionodoxa, Iris reticulata, Freesias, and other showy and useful spring bulbs. (Large Bronze Medal.) Mr. T. S. Ware also showed Daffodils, Scilla sibirica, Iris reticulata, Bulbocodium Clusii, Daphne Blagayana, etc. (Large Bronze Medal.) Messrs. J. Peed & Sons, Roupell Park Nursery, Norwood Road, staged a group of Crotons, Palms, Azaleas, Heaths, Hyacinths, Tulips, and Cinerarias. Mr. J. R. Stevens, Clayton Nursery, Hassocks, showed half-a-dozen pots of his new Strawberry Stevens' Wonder, for which a Certificate of Merit was accorded. Messrs. Wm. Paul & Son, Waltham Cross, showed a collection of Camellias, China Roses, and Clematis indivisa lobata. (Large Silver Medal).

Preston and Fulwood Horticultural.—The seventeenth spring show of this Society was held in the Public Hall, Preston, on the 20th and 21st inst. The exhibition was opened by Mr. Councillor Charnley, the President of the year, who was supported by members of the Town Council and a large gathering of ladies and gentlemen. The President afterwards entertained his colleagues on the Town Council, the officers of the Society, and the judges to a luncheon in one of the crush rooms of the hall. It was feared at one time that there would be a falling off in the display on account of two good plant collections having been dispersed since last March, but two or three fresh exhibitors came forward, and the verdict was that we had after all one of the best shows ever held in Preston.

The President, who is now the owner of Howick House—once noted for its collection of Orchids during the time it was in the possession of Mr. Wrigley and previously for its hard-wooded plants when it was the home of Mr. T. M. Shuttleworth—came forward with forty-four entries, with which he took twenty-three firsts, fifteen seconds, and five thirds. His most notable exhibits were the Azaleas, and the group of plants arranged for effect, which was the most artistic ever put up in Preston, Mr. Wood, the gardener, having departed from the usual stereotyped sloping bank practice, and after forming a background cut up the remainder of the space and formed several small groups on a groundwork of moss, succulents, Panicum and Coleus, etc., turned out of pots. The pots of all the other plants were hidden by moss and cork.

The President offered a gold medal, value £5, for the best exhibit in the show, and it was thought by many that it would be given to the group, but for this award the judges selected a huge well-flowered specimen of Roi de Holland Azalea (in the single specimen class) from the same collection, and, as the medal was for the gardener, Mr. Wood takes the prize offered by his employer. The six miscellaneous stove and greenhouse plants put up by the same exhibitor were far in advance of anything that has been staged before at the Preston spring show, his best plants being large specimens of Hedaroma fuchioides and Erica Victoria. J. B. Dixon, Esq., the treasurer, also showed well in the above competitions, as well as in the bulb classes, coming in first in all the leading contests. He also secured the much coveted prize for twenty pots of bulbs, corms, tubers, or rhizomes in flower in 6 in. pots, Hyacinths, Tulips, and Narcissus excluded; also the prize offered by Mr. Starkie for the best hanging basket. In all he took sixteen firsts, twenty seconds, and seven thirds, most of the classes being strongly contested. The next largest exhibitor was Mr. C. Lamb, gardener to R. Smith Longridge, Esq., who took first for exotic Ferns, double Primulas, six Tulips, and table plants. Altogether he got six firsts, ten seconds, and twenty-three thirds. Mr. Pius Rigby, gardener to J. Smith, Esq., Whitingham House, secured twelve firsts out of twenty entries for collections and single dishes of vegetables, Mignonette, hardy Primroses, and Musk.

Orchids were not very numerous, only four competitors, and Mr. Brindle, gardener to H. C. Sowerbutts, Esq., was awarded the first for three, and Mr. J. B. Dixon for single specimens. Primulas were very fine and numerous, and Mr. Brindle was first with singles; he also staged a splendid lot of Freesias not for competition. Mr. Parkinson, gardener to J. Whitaker, Esq., Leyland, was awarded first for six creditable Cyclamens; and Mr. Wm. Gillet, gardener to M. B. Copland, Esq., Farington Lodge, received a similar award for three; also for Spiraeas and bouquets.

In the nurserymen's classes Mr. Payne, Fulwood, had no opposition except in the bouquets, the first for a hand bouquet and the same for bridal being awarded to Mr. Troughton.

Gardeners' Improvement Associations.

Brighton and Sussex.—The usual monthly meeting of this Society was held at the Imperial Hotel, Brighton, on Thursday, March 21st. Mr. George Miles presided, and there was a large attendance of members. Mr. H. C. Princep, of Buxted Park, read a most excellent paper on "Salads and Salading." He pointed out that there were a large number of plants used for this purpose; and having dealt with these in detail, mentioned that the Watercress was said to have been first cultivated in this country in 1804 by a gentleman named Bradbury, and that the Lettuce was believed to have been introduced in England in 1562, more than three centuries ago, but from what country was not known. Endive had been imported from China. The Dandelion was generally considered a tiresome weed, but the young leaves were much in demand in the London market, and formed a delicious salad. He described the cultivation of Celery; mentioned that the Radish had come to us from the mysterious land, China, and showed how the Tomato (the "Love Apple" of ancient times) had, from being a luxury reserved for the rich, become, within the past 25 years, popularised among all classes, thanks to the enterprise of some Guernsey fishermen. The Cucumber, another essential ingredient in good salad, had been introduced from East India in 1563, although it was known in Egypt a thousand years ago at least. He warmly recommended the general use of salads, expressing the opinion that they should be as common among the poor as the rich, and that those who used them regularly would save many a doctor's bill. The Chairman thanked Mr. Prinsep for, and complimented him upon his valuable paper, which, while it would not fail to be very helpful to the young beginner, would at the same time be an advantageous reminder to older gardeners. Mr. Lewis moved a vote of thanks to Mr. Prinsep, which was cordially agreed to, Mr. Lewis urging that it would be well for the health of the community if salads were more generally used. Personally he was not much in favour of the Cucumber, the Tomato being his favourite. He was certain that if more salads were eaten there would be less disease.

Woolton.—The concluding meeting of this session was held on Thursday evening of last week, Mr. Henry Middlehurst presiding. There was a good attendance of members present to hear the prize essay read on "Hardy Bulbs" (excluding bedding varieties). The prize was the gift of the chairman, and the winner proved to be Mr. Webster, the Secretary of the Society. The paper seemed to be a fairly comprehensive one, but an important omission was pointed out by Mr. Storey in the discussion which followed—the Daffodil did not receive any recognition. Others who took part in the discussion were Messrs. Todd, Carling, and the Chairman. A vote of thanks was accorded to Mr. Middlehurst for the prize and also for presiding at the meeting.

Obituary.

We regret to record the death on the 23rd inst., somewhat suddenly, at Sparkhill, Birmingham, of Mr. William Dean, in his 71st year. He had been in failing health for a long time, and for several winters past had been a martyr to bronchial troubles of a distressing and exhausting nature. Mr. Dean, who may be said to have been born in the nursery trade, and continued in it all his life so long as he was able to do so, for many years was held in high repute as a florist, and to the last was regarded with esteem and affection by Pansy and Viola growers, so much had he done in his day to improve and make popular these delightful hardy flowers, in which he took a keen interest to the last.

Some fifty and more years ago Mr. William Dean was a grower of the old show Pansy, and rememberod the time when Silverlock's "Black Knight" came out with such a *furore* "as a wonderful break away in quality," and years afterwards he it was who originated the name of "Fancy Pansy" for the continental strain, so opposite in their markings and colour to the white and yellow ground, belted flowers so long cherished by old time florists. About the year 1848, the late Mr. John Salter, of Hammersmith, when he returned to England from Versailles, brought with him some seed of striped and blotch-coloured flowers, which were subsequently exhibited, only to be derided by many florists as French rubbish. But rubbish or not, they took the public fancy, and about this time the late Mr. John Downie, of Edinburgh, commenced his annual pilgrimages to London, and obtaining plants of the new strain, set to work upon them in the north and exhibited six varieties in London in 1852, but we do not know if they were of his own raising, as Mr. John Laing, of Forest Hill, then gardener at Dysart, had taken the Fancy or Belgian Pansy in hand before him, and was in all probability the first grower of the type in Scotland. It was about the year 1858 when Mr. William Dean, then in business at Shipley, commenced to grow the improved forms of the Fancy Pansy for Mr. Andrew Henderson, then head of the old firm of E. G. Henderson & Son, of Wellington Road, St. John's Wood, and it was the novelties raised by William Dean, and sent out from Wellington Road, that brought about the revival of Pansy culture in the south that has continued to the present time.

When the Viola cornuta was brought out as a bedding plant by Mr. John Wills, Mr. Dean took up that species and introduced a number of charming varieties from time to time, which led up to the refined flowers, and neat, dwarf spreading habit of the varieties now so popular. With these two sections of the Viola family, Mr. Dean's name will be indelibly associated; but he was something more than a Pansy man, he was an all-round well-informed horticulturist, and with his pen could hold his own in any company on subjects that came within his ken, while as an expert at horticultural exhibitions so unerring was his judgment that seldom, indeed, were his decisions called in question. At the York Gala in particular will he be missed, for he had annually been a judge there for a great many years.

After a brief illness Mr. Thomas Worth, for some years past in the employment of The Liverpool Horticultural Co., and latterly of Messrs. John Cowan & Co., of the Vineyard and Nurseries, Garston, near Liverpool, died on Saturday, the 23rd inst., from a severe attack of influenza complicated with pneumonia and erysipelas, at the age of 31 years. His death is deeply regretted by his employers and fellow workmen. Mr. Worth was a young man of considerable promise; he was for some years in the employment of the late Mr. Enoch Harvey, and eventually became his Orchid grower, and when that gentleman sent his collection of Orchids to the Liverpool Horticultural Co. for disposal, Mr. Worth went with it and there remained. After some years he became Orchid grower to the Company, and for the past two years he has acted as traveller for Messrs. John Cowan & Co.

LAW NOTES.

Bad Tomatos at Covent Garden.

At the Bow Street Police Court, on the 22nd inst., Mr. J. B. Thomas, salesman, of Covent Garden Market, was summoned to show cause why a quantity of Tomatos sold by him should not be destroyed as being unfit for human food. The defendant was represented by Mr. Gerald, his manager and auctioneer. The complainant was Thomas Gilby, a costermonger, who purchased a quantity of Tomatos from the defendant for 16s. When he opened the boxes in which they were packed, he found that the Tomatos were utterly bad; so bad, in fact, that the paper in which they were wrapped could not be taken off. He went to the defendant's manager and explained matters, but was told that nothing could be done for him. After he had obtained the summons the defendant's manager offered to return the 16s., but refused to compensate him for loss of time. The defendant's representative stated that, as a rule, each box was broken open in front of the buyers. When they had opened one or two boxes as samples, they generally asked the people present if they would like any more opened. If they said yes, their request was complied with; if they answered no, the sale proceeded. Each box was purchased on its merits, and a placard to that effect was exhibited at every sale. As a rule, when a box proved to be bad the purchaser was compensated; but of late there had been such a shower of complaints that it had been impossible to do that. That day three boxes were opened in public, and the Tomatos they contained proved to be utterly bad. He at once gave orders for them to be taken away, but the Tomatos in the next box opened proved to be perfectly sound. There was no accounting for these things. The complainant said that he gave 4½d. a box for these Tomatos. Several men, of whom he was one, had offered 4d. a box, and they all "tossed up" to see who should have them. He proved the winner, and had them at 4½d. It was explained that this tossing system was originated by the costermongers attending Covent Garden Market, but the auctioneers took no part in it. Sir John Bridge ordered the Tomatos to be destroyed, and directed the defendant to return the 16s. to the complainant, and pay the cost of the summons.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

SOIL FOR ALTERNANTHERAS.—*Alternantheras*: They are not at all particular in the matter of soil, provided it is neither stiff clay nor poor sandy or gravelly material. In either case this might be remedied by removing the soil to a depth of 12 in to 18 in, and replacing it with soil from beneath the potting benches or any fairly good material that may be lying about in the soil yard. This could further be improved by means of leaf soil and ordinary river sand, if of a more adhesive nature than desirable. If your garden soil is fairly good, however, you need not remove it, but simply dig in a good dressing of leaf soil or old hot-bed manure, or even ordinary farmyard manure in a well-rotted condition. Elevated positions in the garden should be avoided in planting Alternantheras, both on account of the exposure and drought. Low-lying positions, where the soil is likely to be cool and well exposed to the sun, yet sheltered from the wind by the means of shrubs or trees at a little distance, would be most suitable for making beds of Alternantheras. You should also give copious supplies of water in the afternoon during times of drought to enable the Alternantheras to tide it over.

CARPET BEDDING.—*Diagram No. 3*: Plant No. 1, with Alternanthera magnifica; No. 2, with Echeveria secunda glauca; No. 3, with Iresine Wallsi; No. 4, with Pyrethrum selaginoides; No. 5, with Mentha Pulegium gibraltaricum; No. 6, with Pyrethrum selaginoides; and No. 7, with Echeveria secunda glauca. That would seem to be the best arrangement of the materials you wish to employ. To relieve the monotony of the bed you might plant a Dracaena, an Aralia, a young plant of Grevillea robusta or something of similarly graceful habit in each of the three circles 1, 1 and 3. In the broad space (No. 5) on either side of the bed, and right in the centre of the space plant a moderate sized specimen of Echeveria gibbiflora metallica. Then in each of the four angles of No. 4, plant a specimen of Gasteria verrucosa or a small specimen of some of the green Alces or anything else of that nature which you might have. We have never discerned that any of the Alternantheras is more hardy than another, and have not noticed any difficulty in growing them without protection by the middle or end of June.

BEST LATE POTATO.—*Omega*: As the best all round late Potato for a gentleman's table we think you could not do better than get Magnum Bonum or Maincrop. The former has for many years been well known for its heavy cropping and disease-resisting qualities; it is suitable for field or garden culture and is well known to be of excellent quality. Being naturally a late Potato it keeps in good condition for a longer period than perhaps any other kidney. Maincrop is also a disease-resisting Potato, and though similar in several respects to Magnum Bonum, it has smoother and more even tubers and ripens a little earlier. It is a heavy cropper of excellent quality.

ARTIFICIAL MANURE FOR ORANGE TREES.—*Omega*: The manures that are most suitable for Orange trees are nitrogen, phosphorus, potash and lime. You may order an all-round manure from your manure merchant if you consider that the best plan. You could however supply the nitrogen in the form of deer or sheep dung as a top-dressing mixed with loam. Phosphorus may be supplied as crushed bones mixed with the compost when re-potting: or bone meal might be mixed with the top-dressing. It is less durable than crushed bones. Potash you can get in the form of kainit, or you can use wood ashes as a top-dressing or mixed with the potting compost. Lime can be supplied in the form of mortar rubble mixed with the compost.

POTATOS AND WORMS.—*Omega*: If you refer to earthworms, we consider it is unnecessary trouble to put anything in the drills along with the sets. If you are thinking of wireworms then you might use wood ashes around the sets; but unless the ground is full of the worms it would be hardly necessary to go to such trouble. We should rather select another piece of ground, for wireworms would be more likely to injure the young tubers than the old sets, and we do not believe that you could apply anything to prevent them. Trenching the ground in winter to expose the wireworms to the action of frost and birds, and the setting of traps consisting of Potatos on sticks buried in the soil would help you to get rid of the nuisance.

BELLADONNA LILIES.—*M. M.*: We believe that all the varieties mentioned in the note to which you refer were raised in the nursery of MM. Dammann & Co., San Giovanni à Teducio, near Naples, and that you would be able to get them by applying to that firm.

PROPAGATING DAPHNE CNEORUM.—*M. M.*: The usual method of propagating it, is by layering. This may be done at once in a peaty soil and kept rather moist during the summer months. If not in peaty soil at present, you should get some to incorporate with the natural material. Make a slanting and upward cut in the stems, similar to the treatment given to Carnations while being layered, and peg down the shoots in such a way that the cut will remain slightly open. Some of the prepared compost should be put around the mother plant after removing some of the old material so that the layers may be beneath the surface when covered. By this means the moisture may be more easily preserved about them. The layers should not be disturbed till autumn, and not even then unless you intend to pot them and place them beyond the reach of frost. D. Cneorum has occasionally been grafted upon the stems of D. Laureola for the purpose of forming miniature or dwarf standards with stems, 12 in. or 18 in. high.

CHRYSANTHEMUMS FOR OUT-DOOR CULTURE.—*P. M.*: The following varieties are amongst the best for cultivation in the open ground, and contain many of the larger-flowered ones generally termed early-flowering Chrysanthemums:—Madame Desgranges, Lady Fitzwygram, Mrs. J. R. Pitcher, all white; G. Wermig, Mrs. Hawkins, and Precocité, all yellow; M. Gustave Grunerwald, silvery-white and rose; William Westlake, yellow; Charles Gougnon, orange-yellow; La France, pink; Golden Shah, golden-buff; and White Petite Marie. The latter is only 6 in. to 9 in. high, very floriferous, but somewhat delicate. The first five and M. Gustave Grunerwald are all large-flowering, early varieties; the rest are Pompons.

COMMUNICATIONS RECEIVED.—J. C.—R. M.—M. A. K.—T. J. F.—T. W.—J. B—J. H. L.—E. A.—R. G. M.—A.—W. S.—J. V. & S.—J. W. McH.—J. C. & Co.

LONDON SEED TRADE.

March 26th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a brisk demand for Grasses and Clovers. Perennial Ryegrasses realised higher prices. Italian Ryegrass dull. Clovers steady.

COVENT GARDEN MARKET.

March 27th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	3 0	9 0	Grapes, per lb.	1 0	3 6
Nova Scotia Apples per barrel	12 0	21 0	Pine-apples.—St. Michael's each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	18 0				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	0 0
Beans, French, per lb.	2 0	2 6	Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers.....doz.	3 0	6 0	Seakale...per basket	2 6	3 0
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 9	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0	Ferns, invar., per doz.	4 0	18 0
Aspidistra, doz.....	18 0	36 0	Ferns, small, per 100	4 0	6 0
" specimen plants	5 0	10 6	Ficus elastica, each	1 0	7 0
Cinerarias, per doz.	9 0	12 0	Foliage Plants, var., each	2 0	10 0
Cyclamen, per doz.	9 0	12 0	Hyacinths, per doz	9 0	12 0
Dracaena, various, per doz.	12 0	30 0	Lycopodiums, doz.	3 0	4 0
Dracaena viridis, doz.	9 0	18 0	Marguerite Daisy, per doz.	6 0	12 0
Erica, various, doz....	9 0	18 0	Myrtles, doz.	6 0	9 0
Euonymus, var. doz.	6 0	18 0	Palms in variety, each	1 0	15 0
Evergreens, Invar. doz	6 0	24 0	Palms, Specimen ...	21 0	63 0
			Primulas, doz.	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	3 0	4 0	Pyrethrum doz. bun.	2 0	4 0
Azalea, doz. sprays	0 6	1 0	Roses (indoor), doz.	0 6	1 0
Asparagus Fern, bun.	2 0	3 0	" Tea, white, doz.	1 0	2 0
Bouvardias, per bun.	0 6	1 0	" Yellow, doz. ...	2 0	3 0
Carnations doz. blms.	2 0	3 0	" Safrano (English), doz. ...	1 3	2 0
Double Daffodils, doz. bchs.	15 0	18 0	Roses (French), yellow, doz. blooms	1 6	2 0
Single Daffodils, doz. bchs.	24 0	30 0	Roses (French), red, doz. blooms. ...	2 0	2 6
Eucharis ...per doz.	4 0	6 0	Smilax, per bunch ...	4 0	6 0
Gardenias ...per doz.	4 0	6 0	Stephanotis, doz. sprays	4 0	6 0
Geranium, scarlet, doz. bunches	6 0	8 0	Tuberoses, doz. blooms	0 4	0 6
Lilac (French) per bch.	5 6	6 0	Violets (English) doz. bun.	1 6	2 6
Lilium longiflorum per doz.	4 0	6 0	Violets (French) Parme, per bun.	3 0	4 0
Marguerites, 12 bun.	1 6	3 0	Violets (French) Czar, per bun. ...	2 0	3 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (French) Victoria, doz. bun.	2 6	5 0
Orchids, doz. blooms	1 6	12 0			
Pelargoniums, 12 bun.	6 0	9 0			
Primula, double, doz. sprays	0 6	1 0			
Poinsettia, doz. blooms	4 0	6 0			

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FLOWER SHOW FIXTURES, 1895.

APRIL.

9.—R.H.S. Drill Hall Meeting.
9, 10.—Birmingham Daffodil Show.
18.—Norwich Spring Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24.—Royal Botanic Society's Spring Show.
24.—Chesterfield Spring Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

13.—R.H.S. Drill Hall Meeting.
14.—Bishop Stortford Flower Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
6, 7.—Bromley (Kent) Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bradford Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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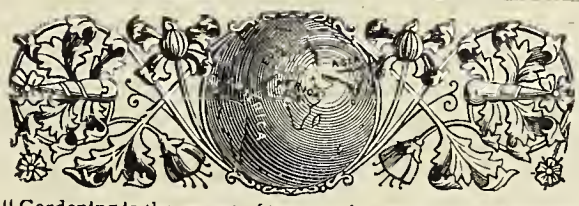

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The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, APRIL 6th, 1895

NEXT WEEK'S ENGAGEMENTS.

MONDAY, April 8th.—National Chrysanthemum Society, Meeting of Committee at 7 p.m.
Sale of Hardy Plants at Protheroe & Morris' Rooms.
TUESDAY, April 9th.—Sale of Imported Orchids at Protheroe & Morris' Rooms.
Royal Horticultural Society, Meeting of Committees at 12 o'clock.
WEDNESDAY, April 10th.—Lily Sale, etc., at Protheroe & Morris' Rooms.

THE PRINCES OF SPRING FLOWERS.—As spring advances flowers of many kinds increase both in quantity and variety. Many of them are unnatural to the season, and are brought forward by forcing and other artificial means, while others naturally flower towards the end of spring, and are forwarded under glass, it may be without what would be regarded as forcing, yet with the shelter of glass houses and frames. On the contrary, there are several classes of flowers which come on naturally in early spring without any additional heat beyond what is necessary to their kind, and which is supplied by artificial means, supplemented by what sunshine our northern skies can supply. Amongst these are several which stand out prominently and conspicuously above the general run of spring flowers, and entitle themselves to the fullest consideration, both at the hands of cultivators and admirers. Some of them are garden improvements, and practically the productions of man; for their counterparts are not to be found in the wide domain of nature except in the primitive and unimproved wild forms that get neglected in the presence of their modern representatives.

Orchids easily take the first place amongst the princes of spring flowers, as they do indeed hold their own at almost any season of the year. This has been amply demonstrated at the meetings of the Royal Horticultural Society during the meetings of the past winter; at some of the meetings they were the only dominant feature, even when frost was too severe to risk out anything of value except cut flowers. As winter gave place to spring they became more extensively represented by the same or other seasonable species. During March it was impossible to overlook or overrate the importance of the Cattleyas and Dendrobiums. The former were represented by C. Percivaliana, occasionally in splendid form and colour, and by C. Trianaei, either contemporaneously or slightly later. The Dendrobiums, both for quantity, quality, and ornamental effect, could not be overlooked during the month of March. D. nobile and its multitudinous allies and D. Wardianum come in for a large share of popularity owing to the size, beauty, and abundance of their flowers. If any one species might be named as taking the precedence of all others it is D. nobile. It is evidently a sign of the times that all the best varieties of it are being assembled together in collections; and the fact of their being brought to the front is a question of utilitarianism, for all of them are capable of supplying an enormous quantity of cut flowers in a season. The specimen of D. nobile nobilius bearing some 389 fully expanded blossoms was an eye-opener to many; for, although the beauty of that variety is well known, few of those who saw it had any conception that there was such a large specimen of the variety in the country, the propagation or division to which it has been subjected for many years being very great. The numerous hybrids of D. nobile with other allied species cannot be exempted from this enumeration, both in consideration of the number of the older forms that have come before the public and the continually increasing improvements and hybrids that are constantly being raised and flowered. Other Orchids of no small importance at this season of the year are Cymbidiums, Coelogynes, Miltonias, Vandas, and Odontoglossums, the latter in great variety and beauty. Cypripediums are never entirely out of season.

The numerous and highly improved varieties of Hippeastrum, still popularly known as Amaryllis, come into bloom at various periods of the year, but they are in full force during March and April. Hardly any one will deny the proud place that they take in the decoration of various houses in spring, but only those who possess a collection, however small, of the more modern improvements can have any conception of the size and gorgeous colouring of the flowers. Those cultivators who have been raising and improving new varieties for some years past have been aiming at greater size within limits, more regularity or symmetry of form, and richness as well as distinctness in the colours, whether light or dark. The flowers of many are large enough in all conscience. The enlargement is concomitant with the shortening and flattening out of the tube, and to a great extent is doubtlessly merely an expression of that fact. Clivias, formerly better known under the name of Imantophyllums, may truly be reckoned amongst the princes of spring flowers, for their great, leathery, evergreen leaves surmounted as they are by huge trusses of orange or orange-scarlet flowers are sufficient to draw the attention of the least observant to their noble, massive, and brilliant appearance. The original and wild forms are being lost and neglected in presence of the great improvements that have been effected.

All of the above are hothouse plants, but the cultivators who take delight in hardy plants are yearly increasing. Except in the case of those who have collections of

hardy plants under glass protection, the long and severe winter has prevented them from speaking loudly of their favourites. The Snowdrops, Scillas, Hellebores, Saxifragas, Crocuses, Irises, and Daffodils cannot however be overlooked when speaking of spring flowers, seeing that such a large number can and do enjoy their beauty. With the aid of frames, a greenhouse or conservatory, the lovers of hardy plants have been enabled to enjoy their Hyacinths, Tulips, Daffodils, and other Narcissi, as well as the rare beauty of Iris reticulata in some of its varied and richly coloured forms. The strong but generally pleasant and agreeable odours of many of the above hardy subjects are not their least recommendation.

W. T. Gunn & Co., Limited.—This company has been formed and registered, with a capital of £2,500 in £5 shares, to acquire the seed business hitherto carried on by Messrs. W. T. Gunn & Co., at Sunderland; to enter into an agreement for that purpose, and to carry on business as seed and bulb merchants. Mr. W. T. Gunn has agreed to be managing director for the period of five years.

Birmingham Daffodil Show.—We are requested to state that in consequence of the lateness of the season the Daffodil Show announced to be held at the Botanical Gardens, Birmingham, on April 9th and 10th, has been postponed to the 24th and 25th inst.

The London Pansy and Violet Society which will hold its next exhibition at the Crystal Palace on July 6th, has just issued its schedule of prizes. There are twenty-six classes in all, thirteen open, and the same number confined to amateurs, the rewards for the latter consisting exclusively of silver medals and certificates. The classes are of a comprehensive character and we hope will lead to a good show.

An "American Wonder" among Sweet Peas.—Messrs. W. Atlee Burpee & Co., of Philadelphia, U.S.A., announce the distribution of a new and distinct variety of Sweet Pea named The Cupid, and which is described as "a really dwarf Sweet Pea that grows but 5 in. high, and blooms so freely for months that it appears a perfect mass of white, the leaves being quite hidden from view." It originated on the seed farm of Mr. C. C. Morse, Santa Clara, California, and it is proposed to exhibit the variety, grown in pots, at one of the coming July meetings of the R.H.S.

Fisher, Son & Sibray, Limited.—This company was registered on the 21st ult., with a capital of £50,000, to take over the old-established business of nurserymen, seedsmen, and florists, carried on by the partners in Messrs. Fisher, Son & Sibray, at Handsworth Nurseries, near Sheffield, Fitzalan Square, Sheffield, Church Street, Rotherham, and elsewhere. An agreement for the sale of the business by Messrs. Charles Fisher, Ernest Edward Sibray, Walter Earl, and others, the late partners in the firm, to Mr. Thomas George Shuttleworth, of Messrs. T. G. Shuttleworth & Son, Church Street, Sheffield, accountants, on behalf of the company, is adopted by the articles of the association, and the following are the subscribers to the memorandum of association:—Charles Fisher, Oakfield House, Handsworth, Yorkshire, one share; Ernest Edward Sibray, The Hollies, Handsworth, Yorkshire, one share; Walter Earl, Clifton House, Handsworth, Yorkshire, one share; William Atkinson, East Bank, Handsworth, Yorkshire, one share; Sarah Atkinson, East Bank, Handsworth, Yorkshire, one share; Margaret Sheriff Earl, Clifton House, Handsworth, Yorkshire, one share; Mary Jane Fisher, Oakfield House, Handsworth, Yorkshire, one share. The qualification for directors is that of holding at least £1,500 in the company, and the first directors are Messrs. Charles Fisher, Ernest Edward Sibray, Joseph Walker, Walter Earl, and William Atkinson. By the articles of the association Mr. William Atkinson is appointed the managing director.

William Thomson Memorial Fund.—Mr. J. G. Veitch, Royal Exotic Nursery, Chelsea, writes:—"A fund is being raised to commemorate the services to Horticulture of the late Mr. William Thomson, of Clovenfords, the sum collected to be given to the Gardeners' Royal Benevolent Institution, and the Royal Gardeners' Orphan Fund. Should a sufficient sum be obtained it is proposed to keep a pensioner in perpetuity on the funds of each institution. To be done a sum of £1,250 is necessary; a perpetual pension to the G. R. B. I. requiring £750, and that to the R. G. O. F., £500, the power of electing these pensioners being in the hands of the Royal Caledonian Horticultural Society, Edinburgh. Should a sufficient sum not be obtained for this purpose, it is proposed to divide the amount raised between the two Institutions proportionately. It is hoped that a very liberal response will be received, not only on account of the esteem in which Mr. Thomson was held, but also on account of the object to which the fund is to be devoted." Committees have been formed in London for England, and in Edinburgh for Scotland and Ireland, Mr. H. J. Veitch being chairman of the former, and Mr. J. G Veitch, Honorary Secretary. No better form of memorial to so worthy a man as Mr. Thomson could have been devised, and we trust the response to the appeal now made will be a generous one.

The Galashiels Flower Shows for the present year are announced to be held on July 13th and September 14th.

SPRING FLOWERS.

Many gardeners of what may perhaps be termed the old school would if asked for a definition of a flower garden be inclined to answer that it was a place where the cultivation of plants was conducted in a systematic way, where each path or walk has to be laid down with exact precision according to a geometrically arranged plan, and where the plants that are to inhabit the beds and borders must perforce borrow a portion of the very stiffness and the regularity of the walks which the constructors of the garden in question have been at such pains to impart to them. All must be in order, system, and method. Naturalness is not to be aimed at, in fact it is regarded as an undesirable qualification for any garden to possess. An artificial lustre sheds its peculiar light over all, and thus the sweetly beautiful, because so sweetly simple flowers have no chance of being duly recognised and their merits suitably acknowledged and properly appreciated. To their more gorgeously dressed but not more beautiful sisters are all the praises of the public addressed, and the sweet and humble flowers, lowly of origin and stature though they may be, have no chance in the race for popularity and favour when placed under such eminently artificial and trying surroundings. But when properly treated and placed in quarters where their surroundings are of a more kindly and appropriate character, then it is that we discover how beautiful they really are, and then straightway proceed to wonder how it is that horticulturalists generally are so tardy and backward in making use of them.

Many of the lovely spring flowers possess an inexplicable indescribable charm of their own that is perhaps all the more pleasing because of its very vagueness. Patches of Snowdrops, clumps of Daffodils, or groups of Scillas and Chionodoxas, and lines of Crocuses look well enough, no doubt, when grown in the herbaceous border or in beds, but their often sadly incongruous surroundings considerably mar and detract from their true beauty. If people did but know what eminently brilliant effects might be produced, and what bright and pleasing touches of colour might be given to our all too sombre shrubberies and pleasure grounds by a tasteful utilisation of the hardy qualities of some of the early flowering plants we should find that many more attempts would be made than have been up to the present to naturalise suitable subjects.

A splendid object lesson of what may be done in this way has been afforded during the past week or two to visitors to Kew Gardens in the effective way in which Crocuses have been used to enliven the appearance of the lawns and pleasure grounds. Large batches of the yellow, white, and purple-flowered varieties are to be seen in different parts, and by the well known Turkey Oak in the Broad Walk the show has been particularly good. The system of planting in masses of one colour is evidently the true one, for much more striking and gorgeous results are obtained in this way than when a number of varieties are mixed together.

We certainly do not advocate the indiscriminate planting of bulbs in places both suitable and unsuitable, but we do contend that our flower gardens might be brightened and their charms considerably heightened during the early months of the year by a judicious naturalisation of hardy spring flowers in appropriate spots. The expense that this would entail need not necessarily be a large one, for sufficient corms of Crocuses or bulbs of Narcissi, for instance, to produce really fine effects may be had quite good enough for the purpose at a comparatively trifling cost. After the first trouble of planting, nothing further would be needed in the majority of cases; and thus year after year a show would be obtained with practically no trouble at all. In planting Narcissi it is important, however, that the position chosen should not be one where the grass is to be mown for hay, for the leaves of the Narcissus possess an acrid and a poisonous virtue that might be dangerous if eaten by cattle. With Crocuses, on the other hand, this objection does not exist, and besides their season of growth is usually over before the grass reaches any height. Very bright and pleasing effects may be produced by the employment of the common Cowslip, Primula veris, whilst a fine stretch of the Bluebell, Scilla nutans presents a truly magnificent appearance. Indeed, there is a wealth of subjects which if properly used might enliven many what are at present dull and uninteresting spots, and cause many an odd corner in the pleasure grounds to literally glow with beauty, and thus our flower gardens instead of occupying as now a comparatively restricted space, might be very greatly extended at a trifling expense, and with very little trouble in comparison with the results achieved. The one great point to be noted whilst planting is that the bulbs or corms, as the case may be, should be set out as irregularly as possible, and nothing like planting in lines or at regular intervals should be tolerated. —*H.*

THE LILY OF THE VALLEY.

Botanically, the genus is "monotypic," that is to say, our little flower has no immediate relations, not even a sister, only three cousins, and these reside as far away as the Himalayas, China, and Japan. In the wild state the Lily of the Valley is dispersed all over Europe and Russian Asia, from the Mediterranean to the edge of the Arctic circle, though in some parts rather sparingly. In Sweden, Linnæus tells us, it is common. It abounds also, according to Asa Gray, in the United States, especially upon the Alleghanies, from Virginia southwards. Asia does not go shares, therefore not Palestine, a circumstance important to note, since many people think it is the flower intended in the beautiful imagery in the Song of Solomon—"I am the rose of Sharon and the lily of the valleys." But any interpretation which takes this particular flower to be the pivot and centre of the metaphor is wrong. The word "valleys," it is true, legitimately represents the Hebrew "amaquim," which recurs in the Psalms, when we read of the "valleys covered over with corn," and is present also in II. Samuel, xviii. 18, in the reference to "the King's dale." But this counts for nothing. The actual sense of the phrase in question we are not here concerned with; let it suffice to repeat that Solomon's "Lily of the Valleys" and the flower now before us are not to be considered identical.

The current English name is a translation of the Latin one bestowed by the famous Continental botanists of the early part of the Elizabethan era, "Lilium convallium." It soon received a corresponding name in Italian, but not in French or German, while in England it became the "May conval Lily," the appellation preserved by modern science in "Convallaria majalis." The earliest drawing I know of is a rude but accurate woodcut in Matthiolus' "Epitome," printed at Frankfort-on-the-Maine in 1576. Excellent coloured pictures will be found in Redoute's "Liliacées," pl. 227, and in Reichenbach's "Flora Germanica," pl. 432.

The natural habitats of the plant are combes, retired cloughs, sylvan recesses, and shady woods, especially such as slope towards running water. Hence, as would be anticipated, it finds a happy home in the seclusion of the Vall'ombrosa, in the

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

heart of the Apennines, so loved by Ariosto (vide "Orlando Furioso," xxii. 26), the chosen haunt of Galileo and Lorenzo de Medici, and one of the scenes of the inspiration of Milton :—

Thick as the autumnal leaves that strew the brooks
In Vall'ombrosa, where the Etrurian shades
High over-arch'd embower.

So, too, for another poet, beside the full-bosomed Rhine :—

I send the Lilies given to me;
Though long before thy hand they touch,
I know that they must withered be.

Near home, how delightful the profusion in a certain quiet corner of Leigh woods, that consecrated relic of old-time forest which borders the Avon just below Bristol. The particular spot is known but to few. Enough to say here that it is near the Salvator Rosa rocks, thus not far from where in the lang syne the nightingales were wont to sing, where evening, like a lover on the door-step, seemed to linger longest; yea, until though still too light for the stars, the planets began to peer forth in their beautiful lustre. Ah, what gladsome hours were those when old Samuel Rootsey, Nestor of the Bristol botanists of the time, used to show the path to little parties of privileged pupils, the broad Atlantic of his benevolent countenance rippled with kindly smiles as the sweet pearly gleam began to show amid the verdure, thought-freighted words flowing like a stream from lips like those of Socrates, while hands were speedily filled with the fragrant treasure. Look! There are the dryads, full of curiosity, peeping out from behind the trees! How bright the classic fancy which first distinguished them, which gave nereids to the sea, naiades to the fountain, oreads to the smooth-cheeked hills, wood-nymphs to the forest. Of course they are all there! Yes: imperishable, and young as ever for the heart that knows how to look for their loveliness. Schiller tells us how in the immortal passage in the Piccolomini beginning "The intelligible forms of ancient poets."
—*Leo H. Grindon, in Manchester City News.*

BEDDING CALCEOLARIAS.

The past winter will not be forgotten in a hurry by many an owner of a small flower garden who makes a point of supplying himself with the material necessary for the filling of his beds and borders during the summer and autumn months. We are now in the midst of discoveries of the damage that the frost has done, and in no particular department is the havoc greater than in cold pits and frames which were utilised at the commencement of winter to shelter Pelargoniums, Calceolarias, etc, in readiness for use in the coming spring. In this no great difficulty is usually experienced, particularly with regard to Calceolarias, for a few degrees of frost when the foliage is dry does not appear to injure them to any appreciable extent. They also strike very readily, and thus a stock may soon be worked up from a few plants, almost every cutting rooting.

This is a matter to be thankful for, for next in popularity as a bedding subject to the scarlet zonal Pelargonium undoubtedly ranks the Calceolaria. By a judicious selection of early and late flowering varieties, the season may be considerably extended from May right through the summer, until the frost puts a stops to blooming in the autumn. In striking the cuttings in autumn, one or two plans may be adopted, according to the fancy of the operator. The first that may be mentioned is to insert the cuttings in well-drained pans filled with light, sandy soil. The plants may be allowed to remain in these pans during the winter, and in spring may be planted out either in a bed made up in a cold frame or in a border. It will be necessary to pinch the tops out of any long growths that bid fair to monopolise too large a share of the strength and energy of the plant, and thus dwarf and bushy habited material will be obtained. Another plan is to make a bed of soil in a cold frame in autumn, and dibble the cuttings into it straight away, leaving them in this position until spring, when they may be planted out into their flowering quarters outside. In this case it will of course be very necessary to make some preparations for protecting the beds in anticipation of the visits of late spring frosts.

Where the hard winter has resulted in the destruction of a great part of the stock, steps should have been taken ere this to remedy the evil. Any plants that may have been spared by the frost should be taken up, potted, and grown on in a warm greenhouse temperature, so as to induce them to make cuttings, which should be taken off as soon as large enough, inserted several in small pots filled with sandy soil, and the pots plunged in a gentle bottom heat, under which conditions they will quickly root. Where no plants at all are left, it only remains either to beg cuttings from one's more fortunate neighbours, or to buy the plants from the nurseryman. In the latter case, several varieties should be chosen, and the following will be found to be a good selection, flowering as they do at various times.

Golden Gem.—This is, perhaps, the finest of all the Calceolarias for early and mid-season flowering, and its merits are pretty generally recognised. The flowers are of a rich yellow colour, and the plant possesses a thoroughly robust constitution. Victoria is another exceedingly fine variety, and its dark maroon coloured flowers afford a decided contrast to the yellow flowered sorts. Amplexicaulis, for late blooming, is a truly splendid variety, and should be grown by all. Unlike the foregoing varieties, which properly belong to the shrubby section, this sort is of a decidedly herbaceous character, and is one of the very few good species in cultivation, being introduced from Peru about the year 1845. As its name implies, the leaves, which are produced in pairs, are sessile and stem-clasping. The flowers are bright yellow, and are produced in such exceptionally heavy trusses that it is very necessary that some support be given them, or they will be beaten to the ground and spoiled by rain or wind. When properly secured, however, a few plants will afford a really magnificent display towards the end of the season more particularly.

BOUGAINVILLEAS.

As climbers for training to rafters and wires in the stove these plants have few to equal and certainly none to surpass them for beauty and usefulness. Their merits are moreover pretty generally recognised among members of the horticultural fraternity, and thus it is in very few establishments of any pretensions whatever, where a good and roomy stove is numbered amongst the list of existing conveniences for plant cultivation, that at least one example is not present in a greater or less degree of perfection. The genus is rather a small one, numbering only some ten distinct species, only two of which, however, are of any value horticulturally. The flowers themselves are small and insignificant, and of greenish hue, the plant owing its beauty to the large brilliantly-coloured bracts which envelop the flowers and which are popularly supposed to be the true flowers themselves. The genus is said to take its name from De Bougainville, a French navigator of some fame, who died about the year 1811.

B. glabra.—This species is the only one with which the majority of gardeners can claim acquaintance, and it is undoubtedly the gem of the genus. It was introduced from Brazil no later than the year 1861, so that it has made the best use of its opportunities in working its way into the affections of the members of the gardening faculty in such a comparatively short time. Its culture in pots is often attempted, but in very few cases indeed are really satisfactory results obtained, for although it flowers freely enough when grown in this way and trained to a balloon or trellis fashioned of wire or wood as the case may be, the plant always presents a stiff and cramped appearance that, in our estimation, does not in the least serve to heighten its natural beauty, but, on the other hand, detracts considerably from it.

Contrast the appearance of such a miserably distorted specimen, with that produced by a plant with its main branches trained near the roof of the house and the young growths allowed to hang from the roofs—a mass of bloom. There can be no doubt whatever that it needs a position of this kind to exhibit its beauty to the full. B. glabra would never have made a name for itself if it had been grown only as a pot plant, twisted and strained in a rigidly symmetrical form about a few feet of wire or wood. Bougainvilleas thrive much better if they are planted out in a specially prepared border. In preparing this it is well to bear in mind the fact that although they are naturally free-growing subjects, the root space may be somewhat restricted with advantage, their floriferousness being much increased thereby. It is quite possible to grow a large specimen in a border of apparently inadequate size. This border must be enclosed by a brick wall so as to keep the roots from rambling at their own sweet will outside their allotted bounds, as they will be almost sure to do if some precautions like those just mentioned are not taken to check their inquisitive and progressive disposition. When the roots are thus kept within proper limits, it is much easier to apply any manurial stimulant that may be considered necessary with satisfactory results.

The wall of the bed being properly constructed and the drainage, which must be ample put in, the soil must receive the next consideration. This should consist of three parts of good, turfy loam, and one part of leaf soil. This latter should be carefully selected and all appearance of fungoid growth removed. Sand must be added in sufficient quantity to keep the soil porous and open. The plants may be pruned each winter pretty severely with advantage—spurred back to within an eye or two, for the bloom is always produced in this species upon wood of the current season's growth. By cutting back pretty hard, therefore the plants are induced to make plenty of new wood. As in the case of Vines, a number of growths are made which would not be of the slightest service if left. These, therefore, must be thinned out, as occasion requires, so that those left shall have room to develop properly during the growing season.

An abundance of water will be needed; indeed, the plants must not at this season of the year be allowed to get at all dry. As soon as flowering commences, bi-weekly applications of weak, liquid, farmyard manure should be given. After the flowering season is over, the supply of water should be gradually restricted, to assist the wood in ripening before winter sets in, finally keeping the plants well on the dry side during the dull months until things begin to show signs of moving with the advancing of spring. With proper care and attention, insect pests should not cause a great deal of of trouble. The frequent use of the syringe, both before and after flowering, will suffice to check the attentions of red spider, which now and again will strive to obtain a footing. If the plants are thoroughly cleaned before starting them into growth in the spring, mealy bug should not cause a great deal of trouble, although in houses that are frequently subject to its attacks, an occasional look over should be given the plants, and any stray clusters of bug that may appear to view destroyed.

B. speciosa.—Although not nearly so well known as the forementioned species, B. speciosa is well worthy the cultivator's attention. It was introduced from Brazil about the same time as B. glabra, which it closely resembles in many ways. The inflorescence is, however, considerably larger. The bracts are of extra large size, cordate in shape, and of a beautiful lilac-rose colour. The leaves are ovate in shape, and are distinct from those of B. glabra in being of a dark green hue, with the upper surface covered with small hairs, the leaves of the former being light green in colour and their surface quite destitute of hairs.

B. spectabilis.—This completes the list of Bougainvilleas at present most generally met with under cultivation, although B. spectabilis is rather an unworthy successor of the other two species. From the gardener's standpoint of what a good plant is, it is a failure, for it is an exceedingly shy flowerer, and the blooms, when they do condescend to make an appearance, are of an exceedingly fugacious character. It is more than likely, therefore, that it will not get very far out of the bounds of botanic establishments, where the interest attach- to a plant does not depend upon its usefulness as a decorative subject from its possession of gorgeous and elegant foliage, or of especially free-blooming qualities. B. spectabilis was introduced some considerable time before the other two, being brought from South America as early as the year 1829. It was for some time known as Josepha augusta, under which title it may occasionally be met with even now.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gadens, Chiswick; Secretary of the Fruit Commitee. Demy 8vo., Handsomely bound in Cloth. Price, 5s., post free, 5s. 3d. Publisher, Gardening World, 1, Clements Inn, Strand, W.C.

DO PLANTS EAT SOIL?

It is a well-known fact that has come within the personal observation of every practical gardener, who is called upon in the ordinary course of his professional experience to deal with plants that have to stay in comparatively small pots for protracted periods, that as the pots become filled with roots there is a corresponding diminution in the bulk of the soil placed there in the first instance. We suppose that this has caused more than one gardener to wonder what has become of the soil of which the pot contained so large a quantity a year or so before. Accordingly, the question raised by "C. B. G." on p. 440 of a recent issue of The Gardening World, viz., as to whether plants eat soil, is one that may well receive a few moments' attention. On the face of it, this would seem to be a natural way of accounting for the disappearance of such a large proportion of the compost.

The idea that the plants eat the soil, that is to say that it passes into the system of the plant in a raw or solid state, cannot for a moment be entertained. Although Sir J. D. Hooker's statement "that the food of plants is liquid and gaseous, and never solid" was made, as "C. B. G." states, twenty years ago, it may be still accepted as being correct and to the point. That it is impossible for plants to take in solids, except they being of a soluble nature are first dissolved in water, is an incontrovertible fact. A fact, moreover, that may easily be substantiated by a careful study of root absorption. In this all-important work it is the root hairs which act as the primary absorbing and conveying medium. A few moments' careful consideration of what a root bair really is, as well as a few details concerning its structure, may, therefore, serve to throw a little light upon the subject.

Root hairs are usually unicellular outgrowths from a single epidermal cell, the cell walls being extremely thin, and the growth itself of very sbort duration. If young roots are carefully examined it will be seen that these hairs are most numerous a little way behind the growing points, but that tbey have entirely disappeared from those roots of older formation, thus limiting these to the function of acting as channels, whereby the crude material collected by the root hairs borne by the younger roots may be conveyed to the green parts of the plant there to be elaborated. With regard to the manner in which the root bairs perform the all-necessary work of absorption, Mr. Joseph W. Oliver, in his text book on "Elementary Botany," says that "tbe root hairs come into close contact with the particles of the soil, adhering to them very very firmly, so firmly that if the plant is carefully removed from the soil in which it is growing the roots will be seen to be covered with the adjacent particles. By this adhesion the root hairs are brought into close contact with the films of water, and the water, together witb the dissolved food materials, gradually diffuses through the wall of the root hair and the lining layer of protoplasm into the vacuole or cell cavity."

From this it will be seen that the various elements contained in the various chemical compounds which the plant needs as food cannot enter the plant except in a state of solution, and that the water really acts as the vehicle, wbich after dissolving these substances serves to convey tbem to the green parts of the plant, where by the aid of the chlorophyll they are converted into starch, sugar, fats, and proteids, out of which are manufactured the complicated compounds cellulose protoplasm, etc. This, of course, does not refer to the absorption of carbon with which the root hairs have nothing to do, this being aborbed by the leaves as carbon diocide ($C\ O_2$) or carbonic acid gas, as it is familiarly called, and decomposed by the action of light, the carbon remaining fixed and the oxygen expelled.

With regard to the ash of plants which always remains in a greater or less quantity after the dissipation of the more volatile constituents of the plant, viz., carbon, hydrogen, oxygen and nitrogen by fire. This always contains the elements potassium, calcium, magnesium, iron, and phosphorus, besides a quantity of sodium, manganese, silicon, and chlorine, which may or may not be present. Now the student of plant life needs not to be told that each and all of these elements, carbons excepted, are supplied to the plant in tbe soluble form, water as before stated serving as the vehicle by which they are conveyed. As, therefore, all kinds of plant food must be dissolved in water before it is possible for them to pass through the closed membrane of the cell wall of the root hair it cannot be allowed that plants are capable of assimilating particles of solid matter.

But if we look at the question in another light we may say that plants consume soil to some degree, inasmuch as they live upon the elements composing it to a large extent. The soils in which plants exist is necessarily formed by the decomposition of the various strata of rocks underlying them, these being usually broken up by the disintegrating influences of the atmospbere, such as rain, frost, etc., also with the addition of a quantity of humus furnished by the decomposition of animal and vegetable matter. Now if a plant is to thrive in the soil in which it is placed, either when that soil is contained in a pot or when the roots of the plant are free to ramble in the open ground, it is manifest that that soil must contain all the elements necessary to the life of that plant or failure will ensue; in other words, the plant if it does not die will at best eke out a miserable and stunted existence.

Thus when we pot plants which have to remain in the same state for some time we usually make the soil as good as possible, and as soon as the pot has become filled with roots and the plant food it contains more or less exhausted we have to assist the plant by the application of various manures, that is, if we wish to keep it in a healthy and vigorous state of growth. But we have already noted that certain constituents of the soil have been absorbed by the plant and their abstraction must, of course, involve a certain diminution in the bulk of the soil, although this may not be apparent or appreciable. There can be no doubt, however, that the most fruitful cause of the disappearance of the soil in cases of pot-bound plants is due to the washing of water during a long season, and in a less degree to compression. Worms, too, play a very important part, carrying as they do the soil either to the surface where it is removed in the form of worm casts or else conveying it to the drainage where it is washed tbrough.

It must also be remembered that in pots where the roots form a perfect network, any water given sinks much more rapidly through the ball than it does when such a state of the roots does not exist, and sinking thus rapidly it exercises a correspondingly greater rinsing influence upon the soil in the pot. If anyone will examine the shingle upon which plants have been standing for a time bis mind will soon be set at rest as to the probable cause of the disappearance of the soil, for every practical gardener knows from experience that if he wishes to keep shingle of this kind clean and free from soil it must be washed every now and again.—*G.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The Orchids described below were awarded Certificates according to merit by the Royal Horticultural Society on the 26th ult.

Bollea Schroderiana. *Nov. sp.*—According to the more modern system of classification, the Bolleas are now included under Zygopetalum, but whether the species under notice is included under that name, or kept separate, there can be no question it is a plant with flowers of large size and great beauty. The flowers are borne singly on peduncles arising from amongst a dense mass of roots, and have broad, obovate sepals and similar but smaller petals, all incurved, fleshy, waxy-looking, and pure white. In contrast to the concave appearance produced by the other segments, the lip is erect at the base, then spreads horizontally, with the lamina revolute at the sides and pale violet; a large ridged crest at the bend of the lip lies against the large, fleshy, white column. First-class Certificate. A large plant in a basket was exhibited by Messrs. F. Sander & Co., St. Albans.

Batemannia peruviana *Nov. sp.*—Here again we have a representative of a group of Orchids forming a section of Zygopetalum. Several of the members of the group are of curious structure but beautiful, though comparatively uncommon in cultivation. The tetragonal pseudobulbs are 2 in. long and bear a pair of lanceolate leaves at the apex as well as smaller ones or leaf sheaths at the base. Tbe narrowly obovate sepal is brownish-purple with a circular stripe and a greenish tip, while the lateral ones are deeply concave and approaching one another, project in front of the flower. The ovate petals are similar in colour but have two circular streaks upon them as well as the apical green blotch, giving them a variegated appearance. The three-lobed lip is white, finely spotted with purple on the side lobes, and has some purple markings at tbe base of the revolute lamina. Though pretty it is not conspicuous. Botanical Certificate. Exhibited by Messrs. F. Sander & Co.

Dendrobium Cordelia. *Nov. hyb.*—The seed parent of this hybrid was D. aureum crossed with the pollen of D. euosmum leucopterum, itself a hybrid. As is well known, the flowers of both parents are fragrant, and tbis is the case with D. Cordelia as might be expected. The sepals are of a soft creamy-white tinted with purple at the edge; the petals are twice as broad and a shade paler in colour. The ovate lip is creamy-yellow with a large, crimson-brown, radiating blotch at the base and covering about half of it. The terete stems are 6 in. to 12 in. high. Tbe soft and delicate shades of colour are the chief recommendations to this choice and charming hybrid. Award of Merit. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Olenus. *Nov. hyb.*—This dwarf and pretty species was raised from C. bellatulum crossed with the pollen of C. ciliolare. The upper sepal is nearly orbicular, and rosy-purple with darker markings along the principal veins and shaded with green along the centre. The petals are broadly oblong and of a soft purple, marked all over with spots of a much darker hue. The lip is similar in shape to that of C. bellatulum, but of a rich dark purple and finely pubescent. The leaves are oblong, and dark green with paler markings. Award of Merit. Exhibited by R. I. Measures, Esq., (gardener, Mr. H. Chapman), Cambridge Lodge, Flodden Road, Camberwell.

Dendrobium Donnesiae. *Nov. hyb. nat.*—Whether it is so or not, the general aspect of this Dendrobium would give one the impression that it is a natural hybrid between D. formosum and D. infundibulum or its variety D. i. Jamesianum. The stems vary in length from 2 in. to 12 in., the latter being the height of the last made growth, are furnished with oblong leaves and covered all over witb short black hairs; they are very stout and in that respect resemble those of D. formosum. The sepals and the broadly rhomboid petals are white, the latter being not much smaller than tbose of D. formosum. The lip resembles that of D. infundibulum in size and shape, and is white with a central band and heavy lines on the side lobes, all of a bright orange colour; tbe edges of tbe lamina are dentate and undulated. The spur is long and decurved at the tip. Award of Merit. Exhibited by J. Bradshaw, Esq. (gardener, Mr. H. Whiffen) The Grange, Southgate.

Dendrobium Schneiderianum.—Tbe parents of this hybrid were D. Findleyanum and D. aureum, the former being the seed-bearer. The stems show the influence of the latter in the elongated and obconical nodes or joints that are, bowever, greener and less flattened than in the original. The sepals are white, washed with pink, and the ovate, wavy petals are creamy-white with rosy tips. The lip is broadly ovate with an orange-brown blotch at the base, succeeded by a narrow white band and a pale purple tip. Award of Merit. Exhibited by E. Ashworth, Esq. (gardener, Mr. H. Holbrook) Harefield Hall, Wilmslow.

Bulbophyllum burfordiense. *Nov. sp.*—Tbe flowers of this species are amongst the most remarkable in the genus. The upper sepal is oblong-oval, reflexed at the base then incurved again in the middle, of a tawny buff colour tesselated with white, and 4 in. to 5 in. long by 2½ in. wide. The lateral sepals are singular looking organs being turned on their edges vertically in the lower half while tbe upper half is turned or twisted with its upper surface downwards; they are of a dusky yellowish hue. The miniature, movable lip is green, spotted with purple. The pseudobulbs are short, square, and terminated by one oblong leaf. Botanical Certificate and a Cultural Commendation. Exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. H. White), Burford Lodge, Dorking.

Odontoglossum crinitum sapphiratum. *Nov. var.*—The typical form of this curious little Odontoglot has brown and yellow flowers; but in this case the narrow sepals are pale green with brown blotches along the centre; the petals are erect or nearly so, approaching one another, and are pale greenish-yellow, and edged with brown, enclosing a central purple line. The lip is white with a violet blotch on the crest, and a few others in front of it. The crest itself consists of numerous slender fringes like bristles. Botanical Certificate. Exhibited by Sir Trevor Lawrence, Bart.

Schomburgkia crispa.—The sepals and petals of this uncommon species are oblong, wavy, or crisped, and brownish-purple in the case of the flowers exhibited by Sir Trevor Lawrence, Bart., but they are liable to variation amongst different importations. The lip is sometimes white, but in this case it is distinctly rosy-purple, and turned up at the sides with three white plates on the disc. The scape arising from the top of the short stem is 3 ft. to 4 ft. long, bearing a short and broad, dense raceme at the apex. The pedicels of the flowers are pale lilac, and 3 in. to 4 in. long. The species was originally introduced from Demerara in 1844. Botanical Certificate.

Odontoglossum luteo-purpureum amplissimum.—The sepals of this distinct variety are of a deep shining chocolate with a yellow blotch at the base. The petals are chocolate above the middle and down the sides on the lower half. The lip is the characteristic feature of the variety, and is dilated in a fan-shaped manner, plaited, toothed, and white, with a brown band in front of the crest. A fine plant bearing ten flowers in a raceme was exhibited by H. Weetman, Esq. (gardener, Mr. Bernard Dunn), The Hawthorns, Little Haywood. Award of Merit.

Cattleya Trianaei Parkes' var., *Nov. var.*—The sepals are of the palest lilac, while the petals are similar in colour, but of huge dimensions, and triangular ovate. The lip, however, is the finest feature of this grand variety, and is notable both for size and colour; the tube is lilac, but the side lobes are dark purple, while the lamina is still more intensified and rich in hue, with an orange blotch in the throat. Award of Merit. Exhibited by W. C. Parkes, Esq., Llanberis Tower, Tooting.

Dendrobium splendidissimum illustre, *Nov. var.*—The original D. splendidissimum was obtained by crossing D. aureum with D. nobile, good varieties being employed in each case. The variety under notice was obtained from D. Leechianum crossed with D. nobile nobilius. The first-named is the reverse cross of D. Ainsworthii and D. splendidissimum, so that the four hybrids here mentioned are all very closely allied. D. splendidissimum illustre has stems 2 ft. to 2½ ft. high, like those of D. nobile, and bears its huge flowers in clusters of two or three together. The sepals are broadly oblong, and the petals are purple on the upper half and pinkish towards the base. The lip is roundish, slightly prolonged at the apex, of a rich crimson-maroon, with a narrow creamy band in front of the blotch, and continued round the edges, with a purple tip. The great size of the blotch makes the lip highly conspicuous and ornamental. Award of Merit. Exhibited by W. R. Lee, Esq. (gardener, Mr. Billington), Audenshaw, near Manchester.

FRUIT UNDER GLASS.

Vines.—As soon as the berries in the bunches borne by the earliest pot vines commence to colour, the application of manure water must be very judiciously conducted. Nothing of a too rank or offensive nature must be given or the flavour of the fruit will suffer. The atmosphere of the house which has hitherto been kept laden with moisture must be allowed to become considerably drier. More air than formerly must also be given, although the temperature must not be permitted to fall too low. In the second early house as soon as the berries commence to stone great care must be exercised that the Vines do not receive a check, as they are likely to do if the water supply is inadequate. Air must be given gradually as the temperature of the house rises in the morning. On no account should the house be allowed to get too hot, in which case to suddenly put on a lot of air is simply folly. Keep the evaporating pans full of liquid manure with the same temperature as recommended in the last calender. All the later houses will now be pretty well advanced in growth, for at this season of the year they come on very rapidly. Do not be too rash in the work of dishudding, but remove the weaker shoots first, and as soon as it can be seen which are the best to leave.

Figs.—As the fruit on the earliest pot plants begins to ripen the supplies of liquid manure should cease, clear water alone being given. Succession plants may, however, be treated pretty generously if they are carrying anything like good crops and are not growing too rampantly. In the other houses the syringe may be kept at work pretty vigorously and a bright lookout kept for the appearance of bug. A mixture of warm water and petroleum applied with a small brush will quickly destroy any colonies of bug that may be present, although it is of the greatest importance that the mixture be stirred constantly whilst using, otherwise the petroleum, which never really mixes well with the water, will separate out and come to the surface, the result being that in the hands of a careless or ignorant operator the petroleum is applied nearly neat, damage of course resulting to the plants upon which it is being used.

Peaches and Nectarines.—As soon as stoning in the earliest house is completed, and all danger of the fruit dropping is past, a warmer temperature may be maintained without fear of injury to the trees. Whereas until stoning was finished it was not safe to force too hard, a night temperature of about 60° Fahr. rising to 75° on sunny days being ample, the temperature may now be raised with advantage to 65° by night, rising to 80° by sun heat. Avoid anything like a stuffy atmosphere however, and syringe thoroughly and well to keep down red spider. In the succession house as soon as the fruit has reached the size of marbles thinning may be commenced. This must not be performed too severely for many trees have a trick of dropping much of their fruit during the stoning period, after which the final thinning must take place. The number of fruits left at this last thinning should depend upon the strength of the tree which is being operated on, and this will be governed in a great measure by its age as well as by the size to which it is desired the fruit should attain. Generally speaking a fruit to every eight or nine square inches of surface may be considered a good crop if Peaches of medium size are required, although 10 in. or even 12 in. of space may be allowed if very large ones are desired. These directions it must be clearly understood apply to vigorously growing and healthy trees; for weaker constitutioned subjects the treatment must be modified according to the judgment of the cultivator.

Cherries.—As soon as the fruit here is well set the syringe must be started to work again with all speed. Do not coddle the plants in any way, for to do so would be fatal. Give plenty of air therefore whenever it is possible to do so without generating a cold draught. Stop the young growths before they get too long, and thus rob the plant of a large portion of its strength. Black fly is often very troublesome to Cherries at this stage of their growth, and thus a sharp lookout must be kept for its appearance. Where only a few shoots are infected one or two dustings with tobacco powder will prove very efficacious in checking its advance. Should it obtain a footing, however, a few good fumigations given on consecutive nights and followed by a series of heavy syringings will soon rid the trees of its presence.—*A. S. G.*

THE FLOWER GARDEN.

The havoc that the past severe winter has caused amongst the occupants of the flower garden is now just becoming apparent. The destruction, although great everywhere, is much worse in districts where a great deal of planting had been done previously to the setting in of the sharp weather. In several cases we have noticed scores of young so-called hardy trees and shrubs have been killed right off, and thus, unless steps are taken to remedy the evil, many plantations will look exceedingly thin during the coming summer. It will not be wise to hasten off to the nurseryman with a large order at once, however, for they have also experienced losses in a like proportion to those sustained by the gardener, and in most cases the same subjects will have suffered, a scarcity of favourite plants thus resulting and prices rising accordingly. The vacancies in beds and borders may be filled up during the coming summer by many of the taller growing herbaceous plants, such as Dahlias, Sunflowers, Perennial Asters, Solidagos, etc. As soon as possible, therefore, the dead trees should be rooted out and thrown away, and the ground prepared for the plants with which it is decided to furnish it by a generous application of manure and deep digging. The knife and the saw must now be kept hard at work cutting out dead branches. Many of the trees, if cut well back, will break again during the summer, and thus the ultimate losses may not be so severe as at present anticipated.

Sweet Peas.—No garden should be without a few rows of these beautiful plants, at once so ornamental and so useful as a screen for hiding old unsightly corners and objects which it is desired to keep out of sight. The flowers, too, are extremely useful for cutting, and as there are now so many varieties in cultivation, they may be had in all colours, from purest whites to deepest reds and purples. Their culture, too, is so extremely simple that it is no wonder they are such universal favourites with all those who possess a garden. If a row or two have not been already sown, this should be seen to at once. But as it is desirable to keep up a succession of bloom, two or three subsequent sowings should be made at later periods, as in the case of garden Peas, for the plants soon become straggling in the earlier rows and flowers are not produced so abundantly, neither are they so fine. Accordingly, it is necessary to have a few later rows to fall back on.

Seed Sowing.—Select a warm, sunny spot, sheltered from cold winds if possible, but not overshadowed in any way by trees, which would cause the seedlings to become drawn and worthless. Fork the ground, which should have been roughly thrown up before winter set in, well over, and break the surface soil up as finely as possible. Choose a dry, warm day for the sowing of the seed, and above all, do not sow too thickly. Give a gentle watering with a rose-can afterwards. Most of the half hardy annuals may be sown in this way at the present time, transplanting them to their flowering positions as soon as they are large enough. If desired, many of the dwarfer plants may be sown straight away in that part of the borders where they are to flower. Any Aquilegias, or Digitalis, which were sown in the open ground last autumn and have survived the winter, should be transferred to their flowering quarters without delay.

HARDY FRUIT GARDEN.

Most of the different hardy fruit trees have made considerable progress during the last few weeks, and thus Apricots, Peaches and Nectarines on walls must no longer be left without protection, for we may be dropped on now at any time with a few degrees of frost. Where the walls are furnished with glass copings this is a comparatively easy matter, as it is easy enough to affix mats or tiffany to these. The additional advantage of being readily able to roll these coverings up, and thus to expose the trees to the genial rays of the life-giving sun is also a very important one. Where sufficient covering material of this kind is not to hand, however, and protection has to be afforded by means of branches of evergreens it is not possible to thus expose the trees to any extent, although portions may be removed here and there, of course replacing them at nightfall until all danger of frost is past. This will allow the bees readier access to the flowers and thus help to secure a good "set."

Filberts.—The pruning of these where necessary should now be seen to. It is always advisable to leave any heading of branches that have outgrown their limits until about this time of the year, as it is necessary to have as many catkins upon the trees as possible to insure the fertilization of a sufficient number of the female blooms. All rotten or injured branches must be cut clean out, and the strong young growths with which the centre and base of the tree are usually so thickly crowded, but which are of no use for fruit-bearing purposes should also be removed. These shoots if placed in a shed or outhouse and dried until they have attained to a fair degree of rigidity will prove invaluable material for staking purposes presently.

SOME OLD FAVOURITES.

The hold and showy blooms of the Ranunculus excels most of its compeers both in the symmetry of its shape and in the brilliancy and diversity of its colours. Beds formed of it are among the most showy and attractive objects that one would wish to behold, for there is every conceivab'e shade represented in collections that contain the Persian, the Turban or Turkish, and the Giant Double French varieties, that I may venture to say would be difficult to find in any other tribe of plants. There are shades of purple, violet, and deep black, mingled with the snowiest-white, orange, and golden-yellow hues, some with Carnation and Picotee-like markings, mottled and marbled, or green with scarlet margin, which are exhibited in gay profusion. My purpose for introducing the Ranunculus and a few other hardy plants is that the present season is most opportune for planting the same, and those who are desirous of planting should avail themselves of the present month to do so if a summer and autumn display is required.

The season for planting, of course, varies considerably, according to the time at which it is intended for the flowers to bloom. The first and most important point is that the bed should be well drained, dug, and well-rotted cow dung mixed with the soil to within 6 in. of the surface, as raw manure coming in direct contact with the tubers often causes canker. Let the surface soil be a mixture of rich fibrous loam, coarse silver sand, and leaf mould. Plant the tubers 2 in. deep, and 3 in. apart, in drills, placing a goodly quantity of coarse sand in these drills, and carefully plant the roots firmly with their claws downwards, the soil then being raked over with a light rake.

A slight covering of cocoa-nut fibre refuse is very beneficial to guard off late spring frost and may thus be given with advantage. When the leaves appear the hoe should be used to roughen the surface, but must be handled very lightly as the roots are sensitive to being disturbed, and a dressing of manure or an application of liquid manure is advantageous at this stage, and tends to nourish the roots, and give firmness and stability to the leaves. Should dry weather set in, copious supplies of water must be given, as Ranunculi are more apt to suffer from the want of it than from excess, presuming of course that the beds are well drained. These copious supplies of water serve not only as food for the roots, but tend to extend their blooming period. The hot sun's rays are very detrimental to the blooms, and preparation should be made to give them in some way a little shade when it is at its hottest.

The double and single flowered forms of Anemone coronaria, the "Poppy Anemone," or Garland Windflower, requires to be managed in much in the same way as the Ranunculus, and is a highly ornamental plant with large showy flowers ranging in colour from the most intense scarlet to purest white. The foliage is, moreover, elegantly cut, and the habit of the plant is neat and compact. Anemones planted on a bank sheltered from violent winds give a most delightful effect.

The Tigridia, or "Tiger Flower," is perhaps one of the loveliest in the garden, and shines best in a rich loamy soil mixed with sharp sand, must be we'l drained and receive a good supply of water, should the weather be dry. The flowers are of short duration, but the stems terminate in a sort of sheath, from which a number of blooms successively expand, continuing for some weeks. T. conchiflora, yellow, centre spotted scarlet; T. grandiflora, rich scarlet with crimson spots on a yellow ground; T. grandiflora alha, pure white, centre spotted crimson, are all varieties that well deserve a trial.

Gladiolus gandavensis, or the Sword Lily, does not need any description, as it is so well known. All lovers of this remarkably beautiful flower know well how attractive are its beautiful spikes of blooms. No place is better suited for them than the kitchen garden, or they may be planted in the Rose or Rhododendron beds. If planted in borders, they should be in clumps of threes or fives at intervals of from 4 ft. to 6 ft. As pot plants they are invaluable, and make a brilliant show when intermixed with other subjects in the conservatory or greenhouse. They should be potted during March and April, using a compost of well-rotted manure, rich loam, and coarse sand well mixed, subsequently plunging the pots in an open situation and attending carefully to manurial watering during dry weather. The Gladioli should never be allowed to become dry, as few plants suffer more than these if there is lack of moisture. As soon as the spikes of bloom show colour they should be taken to the conservatory or greenhouse to develop their blooms. When the leaves begin to fade they should be lifted, dried, and the corms stored away carefully in shallow boxes or bags in a dry place and away from frosts.

Hyacinthus candicans is a very showy South African bulb, and well worthy of a position in all gardens; the flower scape is from 3 ft. to 5 ft. high, and hears large snow-white fragrant flowers. It is admirably adapted for growing in clumps in borders or centre beds, and is quite hardy.—*W. L.*

THE TRANSPLANTING OF LARGE TREES.

At the meeting of the Royal Horticultural Society held in the Westminster Drill Hall on Tuesday, March 26th, Mr. J. Cheal presiding, Mr. Crasp, who was unfortunately absent, contrihuted an essay upon the lifting and transplanting of large trees and shrubs, the paper being read by the assistant secretary of the Society. The essayist proceeded to dwell upon the evils resulting from too close planting, which he averred were very many, and likely unless speedily rectified to cause considerable damage to the whole of the trees in the plantation. He was aware that it was the usual custom to plant closely on many gentlemen's estates where an immediate effect was desired, and this as the plants increased in size should induce the gardener to take proper care that those subjects which it was decided to keep were allowed sufficient space to develop themselves properly, this room being given hy the removing of some, either by lifting them and planting them out in other situations, or by cutting them down. This latter method the essayist said was a most expensive proceeding and one the adoption of which he would not advocate unless under very pressing conditions.

Where proper precautions were taken and due care exercised the transplanting of large specimens of deciduous trees and shrubs as well as Conifers might be safely entertained with but surprisingly little fear of injury to the subjects so treated. Indeed, if asked to make out a list of the trees which might be safely removed after they had attained a considerable size, he would reply that with very few exceptions indeed, all trees and shrubs might be so treated, of course, supposing that operations were properly conducted. During an extended period of practical work of this kind he had successfully transplanted deciduous trees and shrubs of all sorts, besides Conifers in endless variety. Amongst these latter, however, it was his experience that Abies Pinsapo was a most difficult subject with which to deal; in most cases it meaning death to move it after it had reached any size, although in a few instances it had been known to grow and flourish in its new quarters.

Mr. Crasp was of opinion that one of the most important points bearing upon the successful transplanting of large trees was to see that the ball of earth enveloping the roots was thoroughly soaked with water on being consigned to its new position. If any doubts were entertained as to the proper soaking of the ball he should advise that several holes be carefully made in it by means of iron rods; so as to allow the water to penetrate it freely, otherwise any water that might he given would run off and quickly disappear in the comparatively loose soil surrounding it. In shifting, early autumn, that is to say some time during the middle or end of September, was perhaps the best time of the year to conduct operations. It was not at all necessary to wait until the leaves had fallen from deciduous trees as he had shifted many in full leaf with the best of results.

The Chairman at the conclusion of the paper offered a few remarks upon the necessity of preparing trees that it was proposed to transplant a year or so beforehand, digging a trench round them at a sufficient distance from the stem, and cutting the very thick roots which might be met with, thus inducing the plant to make a number of small fibrous roots close to the stem, the risk consequent on shifting being in this way greatly minimised. It was also of the first importance, he stated, that all bruised or broken roots should be neatly trimmed with a sharp knife before planting.

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne F.R.H.S. Price, 1s. post free, 1s. 1½d. from the Publisher of the Gardening World, 1, Clement's Inn, Strand, W.C.

THE ALPINE HOUSE AT KEW.

The tide of fashion, and hence, to a very large extent, that of popularity also, has of late years set in very strongly in favour of all kinds of hardy plants, and thus from a comparatively neglected position they are now largely grown and assiduously cultivated in most of our gardens. Alpines, as a section, have by no means been forgotten, and we may well add neither do they deserve to be; and the increasing number of rockeries that are constructed year by year in different parts of the country, as well as the large numbers of plants in pots that enjoy a place in so many of our greenhouses, testify to the fact that some of the merits at least of this beautiful and interesting class of plants are well known and duly recognised by the horticulturally-inclined public.

At Kew a small span-roofed house in a corner of the herbaceous ground is set apart for the purpose of exhibiting to the public Alpine plants in pots during their flowering stages. This little show-house has, during the last few weeks, been thrown open to the public for the season, and at present contains an interesting and varied collection of plants in flower. Of Saxifragas there are a goodly quantity, both in number and variety, the well-known S. Burseriana being in fine condition, also its pretty little variety S. B. macrantha. S. oppositifolia was also represented, together with S. o. maxima, which has rather larger flowers than those of the type, being quite ¾ in. in diameter; S. o. pyrenaica with its deeply tinted rose-coloured flowers, S. o. splendens, S. o. grandiflora, and S. o. major. S. apiculata was also conspicuous with its profusion of pale yellow flowers borne upon scapes barely exceeding 2 in. in height, and the dwarf carpet-like growth of bright green characteristic of so many of the Saxifrages. Chionodoxas of various sorts were to be seen; also Scillas in variety, S. uckranica being especially noticeable. A fine pan some 15 in. in diameter full of healthy well-flowered plants of Epimedium rubrum, with its lax panicles of crimson and yellow flowers, looked exceedingly bright and handsome.

The golden flowered Fritillary, Fritillaria aurea, with its rich yellow bell-shaped and pendulous flowers spotted with black, a characteristic of many of the members of this genus, and which has been supposed to resemble the chequerings of the chess-board, hence the name Fritillary from *Fritillus*, a chess-board. F. armena, a few plants of which were also present, exhibits a curious contrast to the former species. The flowers are much smaller than those of F. aurea, and are of such a deep dark red or reddish-brown that the segments of the perianth appear almost black on the outside, their true beauty being shown, however, in the presence of the all-revealing sunshine. The well-known but comparatively seldom met with Primula denticulata was also to be seen, along with its white variety P. d. alba, which appears to be of rather stronger growing habit than its type, and is certainly both a handsome and a useful plant.

A collection of spring-flowering Alpines would manifestly be both incomplete and unrepresentative unless some of the Drabas were present, and here D. longirostrata was deputed in company with D. Loiseleuri to represent the genus which comprises so many beautiful spring-blooming plants. Both these kinds are yellow flowered, the margins of the leaves of the former being very prettily ciliated, a fact which adds not a little to the attractiveness of the plant. We noticed also the curious Leontice leontopetalum with its drooping racemes of some 2 in. in length of the rather insignificant brown and brownish-yellow flowers; also Lathyrus vernus, in which the peduncles are from one to four flowered, the flowers being rather small, the vexillum bright purple, and the keel a very bright blue colour. Sundry pots and pans full of Anemones, A. blanda principally, Cyclamen Coum, Pulmonaria mollis, a very large flowered variety, all helped to add to the beauty and effectiveness of a display that was quite sufficient in itself to convince even the most unbelieving of horticulturists of the value of Alpines as a class of plants even when it is only possible from want of room or other reasons to grow them in pots.

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

JAPANESE MAPLES.

WHILE the blanks in shrubbery borders are being made up, some of the Japanese Maples should find a place. The name is applied to the exceedingly numerous forms of Acer palmatum, often better known as A. polymorphum in gardens. The original form has five-lobed leaves of small size, neat form, and spread out like the fingers of the hand. From this type we have variations that are as numerous as they are remarkable, for in no other garden shrub or tree have we such an amount of variation in a single species. A. p. roseo marginatum has five to nine instead of five leaflets of a light green, margined with rosy-pink, but otherwise they are comparable to those of the type. Most of the forms here mentioned may be recognised by reference to the accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, Chelsea. A. p. atropurpureum differs from the type chiefly in size and colour, which gives it a bold appearance and makes it stand out prominently amongst a collection of shrubs. The leaves are of a dark coppery purple, and the young shoots partake much of the same hue. The variety A. p. sanguineum has similarly formed leaves to the last-named, but they are altogether brighter in colour, being of a deep reddish-crimson.

The variations in the number of leaflets, and the the way in which they are cut, offer variations of quite a different kind, and alter the whole character of the bush. That named A. p. palmatifidum has pale green leaves consisting of nine to eleven leaflets arranged almost in the form of a circle. The central ones are largest and longest, but their special feature is that all the larger leaflets are cut into narrow segments extending almost to the midrib. Somewhat similar in form is A. p. dissectum, but the leaflets and their segments are narrower, more graceful, and of a deep bronzy hue. The shoots are long and slender, as are those of some of the other varieties, and assume a gracefully drooping habit Still more narrower are the leaflets of A. p. linearilobum, which are linear, cut, and toothed. They are reddish when they first expand, but gradually become green with the exception of their edges and the leaf stalks. The leaves of A. p. reticulatum are seven-lobed, sharply serrate and emerald green with

a dark green venation. Besides those named there are many others differing in a variety of ways; but the above added to a collection would enliven it and impart an aspect to any shrubbery quite different from what they have been accustomed to wear. In fact the variations are so great as to warrant the planting of Japanese Maples in beds by themselves for the sake of the beautiful foliage. Other shrubs might also be intermixed with them, including the variegated forms of Cornus, Negundo aceroides variegata, and various others.

AMARYLLIS AT CHELSEA.

The hybrid and highly improved race of Hippeastrum or Knight's Star, better known as Amaryllis, are now in all their glory in the nursery of Messrs. J. Veitch & Sons, Chelsea. They occupy the house which has been devoted to them for the last fifteen years or so; and if anyone who had noted them were to see them now, he would be surprised at the marvellous changes which have been effected both in the size and rich colours of the flowers. The shortening of the tube, the expansion of the lamina, and the intensity of the colours infused into the flowers and the washing out of the green from the pale varieties, leaving the ground work of a pure white, are changes for the better, and so extensive that they cannot be ignored when studying the modern improvements. The bulbs were potted during the last week of January, preparatory to closing the house to bring them on gently. The treatment to which they have been subjected tells its own tale, for the scapes are only 18 in. to 2 ft. high. The visitor can stand in the pathway and glance conveniently over the tops of all the flowers in the raised central bed, whereas the steps or something else was necessary last year to enable the visitor to get a full view over the flowers. The display here is certainly magnificent, while many of the young bulbs occupying the side benches are also flowering. Last year's varieties have mostly been sold and cleared away so that new ones are by far the most dominant; and all of those described hereunder are new.

We took the trouble of measuring the breadth of the segments of one widely expanded flower and found that the outer three were 4 in. across and the inner ones 2½ in., so that each segment would of itself make a large flower for many kinds of garden plants that are highly appreciated. The flowers were of a rich red with a green star in the centre. The funnel-shaped flowers of Timora are of a brilliant crimson-scarlet, shaded with maroon along the sides of the rays. The flowers of Dulas are also shapely, but of a peculiar and uncommon colour, being deep claret. Somewhat similar but perfectly distinct is Medina, whose claret flowers are intensified in the throat which has a glossy lustre. Altogether brighter is Myca, which has a widely spreading lamina of a rich vermilion shaded with crimson in the throat, while the star is obliterated except two of the rays. The wide flowers of Marina, on the contrary, are brilliant scarlet, with the white-rayed star extending three-parts of the way down the segments. In the case of Rita one scape bears four large flowers of a crimson-red with a short star; the number of flowers has no effect in diminishing their size. A very symmetrical flower is Eathorpe, with bright scarlet flowers shaded with crimson along the sides of the green star. Two scapes from a bulb of Islanmore bears in the aggregate six scarlet flowers much variegated with pure white. Marlay is a brilliant crimson-scarlet, very rich in hue and shaded with dark crimson along the sides of the rays of the star, which is nearly white and three-parts as long as the segments.

The observant visitor cannot fail to notice how effectually the green shading of light coloured flowers is being washed out or eliminated, leaving the white of a pure and green tint. Armoire is an example of this, and bears four white flowers on a scape slightly streaked with red on either side of the midribs of the segments. It will also be noticed how tenaciously the red lines and markings cling to the flowers, even of the newest varieties, making a pure white of very rare occurrence. Another, equally prolific in blossom, is Jocasta, which is shaded and lined with red on each side of the soft apple-green rays. The widely campanulate flowers of Bandon are white, striped with scarlet along the middle, except on the lower side of the flower, which is devoid of markings. Very dwarf is Ilam, being only 15 in. high, with a few purple-red lines along the midribs on the upper side of the flower, the rest being white. Cupid bears four large, widely-expanded flowers, shaded and striped with crimson-scarlet on a pure white ground. The four flowers of Ethie are bell-shaped, and white, shaded and lined with reddish-purple and pale green at the very base. A light coloured and pretty flower is Melisse, striated and netted with scarlet on a white ground. The widely, funnel-shaped flowers of Marnovia have broad segments, heavily shaded and netted with crimson on a white ground; the lower side of the flower has very little colouring. This latter circumstance is a noticeable feature of several of the light coloured varieties, and gives rise to some speculation as to the meaning of this peculiar behaviour. The lower side of the flower corresponds to the lip in several other well-known flowers, and which is usually the most highly coloured in Cattleyas, Laelias, and various other Orchids, as well as members of other families.

The light and the dark kinds are so distributed through the house as to relieve one another and give the whole collection a pleasing and effective appearance. Whichever way the taste of visitors may be inclined the range of variety here is sufficient to meet the requirements and likings of all. There are many other dark kinds we should like to mention, but must be limited to a few. A bulb of Iona bears two scapes with an aggregate of eight flowers which are light in colour, shaded, striped and netted with light scarlet. Cawdor is a funnel-shaped flower with widely revolute segments and of a deep crimson with a green throat and short rays of the same colour radiating from it. The flowers of Guthrie are of huge size, widely expanded, and deep crimson shaded with maroon, and having a pale green star. It is certainly a very meritorious variety. What was said of Guthrie is equally true of Gorgeous, which received an Award of Merit from the Royal Horticultural Society on the 26th ult. The bloom is of great size and intense crimson, shaded with maroon in the throat and entirely obscuring the rays. The flowers of Phaedra, of which there are four on a scape, are of a beautiful soft scarlet broken up into lines on the basal half of the upper segments, along which the broad white rays of the star run to the tips. The huge blooms of Carridon are of a glowing crimson-scarlet with a short-rayed star. Those of Phidon are bell-shaped, very wide, and crimson-scarlet shaded with crimson on each side of the midribs. Lucan is a similarly shaped flower, with broad, overlapping segments of a deep rich scarlet and very conspicuous. Altogether darker and more intense is Andalusia, whose flowers are of a glowing dark crimson shaded with velvety maroon in the throat and confining the rays to the base. Two scapes from a bulb of Cabra bear in the aggregate seven flowers, whose segments are red on the apical third of their length, but beautifully lined from thence downwards, while six white rays extend down the segments for three parts of their length. Roydon has bell-shaped flowers of a brilliant scarlet, and so heavily shaded with maroon in the throat as to obscure the rays. Crinia is a differently coloured flower from any of the above, as there is a considerable amount of a distinct shading of rose over a darker colour, and the combination may be described as rosy-orange with darker veins running through the upper segments. The whole is brightened by six white rays extending down the segments for three-parts of their length.

Those who have frequently seen the Amaryllis house at Chelsea will see much to admire amongst this year's crop of bloom: and there is a treat in store for those who have not yet seen the collection, though they may from time to time have seen such samples as may have been brought before the public. The quantity of blossom and the high standard of merit that runs through the whole collection are features to be remembered because unrivalled, particularly on the score of general quality.

THE CULTURE OF VEGETABLES.

(*Continued from p. 490.*)

Early Carrots are usually forced in frames placed on a hot-bed, and grown in this manner are most useful. I once grew a fine lot in tubs in an early Peach house along with Vegetable Marrows, Peas, French Beans, and Potatos, having no frame room to spare. I only mention this to show that where there's a will there is usually a way. The Carrot fly is in many places a dreaded scourge, and often destroys the whole crop. Sand soaked in petroleum and scattered over the ground broadcast will help to prevent the fly alighting and depositing its eggs; for in this, as in other things, prevention is better than cure. I am not certain, however, that anything has yet been found which will effectually exterminate this pest.

The Brassica Family next claim attention. The earliest Cauliflowers are usually had from plants put out at the end of March, and afforded some slight protection in the way of small branches thrown over them to exclude frost. The seed should be sown at the end of January in a temperature not exceeding 55° Fahr, and unless they are quickly removed to cooler quarters after they get about an inch high they are very liable to damp off. They must then be pricked off into 3-in. pots, and when they begin to get root-bound should be planted 6 in. apart in a cold frame in rough rich soil, where in a short time they will soon make strong plants. By the end of March they may be lifted with good balls of earth attached, when very little check will be sustained by them in their removal to a warm border. Cauliflowers enjoy a rich soil and should never suffer from want of water, although they will not succeed in badly drained ground. Successional sowings should be made every fortnight up to the end of May, the seedlings being pricked off as before recommended as soon as they are fit to handle, afterwards planting them out in their permanent quarters with the trowel.

Very often do we find the seed sown in rows or in beds as thickly, like so much Mustard and Cress, and allowed to remain there until it has to struggle for its existence, and then pulled up and planted regardlessly of shelter and whether plants have any roots or not. For early cutting Sutton's First Crop and Early London are reliable sorts, while Veitch's Pearl and Autumn Giant with Sutton's Autumn Mammoth will be found to be among the best varieties for summer and autumn use.

The Cabbage forms one of the most valuable vegetables we have. For spring cutting seed should be sown the first week in August and again a fortnight later, the young plants being put out in September. No place suits this subject better than ground that has just been cleared of the Onion Crop, and which has had no preparation further than the clearing away of the weeds. In this position Cabbages make very stocky growth with leaves usually close to the ground. They are then in a favourable condition to withstand a severe winter. Assistance should be given by liberal applications of liquid manure in the spring, whilst a sprinkling of nitrate of soda between the rows will also be a means of quickening maturity. Ellam's Early Dwarf is perhaps the best of all the spring Cabbages; but the seed should be obtained from a reliable source, otherwise disappointment may follow.

Brussels Sprouts.—This is, perhaps, the most useful of all winter vegetables, the chief point to notice with regard to their cultivation being to plant in rich, but very firm soil, so as to enable the growths to become matured and in a fit condition to withstand our changeable winters. As to varieties, I have found The Wroxton, Sutton's Exhibition and Dwarf Gem everything that is wanted.

Broccoli are a very uncertain crop, but when they can be had they are very useful. They are best grown on ground that has not been dug at all, for if planted on rich loose soil the plants resulting are soft, and the first severe frost plays deadly havoc with them. Heeling the plants over towards the north is time well spent, as this checks the growth and the plants are thus not so liable to be injured. Veitch's Self-protecting, The Leamington, and Sutton's Late Queen will be found a good selection, as these are all very hardy varieties.

Savoys are very useful as well as Cottager's Kale, whilst other members of the Brassica tribe worthy of mention are Coleworts, which are often of great value and very useful as a catch crop, Scotch Kale and Asparagus Kale.

Leeks.

These are not so much grown as they deserve to be, for they should find a place in every garden, as it would be hard to find a more wholesome winter vegetable than they constitute. This remark would chiefly apply to the South, for in Scotland they are very largely grown and deservedly so. For a general crop the seed should be sown on a border in February,

and, when the seedlings are fit, planted out in rich soil in drills which have been drawn six inches deep, as by this means earthing-up as growth proceeds will be much facilitated. Blanching, of course, is necessary, and the greater the length and thickness of the plants the more valuable the crop will be. If specimens fit for an exhibition table are required a sowing should be made under glass in February and the young plants potted up and grown on until the middle of April, when they should be hardened off and planted out into trenches. It will be necessary to have these two feet in depth and the same in width, and partly filled up with well rotted manure. Night soil which has been deodorised with charcoal or wood ashes and mixed with ordinary soil will be found to be an excellent manure. Fill up the trench within six inches of the top, and earthing up as required, about once in three weeks usually, plenty of water being also necessary. Leeks may thus be grown to three pounds weight each, and with stems from twelve to fifteen inches in length. The best varieties are The Lyon, Oxonian and Sutton's Exhibition; Dobbie's Champion is also one of the best.

The Tomato.

This now brings me to the Tomato and this is a crop that well pays for strict attention. Seed should be sown in February in pans, and care should be taken to sow thinly, for, as a rule, every seed grows. A temperature of 55° to 60° Fahr., will soon cause the seed to germinate, the plants being potted off into 3-in. pots as soon as the rough leaves are made. When the roots are travelling freely, and before the plants have become root-bound, they should be transferred to 5-in. pots, using a compost of loam and wood ashes with a little leaf mould and soot. The next shift will be their final one if it is intended to grow them in pots, and this time a 9-in. pot is large enough; in fact, I do not think anything is gained by using pots of a larger size. In potting ram these as hard as possible, providing the compost—which should consist of two parts of turfy loam, one part horse-droppings, and one part wood ashes with a sprinkling of soot—is not too wet. The drainage should be carefully looked after, covering the crocks with the rougher parts of the turf. By firm potting you obtain a much more fruitful plant, also a short joint stocky growth, with firm, leathery foliage.

The growth of the Tomato should be confined to one stem, but it will sometimes be found that after a period of dull, sunless weather, that the flowers have failed to set satisfactorily. In this case the side growths should be allowed to grow, stopping them at the first truss of bloom, a crop being often thus obtained when failure would have ensued under different treatment. As soon as the lower trusses are set, feeding should commence, and in these small pots it is hardly possible to overdo it, providing, of course, that the liquid manure is not too strong. A mixture of soot and diluted cow manure yield the best results of any we have tried. It will be found a considerable aid to pollination if the trusses of bloom are gently tapped about the middle of each day. There are many methods of growing Tomatos, and I should have liked to have treated on planting out and outside culture had time and space in this paper permitted. A close, stagnant atmosphere should always be avoided in the Tomato house, free ventilation being very necessary, leaving a little air on at night also. As regards varieties I have always found Sutton's Perfection what its name implied, although many others are good, of which Ham Green and Conference may be mentioned. We experience little or no trouble with the Tomato disease, and I attribute this to the firm potting and the consequent sturdiness of the foliage which the spores of the fungus seem unable to penetrate.

Celery is a vegetable that is always in demand. The seed should be sown thinly in well-drained pans and placed in a warm greenhouse. As soon as the rough leaf appears, the seedlings must be pricked into soil of a somewhat rougher nature than that in which the seed was sown and transferred to a cold frame. Much care is necessary that the plants do not receive a check, or "bottling" may subsequently become troublesome. The usual course pursued in the cultivation of Celery is to plant in specially prepared trenches, and this is the best plan where the soil is not of an extremely wet and heavy character, in which case planting on the level ground is advisable, as the plants will keep much better through the winter months if grown thus. Where space is no consideration trenches to hold single rows are preferable, but to have two rows in each trench will be a saving of space, entail less work, and will also give good results.

In preparing the trenches well-rotted farmyard manure may be dug into the bottom, adding three inches of soil on the top. Planting should be carefully performed with a trowel and the plants well watered afterwards. Plenty of water should be given in dry weather through the summer, and liquid manure will also be of service, although this must not be overdone. Earthing-up should be looked after at proper intervals and finally completed on the approach of frost. After a spell of the severe weather much of the crop is often ruined through its rotting off, but this, I believe, is as much due to the change immediately after the frost as to the frost itself. I would here advise the use of rough boards fastened together in the shape of the letter V and placed upside down on the top of the ridges to ward off the rain. In any case on the approach of frost a quantity of Celery should be lifted and stored in leaves in a shed or outhouse from whence they may be taken as required for use. The Celery-fly is usually in evidence during some part of the growing season. The sowing of soot frequently on the plants will, however, be found a good method of destroying the maggot resulting from the fly.

A good old variety of red Celery is Major Clarke's Solid Red, and one will hold its own with the best of them; yet Standard Bearer is also an excellent red variety, whilst Sutton's Solid White and Wright's Giant White are amongst the best sorts in the white section.

Asparagus.

To grow Asparagus from seed requires three years before a good return can be had, and in doing this the planting of rows 3 ft. apart on the level ground is the best plan to adopt, the plants being thinned to the same distance apart from each other in the rows. A light soil well trenched with plenty of manure is required, and frequent applications of wood ashes, salt, soot, and liquid manure are necessary to obtain large succulent growths; in fact, as much salt should be sown as will keep the ground free from weeds, such an application working wonders on the crop.

Turnips.

These also claim the attention of the gardener as valuable and highly-prized vegetables. These cannot be grown too quickly; they will be tough, high flavoured, and stringy. In light soil a difficulty is often experienced in getting a crop of juicy roots. An excellent plan of prolonging the season is to lift a quantity of the roots as soon as full size is reached and bury them in some cool, moist situation. In this way much of the difficulty may be overcome by their retaining their tenderness till wanted. The Swede Turnip is a useful variety to sow for winter crop, and it makes an excellent change of vegetable for the table.

(*To be continued*).

A GARDENER'S EDUCATION.*

The pertinency and vital importance of the subject I have selected as the key-note of our conversation to all those who have any love for, and take any pride in the profession of horticulture, will, I conceive, appeal most forcibly to all of you here present this evening. It is a subject of well-nigh unlimited range concerning which volumes, nay libraries, might be written without any great danger of its being exhausted. Bearing this fact in mind, I shall only touch upon what I consider to be a few of the most prominent ideas that suggest themselves without attempting to detail the side issues and facts of minor importance which cluster round them. While we may differ considerably from each other with regard to the relative and proportionate value of the sciences related to and collateral with horticulture, also as to the extent to which a good gardener should be able to claim acquaintance with these sciences, still, I think all of us will agree with the statement that a gardener to be successful in this age of keenest rivalry must of necessity be a singularly well-informed individual—a kind of walking encyclopædia in fact. When I say gardener, I do not mean the general factotum who hovers about an establishment where the proverbial boy and the wheelbarrow are kept—far from it!

To start with, we should have a clear idea of what a gardener is, or should be, as well of the duties that are likely to devolve upon him, before we can offer an opinion as to the way in which he should be educated; for, of course, it should follow that the best kind of education for a gardener is the particular kind that most thoroughly fits him for the work that lies before him. Naturally enough, we are now confronted with the question, What is his work? We reply, gardening. Therefore in order to gain an accurate idea of the methods of training necessary to make a man a thorough gardener in every sense of the word we must devote a few minutes to the careful consideration of the profession itself, its intricacies and its difficulties, as well as its joys and utilities. Dr. Lindley defines horticulture as "that branch of knowledge which has to do with the cultivation, multiplication, and amelioration of the members of the vegetable kingdom"—a definition which is as complete as it could possibly be made, and one which we cannot do better than accept. It divides itself naturally into two great branches each dependent the one upon the other, yet each essentially distinct, viz., theory and practice.

The question as to how much theory and how much practice should enter into the education of a gardener is a moot point, and for all I can see seems likely still to be. It is, if I may so term it, the "red herring" of the horticultural educationalist and many and fierce have been the battles fought over this "herring." There are many *very* practical men who affect to despise and laugh to scorn the theorist, looking upon him as a curious sort of an individual whose experiments they consider more in the light of amusement than anything else. I am aware that this school of gardeners is fast dying out, and indeed I think it would not be a very great calamity if we had none of them left among us. I contend that every gardener should at least have a knowledge of the great fundamental laws and principles which underlie all his work, for it has been proved over and over again that it is by an intelligent understanding of the laws of the theory, that a careful and observant husbandman will find the best and surest methods of improving his principles of practice. I would emphatically state that a gardener should be able to give a fairly satisfactory reason (if asked for one), why he would conduct any given operation in a certain way, why he would treat one plant in one way, and another plant in a totally different manner. A certain proportion of theory must combine with the ordinary elements of practice or the horticulturist will be working in the dark, pushed along a groove in which he is kept by the enthralling bonds of prejudice, and unable to rise superior to them because of the absence of light.

Now a word as to the personal qualities that a gardener has of necessity to cultivate. He must be *persevering*. The man who gives up at the first breath of an adverse wind will never achieve success, will never raise himself above the level of the common herd. He must be *patient*, for all things come to him who knows how to wait. He must be *observant*, for great are the utilities of observation, and to be able to profit by failures as well as by successes is the key that unlocks the door of fate. He must be *resourceful*, perhaps the most important qualification of all, and certainly the one most rarely met with. I have said that all these qualifications are essentials to success, and yet no human hand can bestow them upon those who lack them. They can only be self-acquired, and who will say that the self-educated, self-taught man is not as noble a being as any in which moves the breath of life, provided he makes a good job of himself.

Let us briefly glance at the demands that our great mistress makes upon her servants at the present day in our own country. For those who intend going abroad a special course of training is, as a rule, necessary. Any remarks that I may make this evening therefore are intended to apply to gardening at home. Here, of course, in England the gardener has to be waging a perpetual war with nature (at least, that part of it that we call the weather), for from the very state of the climate vegetative life is held in abeyance for a considerable part of the year. I suppose no one will contradict me when I say that our climate is a peculiarly changeable and consequently trying one. *Apropos* of this I am reminded of a story of an American, who, on returning to his home after a visit to the tight little island, and being questioned as to the kind of weather he had experienced there, said they had had

* A Paper recently read before the Ealing Gardeners' Mutual Improvement Society, by Mr. A. S. Galt.

none, but on being pressed to explain himself, however, said they had only received "samples." In the face of all these unfavourable climate conditions the gardens of the princely establishments of this country are expected to look as orderly and to work as smoothly as a well-built and well-oiled piece of machinery.

In the flower gardens and pleasure grounds the lawns and grass edges have to be kept neatly and in order, the gravel paths clean and free from weeds and fallen leaves, and the flower beds and parterres must present a furnished appearance at all seasons of the year. In the kitchen and fruit gardens supplies of vegetables and fruits of all kinds have to be continually kept up. Be the seasons bad or good, wet or fine, favourable or unfavourable, it matters not, the gardener is supposed in some curious kind of way to be superior to the weather, and to be able, like the witches of old, to produce an abundance of fruits and vegetables from nobody knows exactly where. The under-glass department is usually of greater or less extent, and always of considerable importance; for here it is that the requisite furnishing material for the enlivening of the flower garden and the decoration of the mansion have by hook or by crook to be produced. Rare and beautiful exotics, that would shrink in dismay from the rude bluster of a brutal British wind, have here to be nurtured and cared for, their loveliness intended but for one purpose—the gratification of those who live in the big houses. Successions of summer vegetables must be forthcoming in the dead of winter, and the poor gardener is often at his wit's end to keep pace with the demand. Luscious fruits, more nearly characteristic of tropical climes, have often to be ripened under conditions which can only be described as being the reverse of favourable. Patience under difficulties, and increased enthusiasm under failures are the only alternatives open to the true and faithful servant of our great mistress.

(To be continued).

SUCCESSFUL TOMATO CULTURE.

Another Tomato season has arrived, but whether it will be a profitable one or not has yet to be seen. No human power can dispense sunshine for certain lengths of time at a fixed sum, and I think no one will dispute the fact that sunshine is the one important factor in Tomato culture, without which anything in the way of a record is not to be thought of. At the same time, however, everything else except the weather we have more or less control over. This being so, it is my object to touch on a few of the main points.

As regards sowing many growers have their plants ready now for their fruiting quarters, and averaging 6 in. to 12 in. in height. These, as experienced men will know, must have had a lot of heat, the result being soft, sappy plants, which to my mind are useless for producing a good crop. As an experiment this season I dropped an odd seed into a thumb-pot, about 100 pots in number. These were placed in a very slightly heated structure, and the difference between the two systems is hardly credible, the last-named being like pinwire and the picture of hardiness. There may possibly be some who think it late to get a crop, but my opinion is that the best crops are got from seeds sown at the present time, the difference betwixt the time of cutting ripe fruit being very little.

As to the material for planting in, a most serious mistake is made when they are given a too rich compost. Another mistake is to give them too much food at one time. Anything that causes unnatural grossness or excess of vigour tells against the setting and swelling of the fruit. Get your crop well forward, and if anything, let them show signs of want before extra stimulants are applied. A firm bottom to the bed should always be given the preference, and compost in quantity just to cover the roots when knocked out of the pots is all that is necessary. Frequent top-dressing will always gauge the strength required, while withholding it will diminish it or subdue an inclination to run away. I also believe in firm planting. Lastly, as a timely warning, let me warn all and sundry against too thick planting. Let the plants have room to carry their foliage without unnecessary butting and mutilation of the leaves. Nothing in the end can possibly be gained by rushing Tomatos. Fancy a Tomato plant set out in a depth of good rich loam of unlimited root run, the result is strength in any quantity, so much in fact, that the unnatural vigour prevents setting altogether. I have said that the soil for them should not be rich; any free-working garden soil, no matter how strong or even a trifle clayey, providing it will work, will suit. Perfect judgment in ventilating is required, according to the fire heat at command and the weather outside. Brockhampton King, Frogmore's Selected, Ladybird, Marvel, &c., should be tested by a few carefully grown specimens, always, however, giving preference to varieties that have, as it were, gone through the fire.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

NOTES ON HARDY PLANTS.

Saxifraga oppositifolia.—Although at one time a native of Britain, this pretty Saxifrage is very rarely found in a wild state in this country; but in the Pyrenees it is very common. Under cultivation it is a very charming plant at this season of the year, its moss-like creeping growths being covered with its large purplish-red flowers, which are produced in great profusion. It is by no means a difficult subject to grow, its requirements being a sunny and well drained position on the rockery, and when such a place is given it will grow and flower freely. Being of neat habit and of such easy culture it deserves to be more largely grown than it is at present. There are also several varieties of this species, notably the white-flowered form which is equally as beautiful as the type and forms an agreeable contrast to it, while S. oppositifolia superba is a large flowering form, later in flowering and more compact in habit. Both of these will flourish well under the same conditions as the ordinary species. Some large specimens of these have been flowering freely at the Woking Nursery, and have been greatly admired by visitors to that establishment.

Saxifraga Burseriana.—This is another pretty species and like the preceding is now flowering freely. In growth it forms compact silvery tufts of foliage, the flowers being large and pure white in colour. The buds before expansion are of a bright red colour. It is very easily grown on the rockery in a half sunny position in soil consisting of loam and sand, and when well established it forms an attractive plant. It is a native of Carniola, and was introduced to this country in 1826.—*E. Scaplehorn, Woking.*

GARDENING MISCELLANY.

ALLIUM NEAPOLITANUM.

A couple of batches of this beautiful plant are at the present time affording a brave show in the greenhouse at Kew, and no one interested in plants or one that has an eye for the beautiful could possibly pass them by without bestowing upon them a look of admiration. The flowers are white with green stamens, and are produced in large, rather loose, many-flowered umbels, borne upon stout stems fully 18 in. in height. The leaves, two or three in number, are of a rich green colour, sheathe the flower stem at its base, and do not apparently possess the well-known smell so characteristic of many of the members of the genus. A. neapolitanum is indeed one of the finest plants of the group from a gardener's point of view, inasmuch as it is exceedingly easy of culture, and is a free-flowering and a handsome plant withal, and as such well worthy of any attention that may be bestowed upon it. It is a native of Southern Europe, and the date of its advent to our shores is probably about the year 1823.

EUPATORIUM IANTHINUM.

No one who has ever seen any good specimens of this beautiful Eupatorium could fail to be struck by its great beauty and high degree of merit as a decorative subject for the adornment of the greenhouse and cool conservatory. And yet for all this it is comparatively seldom that we meet with it in anything like condition. In private gardens where it is known it is usually found under its older name, Hebeclinium ianthinum, although it is rightfully a member of the genus Eupatorium. The flowers, which are of a soft purplish hue, are abundantly produced in large, many-flowered, terminal corymbs. The leaves are very dark green, almost black in colour when the plant is in a healthy condition; in shape broadly ovate, the surface hairy, and the margins deeply serrate. Like the rest of its congenors, E. ianthinum may be readily multiplied by means of cuttings taken in spring and rooted in a gentle heat. The plants resulting from these cuttings, if grown on during the summer without being stopped, will produce a single flower-head the following winter or spring. In this state the plants present a most attractive appearance, and a few young plants of this kind should be always on hand as well for the sake of their own beauty as to take the places of older ones which have reached too large a size. After flowering the plants should be cut well back and repotted as soon as the breaks have sufficiently developed to warrant the performance of this operation.

CELSIA ARCTURUS.

Amidst the fifty species or thereabouts which are grouped together in the genus Celsia, none are more worthy a mention than this time-honoured favourite. We say time-honoured advisedly, for it was introduced from Candia or Crete as far back as 1780, so that it has been under cultivation for considerably more than a century. Its natural flowering season usually extends from July to the end of September, although it may be had in bloom with us at almost all seasons of the year if cuttings which strike best when taken from the young wood are put in at suitable intervals. The flowers are large and of a rich bright yellow colour, whilst the appearance of the filaments, which are clothed with purple hairs, is both pretty and distinct. Young plants in small pots always come in useful for the greenhouse, and their long graceful racemes of bright flowers produce both a light and graceful effect when suitable positions are accorded them.

BEGONIA GLOIRE DE SCEAU.

As this beautiful garden-raised form of Begonia becomes better known it is almost certain to be extensively grown for winter and spring decoration, as it is suitable for either, and comes into bloom earlier or later according to treatment. Useful little plants may be had only 10 in. or 12 in. high, but vigorous specimens 18 in. to 2½ ft. high may be seen in the Begonia house at the present time. They are laden with blossom which contrasts beautifully with the bronzy, olive-green foliage. The leaves are as large as the hand, obliquely orbicular, heart-shaped at the base, glossy and red beneath. The flowers are plentifully produced in terminal and axillary cymes, of medium size, rose coloured in bud, but of a lively pink shade when fully expanded. The specimens in question are grown in 24-size pots, but smaller and younger ones would not require so much root-room. The intermediate house would seem to be the most suitable for it, as the atmospheric moisture that can be maintained keeps the foliage in healthy and fresh condition. As the weather gets milder in spring it could doubtless be utilised in the conservatory or greenhouse where a night temperature of 45° or 50° is maintained for the sake of the flowering plants grown there. A position somewhat shaded from direct sunshine would doubtless be conducive to the well-being of the bronzy foliage.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Soil for Roses.—*M. M.*: It is true that Roses thrive best in heavy soils inclined to clay, but particularly when budded upon the brier stock. The Manetti is a more suitable stock for light sandy soils. Anyone particularly fond of Roses should not be debarred from growing them simply because the natural soil is gravelly, sandy, and poor. Rather than regret their absence from the garden we should prepare a bed or border specially for their benefit. Dig out the best of the surface soil to the depth of a foot, then remove the sandy subsoil to the depth of a foot or eighteen inches and cart it away. Then the surface soil may be thrown in the bottom of the hole and other soil brought to make up for what was taken away. This may consist of the scourings of muddy ditches that has lain for a time for the grass to decay, also the top spit taken from rich waste ground, near water-courses it may be, also old potting soil, the humus from decayed vegetable matter of the rubbish heap, or, in fact, anything of that nature which you can get together. Throw a good sprinkling of lime over it and mix the whole together before throwing it into the hole. Use plenty of manure, putting it well down, as you can always dig more

into the upper soil. There should be no difficulty of growing Roses to great perfection in this. If considered an expensive operation then the soil should be trenched at least 2 ft. deep, keeping the had soil in the bottom, mixing it with what fresh material you can get, and using plenty of good farmyard manure as the work goes on. Various kinds of hybrid perpetual and Tea Roses can be grown in this.

THE FLAME-FLOWER.—*K. F. H.*: As far as the materials you sent us enahle us to judge, and from your description and sketch, we have every reason to believe that it is the Flame-flowered Nasturtium (Tropaeolum speciosum) often simply named the Flame Flower in gardens. The underground rootstock is thickened and tuherous in places, in the case of estahlished plants, hut they send out long, ramhling, underground rhizomes, to considerahle distances through the soil. These would he spoken of as roots, but botanically they are underground stems, furnished with buds here and there and which throw up slender, climbing stems. We are not ahsolutely certain that you have got the right thing, but we think you have. You should select a situation somewhat shaded from direct sunshine, not overhung hy trees, and otherwise well exposed to light. If the soil is not naturally cool and moist, mix it with peat to retain the moisture and allow the roots to ramble freely. In the north of England and in Scotland it grows like a weed and flowers most magnificently. In the southern counties the dry and warm atmosphere is against it; nevertheless some growers succeed fairly well with it.

SEED OF STOCKS, HARDY PLANTS, &c.—*M. M.*: Without making the experiment, it would be difficult to guess at the period during which the seed of Stocks would retain their vitality; but the seeds of Crucifers generally retain the power of germination for considerable periods, so that seed of Stocks, if kept in a cool, dry place, might reasonably be expected to retain vitality and be fairly good for at least ten years, though we do not advocate the keeping of it for a longer period than necessary, except hy way of curiosity, or for the purpose of experiment. The following hardy plants are suitable for light sandy soils: Sedums of the dwarf species to cover the ground with a carpet, also the taller kinds with showy flowers, including S. spectabile, S. Telephium, S. maximum, S. Ewersii, S. stoloniferum (S. spurium splendens), and others. The Sempervivums or Houseleeks would also be useful; also Antennaria margaritacea, Ahronia arenaria, Lupinus polyphyllus, Helichrysum arenarium, Pyrethrum Tchihatchewii, Acantholimon glumaceum, Aconitum Napellus, Anthericum Liliastrum, Alliums in variety, including A. neapolitanum, A. pedemontanum, A. azureum and A. caeruleum, also Agrostemma or Lychnis coronaria, L. Flos-Jovis, Alstroemeria aurantiaca, Anemone Pulsatilla, Antirrhinum majus in variety, Aquilegias, various species, Asclepias tuberosa, Armeria maritima, A. cephalotes, A. plantaginea, Calamintha grandiflora, Platycodon grandiflorum, Carnations and Pinks (if the soil is top-dressed in summer), Fritillaria Mealeagris, Plumbago Larpentae, Lavender, Rosemary, Saponaria officinalis, and its douhle variety, Saxifraga crassifolia, S. c. cordifolia, and hulhs of many kinds.

RED FLOWERS.—*Rubens*: Some of the plants with red flowers or similar shades of colour that are in bloom during the month of June are Azalea mollis, the hardy Ghent Azaleas in great variety, Indian Azaleas, Oriental Poppies (Papavea orientale) varieties of Anemone coronaria and A. hortensis, red Daisies, Heuchera sanguinea, Paeonia officinalis and P. albiflora varieties, Paeonia tenuifolia, Phlox reptans, P. amoena, P. subulata in variety, some of the Aubrietias, Saxifraga crassifolia, S. c. cordifolia, Scilla nutans rubra, Anthurium Scherzerianum, Roses, some of the Masdevallias, Hippeastrums generally called Amaryllis, Ixias, Sparaxis, Kennedya rubicunda, zonal Pelargoniums, Calceolarias Cyclamens and others. Red flowers would be more plentiful a month afterwards. Amongst British flowers the dark coloured ones out hy June are purple or some shade of it rather than red. In speaking of soils, we think it would be amhiguous and misleading, though not exactly wrong, to talk of a red sandstone soil; we should prefer to speak of a soil overlying the red sandstone, or the red sandstone formation.

NAMES OF PLANTS.—*W. J. G.*: 1, Coelogyne flaccida; 2, Epidendrum cochleatum; 3, Platyclinis glumacea, often called Dendrochilum glumaceum; 4, Dendrohium Pierardi; 5, Asplenium Trichomanes. *C. P.*: 1, Scilla sibirica; 2, Scilla bifolia; 3, Leucoium vernum; 4, Daphne odora. *W. S.*: 1, Erythronium Dens canis; 2, Erica carnea, 3, Viburnum Tinus; 4, Boronia megastigma. *F. H. D.*: 1, Dendrobium fimhriatum oculatum; 2, Dendrobium nobile; 3, Dendrobium nobile elegans; 4, Gymnogramme calomelanos; 5, Adiantum Capillus-Veneris var.; 6, Todea barhara, apparently, hut you should send a fruiting specimen in the case of all Ferns.

BULBS NOT STARTING.—*J. R.*: They have doubtlessly been injured hy frost, possihly killed, or even rotten. The few leaves they are showing were produced hefore the severe frost set in, and though they still appear partly green, they cannot he expected to start. Turn out a few of them and the true state of matters will then he seen. The state of the roots will tell you at once whether there is any chance of further growth; and the firmness or otherwise of the bulbs will also be a guide. If still in douht ahout them, send us a characteristic specimen or two, and we will examine them and advise you accordingly.

BROAD BEANS.—*Omega*: Nobody ever attempts to keep up a succession for a great length of time, as it cannot he done in our climate. If you make the first sowing in February when you can get the ground in suitable condition, then you can make successional sowing every three weeks up to the end of April. After that they would require favourahle conditions in the autumn to do any good.

BOOK ON FORESTRY.—*Omega*: The book you mention is published hy Ryder & Son, London, and the price is somewhere ahout 2s. 6d. to 3s. 6d.

COMMUNICATIONS RECEIVED.—J. S.—A. J. R.—D. C.—B.—S.—N. O.—T. W.—X.—H. & Co.

TRADE CATALOGUES RECEIVED.

E. H. KRELAGE & SON, Haarlem, Holland.—Bulbs and Roots for Spring Planting.

WM. CLIBRAN & SON, Oldfield Nurseries, Altrincham.—General Plant Catalogue.

CHARLES TURNER, Slough.—General Spring Catalogue of Plants.

B. S. WILLIAMS & SON, Victoria and Paradise Nursery, Upper Holloway, N.—New and General Plant Catalogue.

LONDON SEED TRADE.

April 3rd, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a brisk enquiry for Clovers and Grasses. Red Clover, White and Alsike steady. Trefoil dull. Perennial Ryegrass firm. Italian Ryegrass easier. Timothy scarce and dearer.

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April 3rd, 1895.

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Nova Scotia Apples per barrel	12 0 21 0	Pine-apples. —St. Michael's each	2 6 6 0
Cob Nuts and Filberts, per 100 lbs.	18 0	Strawberries, Nobles, per lb.	3 0 4 0
		Other varieties, per lb.	4 0 8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes Globe doz.	3 0 6 0	Lettnces ...per dozen	2 0 0 0
Beans, French, per lb.	2 0 2 6	Mushrooms, p. basket	1 0 1 6
Beet..... per dozen	2 0 3 0	Onlons.....per bunoh	0 4 0 6
Cabbages ... per doz.	3 0 4 0	Parsley ... per bunch	0 6
Carrots ... per bunch	0 6	Radlshes... per dozen	1 6
Caulflowers.....doz.	3 0 6 0	Seakale...per basket	2 6 3 0
Celery.....per bundle	1 6 2 0	Smallsalading, punnet	0 4
Cucumbers .....each	0 3 0 9	Spinach .....per lb.	0 6
Endive, French, doz.	2 6 3 0	Tomatos..... per lb.	0 6 1 0
Herbs .....per bunch	0 2 0 6	Turnlps ..... per bnn.	0 6
Horse Radish, bundle	2 0 4 0		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d. s. d.		s. d. s. d.
Arbor Vitae (golden) per doz.	6 0 12 0	Ferns, invar., per doz.	4 0 18 0
Aspidistra, doz.....	18 0 36 0	Ferns, small, per 100	4 0 6 0
" specimen plants	5 0 10 6	Ficus elastica, each	1 0 7 0
Cinerarias, per doz.	9 0 12 0	Foliage Plants, var., each	2 0 10 0
Cyclamen, per doz.	9 0 12 0	Hyacinths, per doz	9 0 12 0
Dracaena, various, per doz.	12 0 30 0	Lycopodiums, doz.	3 0 4 0
Dracaena vlrldis, doz.	9 0 18 0	Marguerite Daisy, per doz.	6 0 12 0
Erica, various, doz....	9 0 18 0	Myrtles, doz.	6 0 9 0
Euonymus, var. doz.	6 0 18 0	Palms in varlety, each	1 0 15 0
Evergreens, Invar. doz	6 0 24 0	Palms, Speclmen ...	21 0 63 0
		Primulas, doz.	4 0 6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum Lilies, 12 blms.	3 0 4 0	Pyrethrum doz. bun.	2 0 4 0
Azalea, doz. sprays	0 6 1 0	Roses (indoor), doz.	0 6 1 0
Asparagus Fern, bun.	2 0 3 0	" Tea, white, doz.	1 0 2 0
Bouvardias, per bun.	0 6 1 0	" Yellow, doz. ...	2 0 3 0
Carnations doz. blms.	2 0 3 0	" Safrano (English), doz. ...	1 3 2 0
Double Daffodils, doz. bchs.	3 0 4 0	Roses (French), yellow, doz. blooms	1 6 2 0
Single Daffodils, doz. bchs.	4 0 6 0	Roses (French), red, doz. blooms. ...	2 0 2 6
Eucharis ...per doz.	4 0 6 0	Smilax, per bunch ...	4 0 6 0
Gardenias ...per doz.	4 0 6 0	Stephanotis, doz. sprays	4 0 6 0
Geranium, scarlet, doz. bunches	6 0 8 0	Tuberoses, doz. blooms	0 4 0 6
Lilac (French) per bch.	5 0 6 0	Violets (English) doz. bun.	1 6 2 6
Lilium longiflorum per doz.	3 0 4 0	Violets (French) Parme, per bun.	2 6 3 0
Marguerites, 12 bun.	1 6 3 0	Violets (French) Czar, per bun. ...	2 0 3 0
Maidenhair Fern, 12 bs.	4 0 6 0	Violets (French) Victoria, doz. bun.	2 6 4 0
Orchids, doz. blooms	1 6 12 0		
Pelargoniums, 12 bun.	6 0 9 0		
Primula, double, doz. sprays	0 6 1 0		
Poinsettia, doz. blooms	4 0 6 0		

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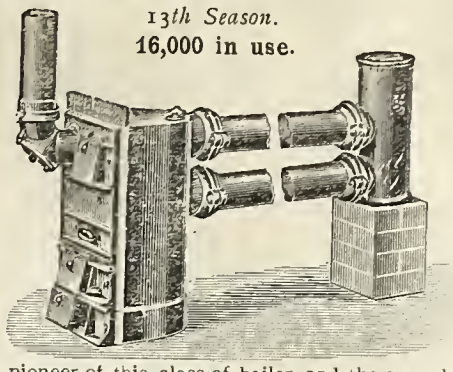

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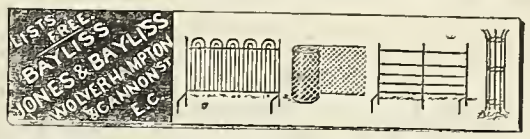

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FLOWER SHOW FIXTURES, 1895.

APRIL.

9.—R.H.S. Drill Hall Meeting.
18.—Norwich Spring Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24.—Royal Botanic Society's Spring Show.
24 —Chesterfield Spring Show.
24, 25.—Birmingham Daffodil Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Southampton Spring Show.
2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

3, 5.—Southampton Summer Show.
13.—R.H.S. Drill Hall Meeting.
14.—Bishop Stortford Flower Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.

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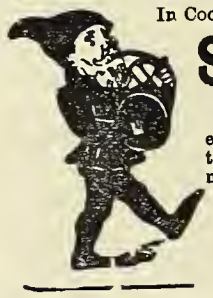

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For Index to Contents see page 525.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, APRIL 13th, 1895.

NEXT WEEK'S ENGAGEMENTS.

THURSDAY, April 18th.—Norwich Spring Show.

FRIDAY, April 19th.—Orchid Sale at Protheroe & Morris' Rooms.

THE LATE SPRING AND FRUIT PROSPECTS.—It may be too soon to prophesy an abundant fruit crop, seeing that we cannot be certain that all danger of frost is gone, so that we prefer to prophesy after the event, but shall continue our observations all the same, and speak of the prospects. For many years past we have been accustomed to hear of the advantages of late flowering varieties of Apple and other fruit trees in escaping late frosts, but actual experience has proved that they are just as liable to have their flowers destroyed as those that bloom earlier. Frosts occurring about the second or third week in June have incontestably proved this. By retrospection and reason we can also prove the fallacy of the same old notion. Peaches, Nectarines, and Apricots in forward seasons have flowered in March and set an abundant crop of fruit. Last year the Pears also set a heavy crop, yet they had flowered considerably in advance of Apples, as they always do, and the Apple blossom was extensively injured or destroyed. Then the causes of injury are often local, that is, more or less confined to districts and always of temporary duration. Late and early flowering trees are liable to have their blossom destroyed if a low temperature should occur when the flowers are fully expanded or only on the point of opening. The pistil or young ovary is the most tender part of the flower, for it may be blackened and killed while the petals remain perfect and unharmed. At present everything is very late, and Peaches upon open walls are in full blossom about a month later than they were the last and the previous year. The show of flower buds on Apples, Pears, and Cherries is also abundant and promising, so that in the absence of severe frost at the critical time of blossoming for each class of tree, we may look forward to a prospect of an abundant harvest of fruit.

The weather cannot be regulated or altered in any way to suit the convenience of cultivators, but several factors that contribute to success or failure may be discussed and taken advantage of, or guarded against, as far as may lie in the gardener's power. Even in early spring there is less danger to the expanded flowers of Peaches when the atmosphere is relatively dry, than if much moisture preceded the advent of frost. This may be noted when we get a spell of cold and dry east wind while the trees are in bloom, with bright sunshine during the day. This favours the dispersion of the pollen, and though the temperature may fall a few degrees below freezing during the night, no damage accrues as a rule to the bloom, owing to the relatively dry state of everything. Later in the season, it may be, should a sudden fall of the temperature take place after rain, the moisture in freezing forms a rimy coat over everything, and should the sun rise bright next morning it greatly augments the evil by a too sudden thawing of the frozen tissues. For this reason an east aspect wall is more unfavourable to the safety of Peaches and other early flowering trees than a south or west one. The various methods of protecting Peaches on open walls are now well known, and should be put into active practice whenever the trees come into bloom. The protecting coverings should be fixed and held in readiness to be let down at a moment's notice on the least evidence of a night's frost. Pears, Plums, and Cherries are swelling and elongating their buds, so that the critical period in their case has not yet arrived; nor is it possible in many establishments with the available means at command to protect all of these, particularly when grown in the open ground, but favourite and valuable trees may be protected by whatever means the gardener may improvise. Strawberries are perfectly safe, and not yet showing their buds. The unfortunate experience of last year's failure of the crop should act as a monitor to put every cultivator on his guard to protect as large an area of his plantations as possible.

The late frost in June came unexpectedly when the plants were in full bloom. The earliest kinds that had set their first-opened flowers, passed the ordeal fairly well, but all newly-expanded ones had the tender embryo fruits blackened and destroyed. Loose straw or dry bracken should be laid between the rows in readiness, so that if the night becomes clear and frosty, an hour's smart work would suffice to shake the straw over a large breadth of Strawberries by means of a few men furnished with forks. Gooseberries and Currants do not suffer so readily as any of the above-mentioned owing to the fact that their flowers hang with their face downwards, and are more or less protected by means of the young foliage.

With the prospect of a crop as a stimulus to energy, every means that can be devised to save the blossom of fruit trees and bushes should be employed. Light protection in spring is quite sufficient to ward off a con-

siderable amount of frost, because the latter has no penetration owing to the shortness of its duration at this period of the year. When the sky is overclouded at night no frost is expected, because the heat radiated from the earth's surface is checked by the clouds and radiated back to the earth. The principle is the same on a smaller scale when a light covering of tiffany or other material is hung over a tree or bush. Non-conductors of heat are always rendered the most effective when kept in a relatively dry condition, and should always be kept so as far as possible and practicable. The philosophy of the subject is that frost and cold are nothing more than the absence of heat; so that the protection of fruit trees is merely the preservation of heat naturally accumulated at the earth's surface by the sun during the day. From this point of view the falling of frost on vegetation is a myth, whereas the rising and escape of heat into space is a reality.

Mr. John McDonald, late of Devonhurst Gardens, Chiswick, has been appointed gardener to Mrs. Cuthbert, Brooke House, Fleet, Hants.

The Newcastle-on-Tyne Spring Show will be held in Olympia on Wednesday and Thursday, 24th and 25th inst. Last year the show was a very fine one and a huge success. This year the committee have added classes for groups of plants and Roses. The prizes in the cut flower classes have also been increased.

Death of a Noted Rose Grower.—We regret to record the death recently of Mr. Charles Gater, the elder of the two brothers Gater, so well known in the trade as successful rose growers, the elder at Cheshunt and the younger brother at the Royal Nursery, Slough. Charles Gater was with Messrs. Paul & Son for over thirty-four years, and for many of those years had only one equal, his brother, as a cultivator of specimen Roses in pots.

National Co-operative Flower Show, 1895.—The show for this year has been fixed for Friday and Saturday, August 23rd and 24th. It will again be held at the Crystal Palace, and schedules will shortly be issued. An interesting feature of this year's show will be a series of designs for workmen's gardens. Special prizes of £5, £3, and £2 are offered for illustrations contrasting the "Worker's Garden of Taste" with the "Worker's Garden Run to Waste."

Increased Pay for Kew Gardeners.—A deputation of the journeymen gardeners employed in the Royal Gardens, Kew, waited upon Mr. Herbert Gladstone, at H.M. Office of Works, on Friday last, April 5th, to petition for a rise in pay. We are pleased to say that as a result of the representations then made the young gardeners' wage will be raised from eighteen to twenty-one shillings per week. This is a vast improvement on the time when a pittance of twelve shillings per week was all that the young men received, as was the case some thirty years ago.

Telegraph Hill, the new open space which has been tastefully laid out by the Parks Committee of the London County Council was dedicated to the public on Saturday last, and in the course of the proceedings the Chairman of the Council, Mr. Arthur Arnold said:—Had it been merely an open space dedicated to the public it would have been a matter for satisfaction, but throughout the history of the world people had always desired possession of hills in the borders of great cities, at one time for military domination and at all times for public enjoyment. Mankind felt ennobled upon an eminence, for there the morning and evening sun shed its first and last radiance, and there man felt himself to be in some sort the overseer of the greatest and best works of his fellow men. But that was no common hill. It was not likely that anyone present on that occasion was old enough to remember from actual observation the uses to which that hill had been put in the earliest years of this century, but none could doubt that in its past bonfires had shown the news of joyful tribulation. Here had come the news of Nelson and Trafalgar, and later still there had come the great news of Wellington and Waterloo. Yes, this was hallowed ground on which had trod invisible feet, messengers of news and glad and great tidings on their fateful way to the heart of the Empire. On this spot, which it had been sacrilege to have allowed to pass to private uses, it was his privilege to plant the standard of public possession and public freedom—and now, on behalf of the Council of the County of London, he declared these gardens to be open for ever for the health and recreation of the people.

Gardening in the West.—The spring session of the Devon and Exeter Gardeners' Improvement Association has closed with a meeting at which the members reviewed the papers read before them since Christmas. One topic which gave rise to a free expression of opinion was the standard of judging at shows, some contending that at the recent exhibition of the Society the judges should have withheld the first prizes where the quality of the flowers was somewhat inferior. A considerable portion of the evening was taken up with a comparison between the relative merits of the new Jadoo fibre and the orthodox compost for potting purposes. Those who had tried Jadoo spoke very highly of it, and maintained that it not only acted as a convenient medium, but was also a reservoir for plant food. The session generally has been most successful, and the spring show was a marked improvement on its predecessors, and, coming as it did at the end of a dreary winter, was very welcome to all lovers of flowers. The members are now looking forward to their summer outing, which will take place in July. The excursion will probably be *via* Poltimore and Bradfield to Tiverton, affording an opportunity for inspecting the gardens at the seats of Lord Poltimore and Sir William Walrond.

THE SAVIN FOR EFFECT AND COVERT.

After the many disasters of the winter, and the dreadful black or disfigured shrubs one sees everywhere, it is pleasant to look at a colony of Savin that we planted several years ago, and which, not excepting the Yew, Holly, Ivy, young Scotch Fir, or any other native evergreens, is the freshest thing we have to look at. Is not this beautiful shrub neglected very much as a covert plant, and also for the sake of its plumy verdure in pleasure grounds? A secondary defect of the tender evergreens, which we see planted everywhere, is that they shut out so many other things, which, as in this case, are very much better than themselves. In nearly every country seat, or in many country seats, we see laurels clipped to get them down. They are put in all sorts of positions, and people find them too high or in the way, and for other reasons also cut them down. Hence here begins a wearisome labour, with the main result of ugliness; because we cannot make hard, sharp lines with the shears without producing disfigurement in woods and pleasure gardens. Here is the Savin bush, which, while as pretty in its branching and the toss of its shoots as any evergreen in the northern world, is also one that keeps itself within moderate bounds, so that we know exactly the kind of effect we get if we want a perfectly hardy evergreen on a knoll, which will not obscure the view or give us any growth above a certain height, say, 5ft., 6ft., or 7ft., in the case of the oldest bushes.

People often plant but one or two examples of such a thing, and only see it in a very limited way; they cannot judge of its effect; and very likely a few bushes of this put in any shrubbery with its vigorous growing occupants would soon perish. We can only get the full expression of the Savin by putting it as it occurs in its native country, *i.e.*, in colonies, on banks, on rocky places, or at least in open, exposed places, where it may enjoy the sun and take its own, as we think, pretty shape. People recommend it for the rockery, for lighting up borders, and all sorts of trifling uses; whereas they never really enjoy it until they see large groups or colonies of it fully exposed. There is no need to set out such things in any stiff way, and they might run into other dwarf things—wild Roses and the like. The Savin, which is a native of the mountains of Europe, like other trees, varies a good deal; and the kind we refer to now is the prostrate Savin of nurseries, than which we know nothing more worthy of being increased by nurserymen, and offered in large qualities for massing and covert.—*Field.*

ROYAL GARDENERS' ORPHAN FUND.

Annual Dinner.

A goodly company of nearly 100 horticulturists assembled at the Hotel Metropole on Friday evening of last week, under the presidency of Mr. Harry J. Veitch, to celebrate the annual festival in connection with this admirable charity. As usual on such occasions the tables were charmingly decorated with cut flowers kindly sent by friends of the institution, and during the after-dinner proceedings Mr. Herbert Schartau and his musical friends successfully carried through an admirable programme of music. The Chairman was supported by Sir Trevor Lawrence, Bart., Mr. N. N. Sherwood, Mr. Hicks, Mr. James H. Veitch, Mr. J. G. Veitch, Mr. Hutchence, Mr. Owen Thomas, Mr. Charles Penny, Mr. A. W. G. Weeks, Mr. W. J. Nutting, Mr. W. Y. Baker, Mr. Arnold Moss, Mr. T. J. Anderson, Mr. J. Balderson, Mr. H. M. Pollett, Mr. T. Manning, Mr. Corry, Mr. W. Bates, Mr. W. Gunner, Mr. G. W. Cummins, Dr. Gorton, Mr. H. J. Jones, Mr. J. Wynne, Mr. R. Barr, Mr. W. G. Head, Mr. J. Wimsett, Mr. H. Herbst, Mr. J. A. Laing, Mr. J. H. Laing, Mr. Lynch White, Mr. G. J. Ingram, Mr. W. Iceton, Mr. F. Q. Lane, Mr. H. Turner, Mr. S. M. Segar, Mr. W. H. Baker, Mr. H. B. May, Mr. H. Hartley, Mr. J. Walker, Mr. W. Poupart, Mr. J. Sweet, Mr. P. Kay, Mr. W. Gregory, Mr. G. Gordon, Mr. G. May, Mr. E. Rochford, Mr. Mott, Mr. J. Alderson, Mr. P. Garcia, Mr. Wetherby, Mr. T. C. Ward, Mr. G. Reynolds, Mr. J. Hudson, Mr. J. Assbee, Mr. Jesse Willard, Mr. G. Wythes, Mr. Stirling, Mr. E. Gilbert, the Hon. Secretary Mr. A. F. Barron, and others.

After honouring the usual loyal toasts, the company was invited by the chairman to drink "Success to the Royal Gardeners' Orphan Fund," with which he associated the name of Mr. N. N. Sherwood. In the course of an earnest appeal for pecuniary aid Mr. Veitch said he would have preferred that the word Jubilee should have been introduced into the title, namely, that the charity should be known as the Royal Jubilee Gardeners' Orphan Fund. It was started, he reminded those present, in the Jubilee year, for the purpose of aiding the children of gardeners and others associated with the gardening profession. In addition to making the allowance of 5s. per child until he or she was fourteen years of age, there were rules which enabled the committee to devote a certain sum to launching the children out into the world. The fund having been initiated under the happy inspiration of Mr. C. Penny, the scheme was so well taken up that within a year the committee were able to make allowances to eleven children, and, if the average number was taken since, it would be found that it worked out at between nine and ten children per annum. He considered that that was a wonderful performance for a comparatively young charity, while it showed how loyally the gardening public had supported it. At the present moment there were sixty-four children receiving allowances, while three others, whose ages had exceeded fourteen, had been provided with an outfit as a start in the world. The amount that was paid away yearly in the shape of allowances was £832, and since the fund was established no less than £3,237 had been paid in allowances. There was invested on behalf of the fund the sum of £7,570, while at the bankers there was in cash £825, and the average income for the past eight years had been £1,500. Such a record as that could not be surpassed by any institution of a similar age. The chairman concluded his eloquent appeal by remarking that the purest and best way of securing happiness was by making others happy.

Mr. Sherwood, in response, having eulogised the generous conduct of the chairman in the past, suggested that the subscribers should follow the example set by the hospitals, and subscribe sufficient money to provide a yearly sum in memory of some loved one, so that some poor child should benefit. He thought that form of presentation, which would cost only £13 yearly, would become very popular, and he had much pleasure in making the first presentation, insuring a yearly allowance of 5s. per week to some little child.

Mr. Assbee followed with the toast of "Gardeners and Gardening," which he presented in appreciative terms, and Mr. Owen Thomas acknowledged the compliment. In the course of his remarks, Mr. Thomas drew a comparison between floriculture as it was practised thirty years ago and now, while he

expressed his opinion that nothing had progressed at a greater pace than horticulture in England during the past quarter of a century.

Mr. A. W. G. Weeks gave the "Health of the Chairman," which was drunk with musical honours, and suitably acknowledged by Mr. Veitch. Mr. Harry Turner proposed the concluding toast, "The Press," which was acknowledged by Mr. George Gordon, editor of *The Gardeners' Magazine*.

During the evening the following subscription list was announced:—Harry J. Veitch, Esq., £52 10s.; Messrs. J. Veitch & Sons, £26 5s.; Mrs. H. J. Veitch, £10 10s.; J. H. Veitch, Esq., £10 10s.; J. G. Veitch, Esq., £10 10s., (total, £110 5s.); Mr. H. J. Jones, Lewisham (collected in half-crowns), £55 1s. 6d.; Covent Garden Friends, per Mr. J. Assbee, £52 10s.; Messrs. Wills & Segar, £40; Mr. J. Reynolds, Gunnersbury (including Leopold de Rothschild, Esq., £20, and Alfred de Rothschild, Esq., £10 10s.), £37 11s.; N. N. Sherwood, Esq., £35 10s.; Members of the Hortus Lodge of Freemasons, £35 9s.; Baron Schroeder, £30; Lord Rothschild, £25; Messrs. N. M. Rothschild & Co., £25; Mr. E. Hill (Tring), £20; Sir Julian Goldsmid, Bt., M.P., £21; W. Robinson, Esq., *The Garden*, £15 15; Arnold Moss, Esq. (Messrs. Jacob Wrench & Sons), £15 15s; Sir Trevor Lawrence, Bt., £10 10s.; Baron Ferdinand de Rothschild, M.P., £10; T. B. Haywood, Esq., Treasurer, £10 10s.; Mrs. W. G. Head, £10; Mr. J. R. Stirling, Buckingham Palace, £8 16s. 6d.; Mr. T. C. Ward, £7 2s. 6d.; Mr. J. Willard, Highgate, £6 13s. 6d.; Mr. R. P. Glendinning, Holloway, £5 15s. 6d.; Messrs. J. Laing & Sons, Forest Hill, £5 10s.; Mr. E. Gilbert, £5 14s.; Martin J. Sutton, Esq., Reading, £5 5s.: Anthony Waterer, Jun., Esq., £5 5s.; Mr. W. G. Head, Crystal Palace, £5 5s; H. Hartley, Esq., £5 5s.; A. W. G. Weeks, Esq., £5 5s.; H. J. Wimsett, Esq., £5 5s.; A. W. Sutton, Esq., Reading, £5; Sir Donald Currie, £5; T. Statter, Esq., Stand Hall, £5; Proprietors of *The Gardeners' Magazine* £5; G. A. Dickson, Esq., Chester, £5; H. Hicks, Esq., £5 5s.; A. H. Smee, Esq., £5 5s.; and smaller amounts, making altogether a total of a little over £800.

THE CHARLES COLLINS' FUND.

A MEETING of the committee of the above fund was held in the Horticultural Club Room, Hotel Windsor, Victoria Street, S.W., on Monday, April 8th, Mr. George Gordon (the treasurer) occupying the chair in the unavoidable absence of Dr. Maxwell T. Masters, F.R.S. The Treasurer reported that the total amount subscribed amounted to £66 2s. 9d., but included in this amount were two subscriptions of a guinea and five shillings respectively not yet received, but as they were practically sure to come in the above sum might be regarded as the cash available for disbursement by the committee. The Honorary Secretary then read a letter from Mrs. Collins stating that she had an opportunity of acquiring an old-established and flourishing baby linen and fancy business for £83, this sum including cost of fixtures, goodwill, and stock. She mentioned that prior to her marriage she had been apprenticed and had had some years' experience in a similar business, and felt sure from the thorough investigation which had been made into the one offered to her that it would afford a good opportunity of acquiring a comfortable livelihood for herself and children. Mrs. Collins, therefore, appealed to the committee to let her have the proceeds of the fund for acquiring the business. After some discussion it was unanimously agreed (especially as Mrs. Collins' application was supported by another letter giving full details of the business) on the proposition of Mr. R. Hooper Pearson, seconded by Mr. G. Hillingworth, that the sum of £66 2s. 9d. be paid to Mrs. Collins for the purpose, and the treasurer was accordingly authorized to draw and forward a cheque for that amount. It was generally felt by those present that the money could not be devoted to a better purpose. The fund being disposed of, votes of thanks were unanimously passed to the editors of the various journals for the able assistance they had rendered in publishing the subscription lists, etc., to the committee of the Horticultural Club for kindly allowing the use of the room for the meetings, to the treasurer for the great kindness he had shown in initiating the fund, taking charge of it and securing so many substantial subscriptions; and to the honorary secretary for his services. The committee also desire to warmly thank all those friends who so generously responded to their appeals, and especially to Mr. H. J. Jones of Lewisham, who gave a second donation of £2 18s., making £5 in all to the fund.—*T. W. Sanders, Hon. Secretary*

DO PLANTS EAT SOIL?

THE discussion which has resulted in reply to the above query, although not so ample and decisive as I could have wished, has yet met with a good deal of notice and consideration in THE GARDENING WORLD, for which I beg to express my cordial thanks. That the question itself should be considered of sufficient importance to warrant an editorial reply, is, I think, proof positive either that the Editor desires to meet the aspirations of all his readers, or is anxious to demonstrate for the benefit of those readers the physiological facts which are insolubly bound up therewith. "G.," last week, in his usual lucid and vigorous style, follows the same line of thought, and gives freely of his knowledge; and although he advances nothing new, he reiterates some important facts which must always be borne in mind when the functions of the roots of plants are under consideration.

But as this is "rather a dubious question," I suppose we cannot expect to obtain full and complete satisfaction to all our cravings. I was, however, pleased to observe that no quarter was given to the so-called work of the spongioles, for they not only do not act as a medium for conveying nutriment to the plant, but are "practically impervious to water." The term "spongiole" is derived from the Latin *spongia*, a sponge, and was so designated from the belief that it was the growing and absorbing point of the root. That definition is still current in the dictionaries, for I find on reference to Nuttall's "Standard Dictionary" that the spongiole is "in botany the lax cellular tissue at the extremities of roots for absorbing the nutriment of plants." Alas! how much one has to unlearn as the cycle revolves and science grows apace. The old dogmas are no more good against the demonstrations of scientific research than the armour of mediæval times against the awful modern weapons of war.

But do plants eat soil? That is the question. Has this been answered in the affirmative, or must we still remain in philosophic doubt? The phrase itself is not elegant, as you have pointed out; but it has at least the merit of brevity. Our Anglo-Saxon forefathers would have substituted "earth" for "soil"—a distinction with a difference, for earths are the result of disintegration of the primitive rocks, whereas soils (Latin *solea*, *solidus*) are earths mixed with decomposed organic matter. But perhaps the *crux* of the whole subject turns on the word "eat." Herein lies the difficulty. To eat, literally, is to chew in the mouth and swallow as food. Figuratively, it is to consume or devour. "Time's office is to eat up errors." In this sense, then, may not plants be said to eat soil? I hope this is a sufficient answer to the other question, namely, "What do you mean?"

As to the root-hairs, I find it stated that "there are no apertures" in them; and "G." also writes, "as all kinds of plant food must be dissolved in water before it is possible for them to pass through the closed membrane of the cell-wall of the root-hair, it cannot be allowed that plants are capable of assimilating particles of solid matter." But there are some who assert the contrary. Professor Boulger, in a contemporary, says that Mr. Thomas Jamieson's experiments, which extended over fifteen years, resulted not only in the discovery of apertures but of solid particles of matter within those apertures! In his Agricultural Report for 1891, "he figures apertures in the root-hairs of Turnip, Pea, Lupine, Carrot, Tobacco, Mangel, Beet, Barley, and Grass." He further adds, "in the case of no plant that I have examined have I failed to find the aperture." This is, indeed, a bomb thrown into the camp of orthodoxy! When doctors differ what is to become of poor amateurs and gardeners who seek to solve the higher problems of animal and vegetable existence? If the above be true, the question is answered; but if, on the other hand, vegetable physiologists still contend for the liquefaction theory of plant food, then I am afraid it will not be admitted that plants eat soil.

I trust that you will not regard these queries as idly or captiously put, since error is liable to creep into all our investigations; and, as our knowledge of nature in every department is very limited, it follows that the truth is only discerned after much labour, for it is almost certain that the "facts" of to-day will, in all probability turn out the superstitions of to-morrow.—*C. B. G., Acton, W.*

CULTURE OF POTATOS.

BEARING in mind the disastrous effects of the weather last May, and the havoc it played not only with early, but mid-season varieties of Potatos, it will naturally make gardeners very loth to plant too early this season; but the time has now arrived for getting in the earliest crop, if not already accomplished, but if the "sets" are properly looked after and managed to the best advantage through the winter I fail to see the benefits to be derived from committing them to the ground too early in the season, especially on wet and cold land in unfavourable climatic localities.

Early planting on south borders can best be practised where a good walled garden possessing a nice, dry, friable soil exists, digging the ground and planting as the work proceeds; even then I have had the mortification of seeing the tops blackened in May in a fine old garden situated in one of the southern counties not many miles from the coast; probably, if the precaution had been taken to lightly cover the haulm with straw, or, better still, bracken, the mischief might have been avoided; but usually those biting frosts come on one unawares, and where neatness and order is the aim of the gardener it is with reluctance that he gives his kitchen garden the appearance of a farmyard by protecting Potatos with straw or other material, very probably to be blown in all directions by the wind; but where tidiness is not appreciated it is wise to "go in" for production, especially where you have to cope with the great requirements of the *chef*, who, having probably come from "town," expects everything, as though ordering from Fortnum & Mason.

In country gardens, where a good supply of stable litter is obtainable and leaves abound, and ranges of the old-fashioned brick pits that can be furnished with linings exist, a good supply of early Potatos can be produced. We have had good results from such structures. The fermenting material, composed of stable litter and a good proportion of leaves, preferably Oak, Beech, or Spanish Chestnut—as they last longest—was thrown into a heap and frequently turned over to get rid of any rank steam and to sweeten; when sufficiently so the pits were filled evenly and well up to the top, treading down well as the work proceeded to prevent too much sinking later on, whereby the haulm would become too far from the glass, and consequently weak and drawn. On the top of the litter and leaves we placed a layer of rough leaf mould, and then about 1 ft. of fibrous loam and leaf soil in equal proportions.

The variety we grew was Ashleaf. Sharpe's Victor was not out in those days, but that is the variety we prefer now for early work, on account of the dwarfness of its haulm, and its rapidity in coming to maturity. The sets were selected and placed closely on end in shallow trays, standing them in a cool and light store-room, where warmth could be applied during severe weather to prevent frost penetrating. In such a position they sprouted nice and strong, and in looking them over occasionally the shoots were rubbed off, only two or three on the "crown" being left. About the quantity we required for our pits were potted singly in 54-size pots, using a light and friable soil, we placed them in the early vinery on a bed of fermenting material, there being a brick pit for such inside, the heat from which—assisting the Vines and producing bottom heat for any plants that were stood thereon—proved itself a great boon.

As soon as the Potatos had fairly started they were placed near the glass to promote stocky growth, and when nicely rooted they were transferred to the pits and planted in the soil, which by that time had got nicely warmed through; we gave them a soaking of tepid water previous to turning them out of the pots. The soil in the pits being moist they did not require a further supply for some time. We covered them up at night with mats, and kept the linings going. They received all possible light and ventilation when it could be safely given. After the crop was cleared the pits came in handy for pricking out and hardening off bedding plants, and for the growing of Cucumbers.

Some months ago I was pleased to notice a suggestion from Mr. A. Dean to revive the International Potato Show. I can well remember the interest that we felt in the first competition which was held at the Alexandra Palace twenty years ago this coming autumn, and how gratified we were with

the result of our efforts, taking four prizes out of five entries in very strong competition. The *modus operandi* which led to so creditable a result may be explained. In that fine old garden previously mentioned the gardener was a practical man; and, what was more, had his place, and could carry out his own ideas with credit to himself and satisfaction to his employer, who was one of the good old school, a lover of good things produced in his garden, at the some time giving his gardener every encouragement to prove himself "another Richmond in the field" of exhibitors.

I can well remember that piece of ground on which were cultivated over a dozen varieties that played an important part in that first International Potato Show. It was walled on three sides, and as it was situated near the Mushroom house it had often been the receptacle of the old worn-out beds. In the winter it was double dug, some well-rotted manure being worked in at the bottom, charred refuse and old Mushroom bed material being mixed with the top staple. The ground so remained until the first week in April, when it was lightly forked over; in a few days when it became dry and crumbling drills were drawn 6 in. deep and a yard apart, a good sprinkling of wood ashes was scattered in the drills, and the sets—which had been prepared as I have before mentioned—were carefully planted 1 ft. apart. Fortunately the weather proved very favourable that season, the Potatos were moulded up as required, the last time before they got too forward, so as to avoid injury to the haulm or fibres. They had sufficient space to grow strong, and were nicely protected by the walls, but they were neither overshadowed by trees, nor was that reprehensible practice necessary, planting any of the Brassica tribe between the rows.

They were lifted a while before the show, and proved of fine size with clear skins. In the sorting equality in size and shape was aimed at, washing in clear water and wiping them with a cloth. The tubers were wrapped separately in paper to prevent injury to the skins, and conveyed to the Palace in a strong made hamper, one that we had for packing vegetables for the London mansion during the season. Let me add in conclusion that the quality of a Potato varies greatly in different localities; varieties that I have found inferior on one soil have been excellent in the next county. It is difficult to calculate the merits of a variety for all gardens, just the same as it is to form an opinion from the position they hold at an exhibition, that cannot be accepted as a criterion always, any more than can the showing of beasts at Bingley and Agricultural Halls, for there we often find positions reversed for the Champion Plate.—*Pathfinder.*

THE CINERARIA.

As there is nothing that brightens up the greenhouse in the winter and spring months of the year so much as the Cineraria, a few words on my method of cultivating them may not be out of place, now that the time for sowing them is coming round. When wanted to flower in the winter months sow in April, and again in June for a spring batch. For sowing the seed I prepare a light compost consisting of one part loam and two parts of leaf soil, adding enough sharp sand to make the whole porous. I use shallow pans and sow the seed rather thinly, as I find when sown thick the young plants are apt to get drawn and rendered liable to damp off when the necessary water is given. Place the pans in a cool house, and when the seedlings are ready prick them off into boxes (some gardeners pot them into thumbs, but I prefer to put them into boxes) in a compost similar to that used for the seed, only I don't break it up so fine. I next pot them into 4-in. pots, and stand them in a cool frame, shading them on bright sunny days.

For the final shift I use a compost of two parts of good loam, broken rather roughly, one part of leaf soil, and one of old Mushroom bed manure, adding sand and charcoal with a little artificial manure, and I pot them into 32's or 28's. When frost sets in I remove them to a cool greenhouse where heat may be turned on at will. Gardeners have sometimes a difficulty in getting a good strain of the Cineraria, and it is rather annoying to find after a summer's labour that the strain is worthless. I have been growing a strain obtained from Mr. John Downie, 144, Princes Street, Edinburgh, for several years, and it is an excellent one.—*Diosma.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Dendrodium Hildebrandtii.—Amongst Dendrobiums of recent introduction, this is sufficiently conspicuous and noteworthy to merit a place in a collection. The flowers are much larger than those of many species that are more or less extensively grown, and find favour with a considerable number of growers. The stems are about a foot long or over, somewhat compressed, and ribbed, and bear their flowers in lateral clusters, like those of D. nobile. The sepals are revolute at the tips and white, faintly tinted with greenish-yellow. The petals are narrowly ovate and similar in colour to the sepals, but if anything they are whiter. The lip is greenish-yellow, with two purple spots in the tube, and white or nearly so towards the apex. Although the colours are neither rich nor highly conspicuous, yet the size of the flowers, the neat habit of the plant, and the small amount of house-room the plant requires are all points in its favour. It requires the temperature of the East Indian house, and has been flowering for some time in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Lathamianum.—The parents of this Cypripedium were C. Spicerianum and C. villosum, the former being the seed bearer, flowering in autumn and early winter, whereas that under notice flowers in spring and onwards. It is greatly superior to C. Spicerianum in size, and the colours vary to some extent, owing to the seedlings of the cross having differed to some extent from one another, as was proved when they came into bloom. There is a large batch of the best form in the nursery of Messrs. J. Veitch & Sons, Chelsea, and which has been flowering freely for some time past. The upper sepal is large, orbicular, and white, with the broad, claret midrib of C. Spicerianum. The shining brown petals are much darker on the upper, longitudinal half, and the lip is yellowish-brown. The plant is of vigorous growth, easy cultivation, and can, therefore, be readily increased. For this reason it should make an excellent substitute for C. insigne and C. Spicerianum, which flower in autumn, and are often grown in quantity for the sake of cut flowers, but particularly C. insigne. A good batch of it would supply cut flowers all through the spring months when the other popular sorts are resting.

Lycaste Rossiana.—The leaves of this species are deciduous, so that the flowers are unaccompanied by foliage, as in the case of L. aromatica. The flowers in this case are similar in general aspect, but larger and very effective, on account of their rich yellow colour. The sepals are rather pale, being greenish-yellow, but the petals are ovate and orange or golden-yellow. The lip is similar in hue and marked transversely with streaks and spots of crimson on the lower half. The face of the column is also crimson. It flowers freely under the same treatment accorded to other deciduous Lycastes, and is both showy and conspicuous. We noted it in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Dendrobium Brymerianum from King's Knowes.—Usually the flowers of this striking and remarkable Dendrobe are borne simply from the sides of the stems, or in few-flowered racemes. The finest raceme we have seen, comes from Mr. Hunter, at King's Knowes, Galashiels, N.B. for it bore five of its magnificent flowers. The plant is a good one and carries several clusters of bloom, though none of the rest equal the one sent in point of numbers. The golden yellow and shining sepals and petals are nearly of equal size, but the lip is decidedly the most conspicuous feature of the flower owing to the enormous length of the much branched fringes; those at the apex are close upon an inch in length, while those at the sides are ¾ in. long and spread horizontally. All are coarsely downy or irregularly feathered, while the undivided portion of the lip is downy and marked with red on the side towards the base. The grower and owner alike are to be congratulated upon the flowering of so fine a specimen. The flowers possess a faint but pleasing scent. Accompanying the above was a bloom of Dendrobium Wardianum measuring 4 in. across the petals; the latter were very broad, being nearly 1½in. in diameter.

Catasetum macrocarpum Mrs. Shipway, *Nov. var.*—This may be regarded as the sister to C. m. Shipwayi, described in the issue of The Gardening World for the 29th December last. The size and structure of the flowers are precisely similar to those of that variety, so that it appears to have some affinity with C. Bungerothii, or, in other words, to be a hybrid between C. macrocarpum and the last named. C. macrocarpum is known, however, to be extremely variable in a state of nature. The variety under notice has oblong and very pale green sepals. The petals are broadly elliptic, much imbricate, and pale straw yellow or almost white, and finely dotted with purple for three parts of their length. The lip is very large, with a widely open, sack-like, fleshy, and pure white lip. The margins are slightly toothed towards the base, but otherwise the lip is perfectly entire and the terminal lobe amalgamated with the side ones, or practically obsolete, the shoulder or ledge below the apex being the only evidence of a terminal lobe. The short spur is orange internally and greenish externally. The column, like the main body of the lip, is white. The variety is named in compliment to Mrs. Shipway, the wife of Colonel Robert Shipway, Grove House, Chiswick. I received the specimens, from which the description was taken, from Mr. P. McArthur, The London Nursery, 4, Maida Vale, W.

THE PLANT HOUSES.

The Stove.

The temperature here should now not be allowed to fall below 70° Fahr. by night, and may rise to 85° by day, without fear of injury. Most stove plants delight in an abundance of heat, and a corresponding amount of moisture both at the root and in the atmosphere. Shading must now be carefully looked after, as the sun's rays are very hot when they do break through, and would soon scorch much of the tender foliage. The blinds may still be pulled up early in the afternoon, say about 2.30 or 3 p.m., giving a good syringing and shutting the house up at the same time, with the exception of a little chink of air, which should be left on the bottom ventilators.

Continue to tie in the growths of Stephanotis, Aristolochias, Allamandas, and other stove climbers, as growth proceeds. If desired, the shoots may be loosened and allowed to hang down when the plants are in flower, but for the present they should be neatly tied up.

Cycas.—If these have been properly treated during the winter months they should now be throwing up their new fronds. As mealy bug is very partial to the different species of Cycas, Zamia, Macrozamia, Encephalartos, etc., which find a place in our plant houses, and which comprise so many handsome decorative plants, it is imperatively necessary that a sharp eye should be kept upon its movements if the plants are to be kept clean, for once bug effects a lodgment in the scales of the stem it is exceedingly difficult to get rid of. Should the use of insecticides be necessary, a weak mixture of "Swift and Sure," in the proportions of about a gill to one and a half gallons of water will be found very efficacious, although it should be syringed off again after the lapse of about ten minutes. It is also important to see that none of it penetrates to the roots of the plants, and thus, when applying it to large plants, they should be turned over on their sides for awhile to drip.

Caladiums.—The batch of tubers that were started early in the year will have made nice plants by this time, and as the pots will be pretty well filled with roots, weak liquid manure may be applied, for Caladiums are rich feeding subjects and like generous treatment. If the leaves are large and heavy it will be necessary to afford them some support, or during syringing the petioles of the leaves will be likely to get broken. The stakes used, however, should be of as light and neat a character as possible, and care must be taken when inserting them in the pot that the tuber of the plant is not injured.

Greenhouse and Cool Conservatory.

The season of the year has now sufficiently advanced to warrant us in expecting sufficiently warm weather to enable us to discontinue the use of fire heat in keeping up the temperature at night, unless on especially cold occasions which may or may not occur. If the evenings are warm, air should be left on both top and bottom ventilators until the last thing, when they should be shut up for the night.

Watering will be calling for increased attention, and as things should be now well on the move care must be taken that nothing is allowed to suffer for lack of it.

DEUTZIAS.—These are among the most valuable of the white flowers we have which are amenable to forcing for use in spring, and their sprays of delicately beautiful flowers are always in great request. An abundant supply of water must be given to those plants which are in flower, or the petals will drop if they are allowed to become dry. As soon as they have gone out of bloom and become somewhat shabby they should be pruned, if the presence of any too straggling growths renders this operation necessary, and removed to a pit for a while where the syringe should be plied upon them and the plants encouraged to make nice strong growths to flower during the next season. Any little trouble that may be taken with these easily grown plants is more than compensated for as they respond readily to kindly treatment.

CAMELLIAS.—In many greenhouses and conservatories where it is the custom to plant a great number of the more bulky subjects out, there is generally a clump or two of Camellias to be seen. These often, after a number of years, become rather straggling in habit, and consequently of a somewhat unsightly appearance. To remedy this decisive measures must be taken, and the present is an exceedingly favourable time of the year to set about it. They should be cut hard back to the old wood, and any gnarled or useless branches that may be present cut clean off. If a saw is used for this a sharp knife should be used to trim up the cut afterwards and the larger cuts may be dressed with a little styptic with advantage. The syringe may then be used on every favourable occasion to assist the plants in breaking into growth. By this means, although a show of flowers must not be looked for next year from subjects so treated, nice shapely plants may be obtained, and a great deal of the unsightliness of habit so common to many varieties of Camellias obviated to a very considerable extent. Other plants, too, that have gone out of flower should be syringed now and again on bright days, both to keep the foliage clean and to help the young growths.

FERNS.—There are many Ferns that do splendidly in a greenhouse temperature, and a tasteful use of them helps considerably to set off the charms of the flowering plants when suitably arranged. Much better effects are thus obtained than when a corner is devoted to them, although Ferns are always attractive whether staged by themselves or in conjunction with other foliage or flowering plants. Adiantum cuneatum, A. Capillis-Veneris, and most of its numerous and beautiful varieties, Aspleniums bulbiferum, b. minus, flaccidum, and obtusatum lucidum, Pteris tremula, P. cretica, and P. c. nobilis, together with the beautifully crested and furcated forms of Scolopendrium vulgare and Lomaria (Blechnum) spicant, may be mentioned as among some of the most useful plants for the purpose, and all of which will succeed well in a cool house.

Pits and Frames.

VERY many of these will now be occupied with bedding-out material in different stages. As the time of the year is drawing on, the hardening off of some of the forwardest should be commenced without delay. Shift them into cold frames, and after they have recovered the shift to cooler quarters air should be admitted in increasing quantities, and finally the light left off altogether unless frost supervenes. Pot up late struck cuttings of Lobelias, Verbenas, Alternantheras, etc., as required. Any plants of this description that evince a tendency to become leggy should be stopped so as to induce a dwarf and bushy habit.

PRICKING OFF.—In most establishments at this season of the year there is always more or less of this kind of work to do, a work moreover that must be seen to as soon as the necessity for it to be done arises, for here more than anywhere else delay means ruin, both to the plants and to the hopes of the cultivator. As soon then as the seedlings are big enough to handle they must be carefully pricked off into light sandy soil. Water them in with a rose-can to settle the soil well about the roots, and shade very carefully from sunshine.

FUCHSIAS.—The older plants of these that were potted up a few weeks ago will now need a shift, as if they have been properly looked after they should by now have filled their pots with young roots, and the top growth should have advanced proportionately The soil, this time, should be made good as these will be their flowering pots. Two parts of good loam to one of leaf soil with a liberal addition of well-dried manure, which should be carefully examined to see that it contains no vermin, afterwards rubbing it through a sieve, and enough sharp sand to keep the soil open, will be found a suitable compost. We would not advocate the mixture of any artificial manures with the potting soil, as this is much better applied in a state of solution when the plants have got well hold of the new soil. Young spring-struck cuttings should be potted off as required, using a mixture of equal parts of loam and leaf soil, and plenty of silver sand. Pinching must be resorted to in case of very strong growths if dwarf plants are required.

CHRYSANTHEMUMS.—The strongest of these will now be in need of another shift, as to leave the plants until the roots become matted is a proceeding that cannot be too strongly deprecated. For plants that are now in sixty-sized pots, thirty-two's will be the most suitable size to shift into, as this allows room for growth, but does not cause a great deal of cold soil to be placed about the roots, a proceeding that in the event of careless watering is fraught with a deal of peril and danger. After potting the plants should be placed in a cold frame, and kept close for a few days. Do not coddle them afterwards by any means, but while giving plenty of air, be careful to avoid cold draughts, which are very productive of mildew. Keep a bright watch for green fly, which often attacks the growing points, and greet it as soon as discovered with a few puffs of tobacco-powder. This should, however, be rinsed off again after a couple of hours or so, as if allowed to remain it will be likely to result in injury to the young and tender leaves.

Pelargoniums and herbaceous Calceolarias that are throwing up their flower spikes must be looked after for staking. Liberal supplies of a solution of cow manure and soot mixed will assist in adding both size and depth of colouring to the blooms.—*A. S. G.*

THE ORCHID HOUSES.

ON all slides there is great activity in the Orchid houses. Those which have matured their growths are pushing up their flower spikes and those that have been beautifying our houses during the dull months have again started into active growth, so that every attention should be given them to encourage a fine healthy development; and this can only be attained by giving them what they require at the right time.

CATTLEYA LABIATA AUTUMNALIS.—This fine Cattleya, as also C. Trianaei, will in most cases have commenced to grow and may be at once potted, or if the roots are in a healthy state top-dressing with fresh material might suffice, but if done carefully—and all work in connection with Orchids should be carefully and properly done—the check will be but slight. Peat and Moss in about equal parts is what we give them.

LAELIA PERRINI.—Now is the time to re-pot this pretty Laelia, as the plants have a way of pushing out new roots with, and close to, the young growths. Water sparingly in all cases after potting for a time, but when the plants have made a good start they must be copiously supplied.

DENDROBIUM BRYMERIANUM.—This beautiful Dendrobe is just now making a good show. We find it to be a very good doer, and one that makes fine growths in an intermediate temperature. The bulbs thus made are not so long, perhaps, but they are much stouter than those subjected to strong heat. Like most of this genus it does not like too much material about its roots, but what little it does have must be renewed every season.

VANDAS.—Spikes are showing on most of our plants and new roots are pushing forth all up the stem seeking for food which must be supplied them by a free use of the syringe or the flowers will be small and the plants will lose their bottom leaves. Our best plants of V. suavis are in baskets, some of them standing nearly 5 ft. high from the baskets with leaves low down. I cannot speak so favourably of those grown in pots, which are in some cases leggy.

MOISTURE AND TEMPERATURE.—In all divisions it will be advisable to use the syringe more freely as the days lengthen; and there should be a gradual rise in temperature in all the houses as the days and nights get warmer.—*C.*

Gleanings from the World of Science.

Protection of Wild Birds.—It seems that the authorities who have it within their power to protect the rare and useful wild birds in this country are now bestirring themselves in certain districts to put the protective measures into operation in accordance with the Wild Birds Protection Act of 1894. The Secretary of State has prohibited the taking of the eggs of the Cornish chough. A list of birds for which protection is desired in Westmoreland has been drawn up by Mr. John Watson, a member of the County Council there. The Secretary of State is empowered by the terms of the Act to forbid the killing of the birds during certain times of the year, but this does not hinder anyone from taking the eggs and thus rendering the protection accorded practically null and void. He must, therefore, be furnished with reasons for varying the terms of the general law, and if the reasons supplied are reasonable and good, he can protect both eggs and birds for a fixed and determinate term of years. The Westmoreland County Council desire this special protection for the wild birds during a period of five years for the benefit of the kestrel, the buzzard, merlin, the barn, the brown, the long-eared and the short-eared owls, as well as the goldfinch, lapwing, skylark, black-headed gull, peregrine falcon, dotterel, kingfisher, heron, raven, bittern, woodcock, golden plover, dipper, and bullfinch. Most of these birds are highly beneficial to the agricultural and horticultural interests, but some will be desirous to learn the special advantage of bullfinches to those industries, for fruit growers are generally prejudiced against them.

Object of preserving the birds.—The plea put forward by Mr. Watson is that the birds mentioned in the list are useful to agriculture in keeping down vermin, that they are interesting and in danger of being exterminated. The raptorial birds of the owl, hawk and falcon kind destroy field-mice and voles in large numbers. The valuable service of those birds was and is now well recognised in keeping down the plague of voles that has been destroying the pastures for two years past in the south of Scotland. A tenant lost £1,600 on a 6,500 acre farm from the mice alone. In order to prove what the owls do eat, some 700 of the indigestible portions of the dung were examined and found to contain the remains of 2,520 mice, three rats, one mole, sixteen bats, and twenty-two small birds. Putting the good and the bad together, the value of owls to agriculture and horticulture is incontestable. Ravens, peregrine falcons, and buzzards are fast disappearing, and collectors readily give £1 to £5 for a nest of eggs. The feathers of the dotterel are in great demand by the dressers or makers of trout-flies. The kingfisher has almost been exterminated by fishing preserves. A tale is also afloat that the British Museum would give £100 for a perfect nest of the bird.

Birds of special value to gardens.—Of those mentioned above there are several that might be kept in gardens and about the lawns in a tame state, including the lapwig or peewit, the black-headed gull, and possibly others. A number of valuable birds are not included in the list to be preserved for the simple reason that they are still very common and able to hold their own. Amongst these are the rooks, starlings, thrushes, and tomtits. The choughs are birds of the crow kind, which destroys beetles in large numbers as well as other insects destructive to vegetation. Owls are sometimes kept in a tame state, but usually in a state of confinement. Boxes or other nesting places may be accorded them and placed above ruined towers, high buildings in quiet situations, and even in trees in default of anything more suitable. If they can be induced to nest there they will be of invaluable service in destroying mice of all kinds, rats, and similar small deer about the garden and fields. A complaint is sometimes preferred against them that they prey upon domesticated fowls and their eggs, but as owls fly chiefly by night the fowls should by that time be carefully cooped up and out of danger, so that the argument falls through. Starlings will readily take to boxes suspended to trees and other objects about a homestead, in gardens, and orchards. The common grey gull is also tameable and serviceable about a garden and on the lawns, where it destroys insect pests and slugs of various kinds. Fruit trees may be protected from blackbirds and other thrushes during the critical period by means of netting; at all other times they are harmless and beneficial.

HINTS FOR AMATEURS.

THE FUCHSIA.

The conveniences which the amateur usually has at his command for the ministering to the necessities of his favourite plants usually being of the limited order of things, it of course follows that the variety of subjects he can cultivate are perforce limited also. Still, however poor with regard to variety an amateur's collection of plants may be, it, with marvellously few exceptions, comprises a number of Fuchsias. Again, it usually happens that the plants with which the small greenhouse or pits are filled have to be chosen with an eye to the decoration of the window of the villa or the cottage whichever it may chance to be. Besides this, there is always the constitution of the plant to be considered; whether it is likely to resent the first indignity that is offered it by going to its long home; also as to whether it is a plant that requires a great deal of heat to start it into growth in its early stages. Lastly, whether it is possessed of good flowering abilities which it may be easily induced to exhibit to admiring friends and neighbours and to enable the proud cultivator to say "I grew it."

In all of these points, the Fuchsia comes out with an exceedingly good record, a fact that is amply substantiated by the popularity it so deservedly enjoys. It is an undeniably good-tempered subject and will put up with a very fair amount of hardships. It gives, moreover, but little or no trouble during the winter months, usually being stored away in an old shed or cellar from which frost only is excluded. It requires but little heat to start it growing in the spring, just an ordinary greenhouse temperature; unless of course it is required to bloom early in the season, when a greater heat will be necessary. And as to its appearance, it can be stated without being in the least derogatory to other favourite flowers that it is a fine and handsome plant; in fact, an ideal amateur's flower, and one which always repays him well for any trouble he may take with it.

Where the plants have been stowed away in sheds or cellars no time should be lost in bringing them to the light of day, for they will now be breaking into growth, and if kept long in the dark the growths will become drawn and worthless and the appearance of the plant spoiled for the season. Pruning must first be resorted to if nice shapely plants are required, spurring the straggling growths back with a sharp knife or a *secateur*. The plants may then be knocked out of their pots, and have as much of the old dry soil shaken from the roots as possible. They should then be re-potted into as small pots as will comfortably contain them, the formation of new fibrous roots being thus greatly encouraged. If the plants are small a cold frame will meet all their requirements, as they are thus brought close to the glass, and short-jointed sturdy growth is produced as a consequence. The frame may be kept fairly close until the plants get a good start, and occasional dewings over with the syringe in the afternoons of bright days will greatly assist in keeping the foliage clean and healthy. Treated thus, an abundance of new roots will soon be made and a shift into larger pots will then be required.

For the first potting a compost of two-thirds of loam to one of leaf soil, with plenty of silver sand, will do very well, but for the second shift the soil should be made rather richer, as Fuchsias like good living. If any of the manure from an old Mushroom bed is obtainable a quantity of this should be baked to free it from any vermin it may contain and mixed with the potting compost, of which it should constitute about one-fourth. For larger specimens, which are of too great a size to be accommodated in a frame, a place in the greenhouse will be necessary. If this structure is a lean-to house, care must be taken to turn the plants round occasionally so that they receive an equal amount of light on all sides, or they inevitably grow in the direction from which the light proceeds, and as a result will become lop-sided and anything but graceful specimens. Large plants of this kind, if grown on now, will, if too big to be kept under glass throughout the season, come in splendidly for plunging in the flower garden, for during the summer they will grow quite as well out-of-doors as under glass, the only drawback being that their flowers are liable to be damaged by storms of wind and rain. During anything like a favourable season, however, outdoor Fuchsias will make a splendid show, and if left in the pots as suggested may be lifted in the autumn with very little trouble and taken in out of harm's way.—*Rex.*

EARLY CAULIFLOWERS.

THE loss of all kinds of green stuff has been so general throughout the country that it needs no special comment. All have suffered, some perhaps more than others, according to the part of the country in which their lot is cast, and in a less measure in proportion to the state of partial or complete preparedness of each individual to pass through a severe winter. Broccoli in an ordinary way can seldom be depended upon; sometimes a fair percentage of plants will survive the winter, whilst at others the deaths will be so numerous as to cause the gardener to ask himself the question as to whether it is worth his while attempting to grow them. This year the results are at least more uniform, for with one consent all the plants, at least as far as we have been able to discover, have signified their inability to withstand a winter of such Arctic-like severity as that of 1894-95, has been by dying off wholesale. This will, of course, occasion an awkward break in the succession, for which no remedy can be found.

The sowing of Cauliflower seed in heat in the early part of the year will necessarily have been extensively practised, and in due course these seedlings will have been planted out on specially prepared ground in warm and sheltered positions. Still the weather of late has certainly not been favourable to the growth of these plants, and in more than one instance which has come under our notice, plants which were put out at the beginning of March are really smaller now than they were at the time of transplanting, so trying have the cold winds been. Then the terrific gale which visited us a few weeks ago, and which was responsible for such extensive damage in various parts of the country, also did a great deal of harm to the young plants by breaking off many of the larger leaves. In fact, everything has been against the progress of subjects of this kind, and as a natural consequence everything is at least three weeks behind.

A few weeks of really warm growing weather would be a boon to the much-worried gardener, whose prospects of securing early vegetables is every day looking fainter and more obscure. Cauliflowers which are planted out in the manner suggested should have every care taken with them, and all necessary protection given, both from frosts and rough winds. An excellent plan of shielding small plants from unfavourable conditions of this kind is to invert an empty flower pot over each one at night-fall, removing it in the daytime. This is an operation which, while it does not take up a great deal of time nor entail a lot of trouble, ensures the plants receiving sufficient protection during cold nights. They possess the additional recommendation, moreover, of being excellent traps for slugs, for if any of these mischievous animals which may be in the vicinity are tempted to satiate their hunger upon the leaves of the young plants, they are almost sure to be caught quietly resting upon the sides of the pots when they are removed in the morning. As a rule, a thirty-two sized pot will be found a handy size to use, a forty-eight being of course quite large enough if the plants are very small.—*Bêche.*

SALADINGS.

IN many gardens it is one of the requirements of the establishment that the salad bowl be kept filled from one year's end to another, and although this does not at the first thought appear to be either a difficult or a troublesome operation, still it is not every gardener who is able to do it, more especially in those parts of the country where the winters are often much more severe than they are in the southern counties. At this season of the year a little difficulty is often experienced in finding suitable material, especially after a hard winter has been experienced. Endive has of course been an invaluable salading from late autumn right through the winter, but at the present, even if the supply has not become exhausted, the produce will have so much deteriorated in quality as to be practically valueless. Lettuces which were sown in autumn and planted out in cold frames will also have become about exhausted, and thus an awkward break occurs at the present time, as nothing outside is ready for cutting as yet, because, with very few exceptions, nothing in the way of green stuff has survived the terrible winter.

The brown Bath Cos Lettuce is an excellently hardy sort, and we have often seen it pass through ordinary winters with no other shelter than that given by a hedge or a brick wall, close to which the young plants were set out. It is always the best plan, however, to be on the safe side and to devote a spare frame or two to the housing and sheltering of the plants during the winter months, the lights being pulled off and the occupants of the frame fully exposed to light and air whenever atmospheric conditions will permit of its being done. Even where this system has been adopted, however, the long period of darkness to which the plants have been subjected, owing to the impossibility of removing the covering, has resulted in the death of a very large proportion. Seed should therefore have been sown as soon as the extent of the damage was discovered, and pricked off into pans as soon as the seedlings were large enough. By this time, therefore, there should be plenty of plants fit for putting out. A warm south border is the best situation for them, and after a dressing of soot and wood-ashes has been given and the soil well forked over, planting may be seen to.

In a position like this it is surprising how soon the plants make headway, always supposing we get anything like fine weather, which we have now a right to expect. Besides those plants which have been put outside, a number should be pricked off into nice light soil in a cold frame. They may be placed together pretty closely, and as they require room, every other one may be taken out and used as salading material, as all the leaves will be of use being so young and tender, and thus it is not necessary to wait until they heart in. We have found the Cabbage varieties much superior to the Cos sorts for growing in this way.

MUSTARD AND CRESS is an indispensable salading and may be had in abundance at all seasons with exceedingly little trouble. The amount sown at a time will of course entirely depend upon the demand there is for it, weekly sowings being necessary, however small they may be. It is important, too, that the Cress should be sown a couple of days before the Mustard so that they shall both be in condition at the same time, for Cress seed usually takes rather longer to germinate than does the Mustard. The quantity of seed sown at a time must of course be determined by the demand there is for it. The sowings, however small, should at least be made once a week for as long as required.—*Lactuca.*

CHRYSANTHEMUM PHILADELPHIA.

THE reception which this new variety received from the various florists, Chrysanthemum Societies and others in the United States last autumn, is remarkable. It was raised by Mr. H. Graham, a very enthusiastic florist of Philadelphia, and not having been put into commerce, only a few flowers made their appearance in this country last year. According to our standards of classification in this country, it belongs to the incurved Japanese section. The blooms are globular, and 6 in. in diameter, and of a delicate creamy-white with the tips of the florets tinted with sulphur yellow. The florets themselves are long, but compactly incurved, with the pointed tips turned to the right and left in a very peculiar manner, and which is one of the peculiar characteristics of the variety. It is so decided and neat in form that it must prove of exceptional merit for exhibition purposes when well grown. The durability of the flowers when cut, and their great size must render the variety invaluable to market growers when it comes to be distributed and better known in this country. Half-a-dozen blooms exhibited at the Royal Aquarium, Westminster, in November last, had been cut in Philadelphia ten days previously, and shipped to this country where they arrived in fine condition, notwithstanding the fact that they had been packed so long. We are indebted to Messrs. B. S. Williams & Son, Upper Holloway, for the present opportunity of figuring this new and beautiful variety.

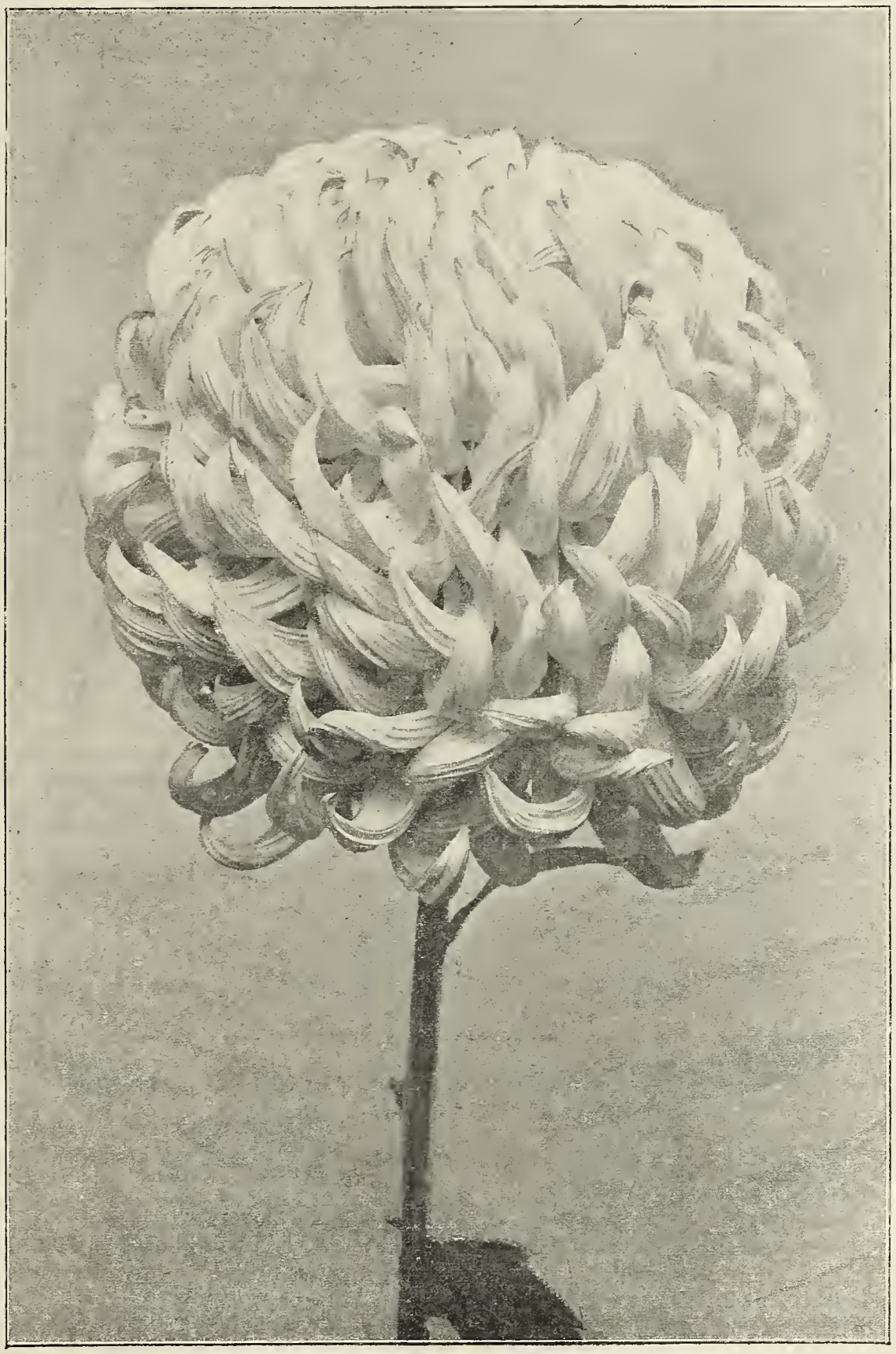
Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

A GARDENER'S EDUCATION.

(*Continued from p.* 508.)

When one takes into consideration that here in this England of ours with its comparatively restricted area of 122,550 square miles are gathered representatives of all the floras of the globe which are of use to us or which minister in any way to our comfort and well-being, we can only be astonished that so many of them exhibit such unfailing good temper and adapt themselves so wonderfully well to their new surroundings. I say when we consider this we are forced to ejaculate, Truly man is nature's lord; and why, I would ask, should it not be, as for man all things are, and were created, and how can he use the reasoning faculties granted him to better advantage than when he strives to make existing forms of vegetation more suitable for the fulfilling of his wants and special requirements? From the time of the grand old gardener Adam right down to the present day man has had the words ringing in his ears, "By the sweat of thy brow shalt thou earn thy bread," and behold a great and mighty conflict has been raging and man is emerging a victor from the contest. Whatever he has put his hands to, the result has been the same, viz., the alteration of existing forms of plant life to a less natural, perhaps, but certainly a more gorgeous state of affairs.

If we look at hundreds of our favourite flowers as as they used to be and regard them now, Lo! what a difference is here! The Dahlia, the Chrysanthemum, the Rose, the Begonia, what mute yet eloquent witnesses are they of the power and skill that man possesses. Then again the luscious fruits with which the more favoured classes regale themselves—the Peach, the Apricot, the Nectarine, as well as the bardier but none the less delicious Apple and Pear—what likeness do they bear to their ancestors?—next to none. Indeed, we may almost say that man has created them, for assuredly out of nothing or next to nothing has he brought them forth. Even this brief and cursory view has given us sufficient idea of the value of the science of horticulture to mankind in the past. It behoves us then to see to it that we of to-day shame not the glorious traditions of our fathers.



Chrysanthemum Philadelphia.

Of course we know that there are great numbers of charlatans in the profession, and we are all likewise aware that there are very many crying abuses to which gardeners are subjected to-day that are in urgent need of reform. A great authority, with whom I am not disposed to quarrel, once said that a gardener must of necessity possess the learning and knowledge of an M.D., or a Q.C., and yet is barely requited with the pay of a labourer. We contend that it is a crying shame that a body of men from whom so much is expected should be insulted by the paltry pittances of wage so often meted out to them by persons who would feel disgusted were we to call them anything else but gentlepeople. Apart from this it is almost marvellous the amount of proficiency that is required from a gardener of to-day. We cannot pick up a horticultural paper without we come across persons advertising for *something*,—whether it be a gardener or a "Jack-of-all-trades" is a question I have never yet been able to decide for myself: perhaps the discussion may help me somewhat on this point. I will quote one or two advertisements that have come before my own notice that will be amply sufficient to serve the purpose of illustration.

"Wanted, a thoroughly competent gardener, experienced in all branches, to look after cows and poultry, clean boots, knives and forks, etc., and assist in stables, light weight preferred. Wife to assist in kitchen three days a week, joint wages twenty-one shillings per week and cottage, no encumbrance allowed."

"Wanted, a good gardener, must have a thorough knowledge of stove and greenhouse plants, Vines, hardy fruit vegetables, etc. Will be required to attend to pigs and fill up his time in the stables; wife to look after cows and poultry, and to assist in the laundry when required, for which extra will be paid. Applicants must be sober (total abstainers preferred), wages 18/- per week and cottage. Preference given to Churchman who can sing in choir."

Of course any proposition that we might put forward as to the necessity for raising the wages of horticultural labourers—I beg their pardon, I mean gardeners, would be met by the counter-claim that the majority of gardeners are so ignorant and that the wage they are now receiving is quite as much as they are worth. Now, this is just the point at which we must strike. Away with ignorance, and education, free, ample and unstinted, is the only weapon that we can use in its abolition. That ignorance partial or complete is not alone the property of the hard-working gardener is proved by Mark Twain's famous skit upon the way in which newspapers are edited. He makes the solemn statement that "when he was editing an agricultural newspaper in the States he made the unfortunate announcement to his readers that the best way to gather turnips was to shake them from the trees." From the north of England the rumour travels of a certain expert, who, on being called in by a would-be fruit-grower to see why his fruit trees did not grow, found that some of them had been planted 3 ft. deep. Naturally enough, he enquired the reason for these extraordinary proceedings and was told that the whole of the trees had been bought at a sale and that some of them bad been planted deeply to make all the tops level. The possibility of the existence of such ignorance is, I should imagine, quite sufficient proof that an educational reform of some kind is needed if we are to really improve the position and status of the gardener of, let us hope, the immediate future.

Now if we are going to turn out a decent specimen of a gardener we must start with him in the schoolroom, where he should remain if possible until he is fifteen years of age. The subjects taught him there should consist of a thorough grounding in the three R's, English Grammar and History, Mensuration, Geography, not less than four Books of Euclid, and at least two languages or their rudiments—say Latin and French. Now I hear some people saying this is rather a large order, and indeed at first sight it may seem to be so; but Horticulture is a progressive science and those of its disciples who do not want to be left behind must perforce be progressive too. I think it would surprise some of us could we but know the great store that some gentlemen set upon a gardener being able to speak politely, clearly and correctly, to be able to wield a good pen and conduct himself respectfully, yet not slavishly, towards his employer or his employers' friends.

With regard to the languages, we Britons have for far too long been behind our neighbours in this respect. The need for one or two foreign languages has long been felt in even the ordinary schools upon

the continent, and steps have been taken there to supply this want, with the result that unless we as a nation wake up to the true state of affairs we must inevitably be like the "cow's tail" before very long The improved means of international communication that obtain, and the closeness of the relations that exist between us and our continental neighbours make it almost impossible for any gardener of repute to escape connections with our horticultural friends upon the main land. Accordingly, even a slight knowledge of French becomes of the greatest service.

(To be continued.)

CALADIUMS AT CHELSEA.

The collection of Caladiums in the nursery of Messrs. J. Veitch & Sons, Chelsea, is being rapidly augmented from time to time with new and improved kinds of great beauty. The chief evidence of it coming before the public has been the new varieties placed before the Floral Committee at the meetings of the Royal Horticultural Society. We described a number of these varieties when they were certificated. At present the foliage of many of the kinds is in the "pink" of perfection, and in the glory of its spring tints. One of these was Gaspard Crayer of a brilliant crimson in the centre and bronzy-green over the rest, with the principal veins running through it of a warm crimson. The leaves of B. S. Williams are soft red with dark claret ribs and a green edge. Pretty at all times, when well grown, is the variety named Ibis Rose whose leaves are of moderate size and of a bright, warm rosy-pink. Baron Adolphe de Rothschild is well adapted for exhibition purposes if plants of large size are required, because the leaves attain handsome proportions and are bronzy-crimson, marked all over with bright rosy spots. Near by are handsome and attractive specimens of Baronne Clara de Hirsch with creamy-white leaves and bright rose blotches, as well as a claret midrib. This also would make a distinct variety for exhibition purposes. Comte de Germiny is now getting well known for its dwarf habit and beautiful foliage well adapted for decorative purposes. The leaves are of a beautiful soft red with the principal ribs of a bright red, and spotted with white. The leaves of Louis Van Houtte are of a bronzy or metallic red with rosy-red veins. The huge leaves of Charlemagne are pink, reticulated and marked with green.

Varieties that attain a large size are well adapted for exhibition purposes, and it must be allowed that they present a rich and gorgeous appearance when well grown and beautifully coloured; but if entirely grown for exhibition purposes their distribution in gardens would be comparatively limited. The large size they attain would also prevent them from being generally useful where house-room is comparatively limited. A new race has, however, been raised in this country by Mr. C. F. Bause, and the stock having been secured by Messrs. J. Veitch & Sons, this firm is now prepared to send out the undermentioned seven varieties. The leading characteristics of the race are that they are brilliant in colour, and dwarf in habit, with small aud attractive leaves. The dwarf habit is well represented by Duchess of York, Duke of York, and Chelsea Gem. All of them are, however, remarkably well adapted for decorative purposes in the drawing-room and on the dinner-table, because they can be grown in small pots such as are admissible for this kind of work. Four out of the seven received Awards of Merit when submitted to the Royal Horticultural Society, a fact in itself sufficient to guarantee their novel and utilitarian character in the face of the hundreds of varieties already in cultivation.

The Duchess of York was raised from Madame E. Pynaert and Reine de Danemark, and has small, rosy-pink leaves, shaded with greenish-yellow, and netted with brilliant carmine veins. It is remarkably dwarf, and of a pleasing, attractive appearance. For dwarf habit and general utility Chelsea Gem is on a par with, or is even dwarfer than Duchess of York, but it is brighter in colour, a circumstance due to the different parentage. The blade of the leaf is crimson-carmine, wavy, and still further brightened up by the midrib and principal veins being of a blood-red. The leaf stalks are also dark crimson. It was raised from Minus erubescens and Madame Edouard Pynaert, which will explain its dwarf habit and rich colours. The leaves of F. W. Moore are crimson-scarlet with dark crimson petioles, and the variety may be set down as the finest red Caladium yet raised. The parents of it were Madame E. Pynaert and Gaspard Crayer. Duke of York must also be associated with the above, as all the four have been honoured with an Award of Merit, and are noted for their dwarf character. The leaves are rosy-carmine with the principal ribs of a darker hue, and are supported by dark crimson petioles. The variety was raised from Candidum and Lillie Burke, and is pleasing and attractive.

The combinations of colour in Tennyson are somewhat different, the centre of the leaf being occupied with a large central blotch giving off prominent rays, while the outer area is bright green mottled with sulphur-yellow. In the case of Lord Rosebery the central area of the leaf is bright carmine, with the principal ribs more deeply coloured; the margin is green, but immediately within this is a border of green spotted and marked with pale yellowish-green. Ladas makes up the seven belonging to this group, and is of medium size. The leaves are green, beautifully marbled or blotched with pink in the spaces between the principal ribs, which are brilliant carmine. For decorative purposes generally all of the above may be considered as acquisitions to horticulture, for in a few years they can hardly fail to find their way into every garden where fine foliaged subjects are admired and appreciated for their intrinsic beauty and utility.

THE STUDY OF BOTANY.

Now that the dark pall of winter has arisen from the face of nature, and the revival of animation once again has begun to beautify the earth and gladden the heart of man, the time is at hand when the enthusiasm of the young gardener for the study of botany will get ample scope and exercise This season of the year has a peculiar interest to most people, inasmuch as it tends to the contemplation of the wonders of vegetation. He must be a strangely constituted person who has not felt an indiscribable pleasure in viewing the first verdant clump of Lilies or other early herbaceous plants break through the ground, or in the green half-expanded buds, in the early months of spring.

Who that hath a soul has not experienced an intense admiration on discovering the first Primrose of the season peeping out from among its bed of withered grass and leaves? These are feelings more or less common to mankind, but to some, however, such harbingers of spring have more than a general fascination. These, as a rule, become inspired with a love for a fuller acquaintance with plants. It is most astonishing how much the recurrence of the vernal vesture of nature influences the mind to the study of plants. We have known instances where young men, after completing a laborious day's work at the spade or scythe, go twelve or more miles, night after night, in search of specimens for the herbarium, and were not in the least degree fatigued or unfitted for the resumption of their hard duties on the ensuing mornings. Many of these were woefully handicapped in the pursuit of their pet recreation. They studied under the most adverse circumstances. They were far from centres of knowledge, and books were beyond their limited means. In one particular instance the only book available was the herbal of "Culpepper," a book from which much valuable instruction was derived.

The study of botany is an extremely important subject for the young gardener in the earlier stages of his initiation to the profession. The mind is trained to apply the faculty of observation correctly, as well as to become familiar with many important plant functions of extreme value to the gardener in his profession. It is useless to enumerate the multiplicity of advantages the knowledge of botany procures to the gardener. Botany and gardening are so intimately associated that even to the uninitiated their correlation is palpable. And when such is the case it requires little to be said in the vindication of botany as a necessary qualification in the perfection of gardening. It must be observed, however, by beginners that botany does not consist of what is very often supposed—a mere means for acquiring a knowledge of the names of plants, and how to distinguish them by their external appearance. So far as it goes, this serves a laudable purpose, but it must not be supposed that it ends there.

The science of botany has a much higher and nobler aim, inasmuch as it endeavours to solve by anatomical and physiological investigation not only the complex mysteries of plant life and structure but their relation to one another, and the economical value they represent in the great garden of nature. And to investigate into the uses for which plants are designed by the Almighty we hold is a duty not less imperative for those brought into daily or constant contact with plants, than any of the other duties we are called upon to perform. There is no one so peculiarly constituted who has not, at some particular period of his existence, been able to appreciate the beauty of the vegetable world in some form or other. The fact of this capacity being so universally diffused goes far to demonstrate the special claims that the study of plants have on our attentions.

All who can admire the beauty of plants cannot, however, be expected to pursue their study philosophically, but it is none the less true on that account that most can derive much pleasure and valuable instruction from the merest superficial acquaintance with their outward forms. And this circumstance may, forsooth, happily tend to be a powerful incentive to a greater and more laudable study and research. But apart from the utilitarian aspect altogether much benefit is derived from the study of plants. What can offer a more profound and lasting pleasure to anyone than a holiday in the woods, fields, or hills equipped with spud and botanical box in search of specimens for the herbarium?

Nothing is likely to be a more productive of mutual improvement, or more conducive in forming the bonds of a sincere and life-long friendship between young gardeners. Seas and oceans may divide them in after life, but how much of the past can be reproduced by a look at an occasional time into the herbarium, whose every subject is surrounded with a hiatus of pleasing associations which link them with old times and friends.—*D. Chisholm.*

DAPHNE MEZEREUM.

While it cannot be stated with any vestige of truth that the past winter has been anything else than one of the most trying ones within the memory of the "oldest inhabitant," and although we must all admit that it has occasioned very considerable and in most cases serious losses to both the private gardener and the nurseryman still the great frost of 1894-95 has not been entirely without its redeeming features. With the blissful uncertainty with which the laws of meteorology apply to our British Islands we never know exactly what to expect for two years; perhaps nothing like a severe or a protracted spell of frost and snow visits us, and then may be just as we are expecting to get through a third season unscathed King Frost takes it into his wayward fancy to assert his right to reign in no very gentle fashion, with the result that the deaths among the ranks of the tenders of our hardy plants are proportionately increased. Still it is fortunately but seldom that so much damage is done as has been the case during the late winter.

Of spring bedding plants there will likely be a considerable scarcity. Violas, Carnations, etc. have suffered severely, and even the usually hardy Wallflower which in most cases will stand any amount of frost and cold weather been unable to abide such a continuance of King Frost's aggravated severity. This much then the sharp winter has done. It has proved which are the most dependable of our outdoor plants and thus shown us in no uncertain way the subjects upon which it is safest for the gardener to pin his faith to. The splendidly hardy qualities of Daphne Mezereum and its white variety D. M. alba have been abundantly demonstrated. A couple of beds filled with it in Kew Gardens close to the entrance to Pagoda Avenue are at the present time a perfect mass of the sweet-scented red or purple flowers and a finer sight than they present can scarcely be imagined. In fact the frost does not seem to have injured the blooming qualities of the plants, which are some two feet in height, in the least to judge from the display they are now making.

We have noticed Daphne Mezereum in several gardens in various parts of the country, but it is usually only represented by a solitary specimen in a corner of a shrubbery, a position in which it does not exhibit itself to the best advantage. It is only when grown in conspicuous masses as at Kew that its true value and beauty becomes apparent. It is a great pity that hardy, early flowering plants of this description are not used more for bedding purposes

than they are, for beside the earliness of the display they afford, their use would introduce a variety into the flower garden that many places now lack under the prevailing system of the extensive filling of beds and borders with Zonal Pelargoniums, Calceolarias, and other material of a like nature to which the advent of a few degrees of frost spells ruin. The saving of labour, too, were the planting of hardy flowering or evergreen shrubs more extensively followed, would be considerable. The subject is certainly worthy the attention of every gardener who at this season of the year is apt to complain of the way in which both the plant and fruit houses are crowded with bedding stuff in all stages waiting for the warmer weather before they can be placed in their flowering quarters with safety, whereas, if some of the flower beds were filled with hardy subjects, a great deal of this overcrowding might be avoided.--*H.*

A PLEA FOR BIG ONIONS.

Of all the various kinds of vegetables which it falls to the task of the gardener to produce with a greater or less degree of excellence, none are of more importance or give a better value for labour expended upon them than the Onion. If any proof at all were needed of the high esteem in which it is held by all classes, we might be inclined to ask where we should find another vegetable—with, of course, the exception of the Potato—which is of such value to man as food, or which finds a place in so many of the gardens throughout the length and breadth of the country. Even the cottager with his all too few square yards of land looks upon his crop of Onions as one of the most necessary of all vegetables, in fact, in most cases second only in importance to the Potato. These men have found by practical experience the exceedingly great value of the Onion, not only as a delicious vegetable which he enjoys at the table, but also on account of its health-giving properties. At this point I am reminded of a story of a country doctor, who, on passing a cottage garden containing a large bed of Onions, the owner of which was bnsily engaged in weeding the same, remarked that he feared that family would not need his services very frequently during the ensuing year.

In most of the larger and more pretentious gardens Onions are not cultivated so much for use as a vegetable to be cooked whole and sent to the table in that condition, as for their value as a flavouring agent in the many dishes that appear upon the tables of the upper classes, of which the working portion of the community has no conception. Accordingly, it is very seldom that the gardener in large establishments attempts to grow Onions of large size unless it is a few for purposes of exhibition, esteeming it in many cases a waste of time to do so. That this is by no means the case may be testified to from more than one quarter, where it is the rule to obtain bulbs as large as possible to be cooked whole and sent to the table as an ordinary vegetable. It will also be discovered that these large Onions are always much milder in flavour than the smaller ones, and hence receive a better welcome than would the stronger flavoured and smaller bulbs.

It has also been urged against them that the high feeding necessary to obtain bulbs of large size seriously injures their keeping qualities. This again is a fallacy, for providing the bulbs are thoroughly dried and ripened before they are consigned to the shelves of the store-room, there is nothing to prevent them keeping as well as any of the rest. The complaints that have at times been made against the keeping qualities of large Onions, and which are alleged to be caused by their huge size, may be usually traced to insufficient or careless drying and ripening at harvest time, and every gardener knows that if the bulbs, whether large or small, are to keep properly through the winter they must be well ripened before being stored away.—*Cepia.*

PROTECTING EARLY PEAS.

Peas which have been raised in pots or boxes and transferred to the open ground during the brief spell of warm, spring-like weather, which cheered us all a week or two ago have been having an exceedingly bad time of it of late. Judging from present appearances they will have to grow at a very rapid rate in order to come in early in the season, as they are expected to do during ordinary years. While a degree or two of frost does not seem to harm them to any appreciable extent, the dry cold winds that we have been having seem to cause growth almost to standstill, and thus we have been able to note exceedingly little, if any progress of late. To give them every every chance, steps should be taken to shield them somewhat from the breath of these unkindly winds. If the taller growing sorts have not been staked, this should be looked after at once, for it is astonishing the amount of shelter that even a thick row of Pea stakes will give. This may be supplemented by a quantity of cut boughs of evergreens or boards which should be placed against the stakes on the side from which the cold winds come, and as the rows will run from north to south and should, if possible, have a wall behind them to shield them from the cold north winds, protective material laid so as to break the force of the east winds will make all things snug and should assist the plants in making the headway which every gardener is now so anxious to see. For the dwarf varieties, where it has been elected to use these for early work in preference to the taller growing sorts, a screen of Russian mats if these are obtainable placed on the eastern side of the plantation will form an invaluable shelter.—*Beche.*

GARDENING MISCELLANY.

STREPTOCARPUS GRATUS.

The name is applied to a new race of hybrids that present a different aspect from those already in cultivation, and which have been so much intercrossed with one another within the last few years. S. gratus was obtained from one of the ordinary strain crossed with the pollen of S. Dunnii. The latter, as is now well known, produces only one large leaf, and branching cymes bearing very numerous flowers. Plants of the strain under notice produce one moderately large leaf and a number of small ones, generally about three or four. From the base of these arises a large number of flowers of large size, and crowded together on scapes but a few inches high. Individuals vary slightly in colour, some being rosy-purple, others bright rose with a shade of violet, and all have darker markings in the throat. The value of this strain is that it flowers in winter and spring. A batch of plants was flowering in the nursery of Messrs. J. Veitch & Sons, Chelsea, before the advent of the severe weather, but when the temperature rose again in March the plants resumed their flowering, and have continued a mass of bloom ever since. How long they will continue remains to be seen, but evidently they will keep up a display for weeks to come. If the dark and dull months of the year can be bridged over by these useful subjects, a great advantage for horticulture will have been gained.

ASARUM MAXIMUM.

Our native species, Asarum europaeum, has small, dull brown, and inconspicuous flowers, and other species are mostly objects of curiosity from a garden point of view. One or two are notable for the beauty of their foliage. That under notice is a comparatively recent introduction from Central China, where so many new things have been brought to light within the last few years. The leaves are heart-shaped, and in no way superior to the foliage of our native species, but the flowers are both large and curious, as well as to some extent conspicuous owing to the strange contrast of colours. They nestle amongst the leaves, and are of a velvety dark brown with a large white blotch at the base of each of the three segments. The surface of the flower is warted all round the mouth of the short tube, which is filled up with the six dark brownish-purple stigmas. A specimen has been flowering in the Begonia house at Kew for some time past.

PAEONIES IN POTS.

In the flower garden Paeonies always attract a good deal of attention, and hence they are held in very high esteem as hardy flowering subjects, most gardens of any size containing a few of them. Still in exceedingly few instances do we see them grown in pots for indoor decoration, the reason probably being that the idea of doing so has not entered into the heads of the majority of gardeners. When grown in this way, however, they give but surprisingly little trouble, and grow and bloom away as freely as could be desired. In the conservatories throughout the country there is, as a rule, a manifest sameness in the material they contain at corresponding seasons of the year. The same subjects are grown year after year with surprising regularity. True they may look well and make a brave display, and thus the gardener is tempted to cling to the old and well-proven subjects, and hesitates or totally refuses to attempt experiments with other plants, the result being that we are considerably the losers with regard to the charm of variety that is after all one of the chief attractions of a well-ordered show house. A batch of Paeonies of the Moutan section that are at present one of the chief features in the greenhouse at Kew admirably illustrate what may be done in the way of utilising hardy plants as pot subjects for spring blooming. The plants in question have been recently brought from Japan, and comprise some magnificent scarlet and rosy-pink varieties.

CRINUM GIGANTEUM.

The great size to which most of the Crinums attain before they commence to flower, and the correspondingly large amount of room they require to develop themselves, militate to a very large extent against their chances of extensive cultivation, although there are very few indeed but would accord them a word of well-merited praise on seeing them in all their beauty. The above fine species, however, is evidently contented with considerably less space than most of the rest of its congeners, to judge from the specimen now in bloom in the Aroid house at Kew. The strongly growing scape is about 2 ft. in length, and is carrying ten flowers in various stages of development, an unusually large number. The perianth tube is about 4 in. in length, and the limb campanulate and pure white in colour, with the exception of a faint orange stripe which runs down the centre of each segment. The strong and yet vastly agreeable fragrance which the flowers exhale is another point in favour of this species which must also be mentioned. Like the other Crinums, C. giganteum needs an abundance of water during its growing and flowering periods, and liquid manure may be frequently given with advantage, as it is a gross feeder, a stove temperature being necessary. It is a native of Western Tropical Africa, being introduced from thence as early as the year 1792.

GOETHEAS.

It is very seldom indeed that we find these really beautiful and showy plants in any of the ordinary collections of stove, foliage, or flowering plants although no one who had ever seen them would, we should imagine, question their right to a place amid the ranks of our floral favourites. The genus takes its name from J. W. Goethe, a German poet of world-wide fame. The segments of the calyx proper as well as those of the epicalyx constitute the showy part of the flower. G. floribunda has these segments of a rich scarlet hue, the leaves being about 6 in. in length lanceolate and acuminate, and is both a showy and an attractive plant. G. Kermesina has calyx segments of rather deeper colour than, and not so wide as those of G. floribunda, the leaves also being rather broader, and like it, is well worthy of the cultivator's attention. Examples of both these plants in flower may now be seen in the stove at Kew; also a specimen of G. intermedia var. rosea with pink coloured calyx segments.

THE CULTURE OF VEGETABLES.

(*Concluded from page* 507.)

The Mushroom.

I feel sure that I am well within the bounds of reason when I say that no vegetable is more appreciated on the table than this well-known esculent, and to produce it in quantity with anything like regularity is sometimes a difficult matter. Plenty of fresh horse-droppings are necessary, these being carefully dried and fermented till in a fit condition to be used in making up the beds. The shelves in the Mushroom house should be made of wood for preference, and formed of narrow strips on the bottom and side, these being covered with turves cut from the meadow when the bed is being made up so as to prevent the material from dropping through. The manure should then be spread equally over and rammed hard until the rack is full; a depth of 18 in. will be quite sufficient. When the temperature of the bed has fallen to about 85° Fahr., the spawn

should be put in in pieces about 2 in. square and about 7 in. apart all over the bed, not forgetting the side and the bottom, for in this position they grow equally as well as on the top, double the quantity of Mushrooms being thus obtained than would be the case were the top of the bed spawned only. At the present time we are cutting splendid Mushrooms from the under-side of the beds, and find it is a profitable course to adopt where the convenience is limited. Immediately the spawn is inserted the bed should be covered with good loam and a sprinkling of artificial manure mixed with it, which will help to give fleshiness to the crop. Nothing further is required than an even atmospheric temperature of about 55° Fahr., plenty of moisture being applied with the syringe daily on the walls and passages.

GATHERING THE VEGETABLES.

This is a duty which is often very indifferently performed, and it is a great pity to see vegetables well grown completely spoiled by neglect at this time. I hold that it is the duty of every gardener to bring before the notice of the cook daily the different vegetables that are likely to be spoiled if not used. Here a thorough understanding is necessary between the two so that no waste may take place. Very often gardeners are somewhat careless on this point, and for want of strict attention to the gathering of vegetables at the right time, find that a great part have deteriorated in quality, when by judicious attention the whole might have been good instead of only a portion. It is a mistake to think that even servants should not have the best of vegetables, for after all as human beings we should be more on an equality in this matter than is often the case, but in cases like this we have ourselves to blame to a great extent. Therefore, all gardeners should strive to be particular in small matters, whilst cleanliness and good order must prevail. If such a course is followed up with the energy and perseverance which every gardener should possess, the efforts of the aspiring cultivator of vegetables will assuredly be crowned with success.—*James Gibson, Devonhurst, Chiswick.*

LIVERPOOL SPRING SHOW.

THE annual spring show in connection with the Liverpool Horticultural Association was held in St. George's Hall on the 4th inst., and in every respect proved a great success. Undoubtedly the most interesting and instructive exhibits were those staged by the trade, and in this connection Messrs. R. P. Ker & Son surpassed themselves in their wonderful group of Amaryllis, which was unanimously awarded the premier position by the visitors, as "the feature of the show." The group was allotted the place of honour, the centre of the hall, and most worthily occupied it too. Messrs. Charlesworth & Co., Heaton, Bradford, staged a most meritorious collection of Orchids, which included many rare species and varieties; Messrs. John Cowan & Co., Garston, also contributed Orchids and miscellaneous plants in excellent form. From Messrs. R. P. Ker also came a well-flowered batch of Imantophyllums and Azalea mollis; from Messrs. Fishlock Bros. cut flowers, wreaths, crosses, etc.; from Messrs. Thos. Davies & Co., Wavertree, a capital group of Cinerarias, Cyclamen, bulbs, and foliage plants; from Mr. W. Mason, Liverpool, Ferns, Clematis, etc.; from Messrs. Dicksons, Chester, a pretty show of Daffodils and other spring bulbs; from Mr. H. Middlehurst, Liverpool, Mignonette, Daffodil and other bulbs, and a Certificate of Merit was awarded to each of them. A special prize was awarded to A. R. Gladstone, Esq., Court Hey (Mr. T. Elsworthy, gardener), for five good bunches of Black Alicante Grapes and examples of La Grosse Sucrée Strawberries. A Certificate of Merit was also awarded to J. Crossfield, Esq., Warrington (Mr. W. Kipps, gardener), for a fine example of the latter fruit.

In the classes for competition the Lord Mayor of Liverpool (Mr. J. Bracegirdle, gardener) was first for a well-arranged group of plants occupying sixty square feet; and for ten pots of hardy herbaceous and bulbous plants, W. S. Gladstone, Esq., Aigburth (Mr. J. Grant, gardener) took the lead, the Solomon's Seal being especially good The best and most tastefully arranged pan of Lily of the Valley came from A. L. Jones, Esq., Aighurth (Mr. J. Bounds, gardener). Hyacinths were hardly up to the usual standard, the spikes being somewhat undersized. For eighteen and twelve varieties O. H. Williams, Esq. (Mr. J. Alken, gardener), was to the fore; and for six varieties the Right Hon. the Lord Mayor was first; while for six pots, three bulbs in each pot, Mr. A. Earle was first with a good lot. Six pots Polanthus Narcissus: First, W. S. Singlehurst, Esq. (Mr. Jas. Kelly, gardener). Nine pots single Tulips: First, W. S. Gladstone, Esq.; while C. J. Proctor, Esq., Noctorum (Mr. J. Williams, gardener), was first for six single and six double varieties. For two Amaryllis A. A. Picton, Esq, Sefton Park (Mr. R. Ogston, gardener), took the lead with very fine varieties; and for three pots Mr. G. W. Moss was awarded the first prize.

For six stove and greenhouse plants, T. S. Timmis, Esq. Cleveley, (Mr. B. Cromwell, gardener), had the premier lot, containing Kentia Fosteriana, Phoenix reclinata, Croton Queen Victoria, Azalea Koniger der Weisen, Dendrobium nobile, and Anthurium Scherzerianum 4 ft. in diameter. Mr. Banner, Rohy, was second. The premier award for one stove plant in flower, the Rt. Hon. Lord Mayor won with Clerodendron Balfourianum, well flowered; and the same exhibitor had the best single greenhouse plant in flower, a Rhododendron Gibsoni, 4 ft. in diameter; Mr. T. S. Timmis taking second place in each class. Three Orchids: the Rt. Hon. Lord Mayor had the premier lot, including Dendrobium Ainsworthii, very fine, 3 ft. through; Angraecum sesquipedale, with nine flowers; and Cypripedium Boxallii atratum, with seventeen flowers. For two orchids suitable for a cool house, O. H. Williams, Esq., Aighurth (Mr. Thos. Wilson, gardener), was first with Odontoglossum triumphans and Ada aurantica. For a single Orchid Mr. A. L. Jones was to the fore with Coelogyne cristata, 4 ft. in diameter. In other competitions the premier awards went as follows:—Four exotic Ferns, the Rt. Hon. Lord Mayor; three Azaleas, Mr. W. Singlehurst; single Azalea, Mr. W. Singlehurst; three Palms, the Rt. Hon. Lord Mayor; single Palm, Mr. S. S. Waring; six Cyclamen, Mr. J. Neal, with grand plants; six pots Lily of the Valley, Mrs. Cope, Woolton (Mr. J. Carling, gardener), with well-grown examples. Mr. Carling was also to the fore with a box of Roses, those of Niphetos especially being splendid.

The committee introduced a new feature in having recitals on the grand organ in addition to the usual string band, which was much appreciated. The arrangements were excellent and the attendance good.

FOREIGN VEGETABLE IMPORTS.

FROM a paper on "Market Gardening" in the *Journal of the Board of Agriculture*, we learn that foreign supplies of vegetables which require a good of labour—such as Onions, Carrots, Parsnips, Cucumbers, French Beans, Radishes—grow larger year by year. Early Turnips, Carrots, Peas, and French Beans, from France, the Canary Islands, Madeira, and Algeria, arrive earlier in the year than the English gardeners can supply them; and when the expensive English crops are ready the high prices have already disappeared into the foreigner's pockets, and the "edge" of the appetite has been taken off." Lettuces are imported from France and the Canary Islands from January to June, months before English gardeners can send them into the market. A few years ago Cucumbers were profitable; but now they come so early and so cheap from Holland that many market gardeners have ceased to grow them. Radishes come from February to April, from Paris, St. Malo, and the Channel Islands; and Beetroot and Red Cabbage from Holland, completely forestalling English produce. As for Onions, there has been a revolution. They used to be looked on as a safe crop, but prices have been so forced down that growers last year lost heavily. The foreign Onions come from Germany, France, Spain, Egypt, Holland, Belgium, and Portugal. These figures, for three typical years, will show the increased importation:—

	1875.	1884.	1894.
Bushels	169,456	3,474,746	5,288,512
Value	£321,316	£481,427	£765,049

The average annual value of vegetables other than Onions and Potatos, during the last three years, is £1,027,411, against £467,287 in 1885, and £132,124 in 1875. As regards Potatos, the total importation has fallen off in the last twenty years from 5,363,136 cwt. to 2,846,754 cwt., but this falling off is mainly due to the fact that the importing countries found they could not compete with the English main-crop produce in the late summer and autumn. The supply of "new" Potatos, however, is another matter. For the first six months of the year the average from France, Lisbon, Canary Islands, Malta, and Channel Islands is 1,764,258 cwt. The earliest "new" Potatos come at Christmas time from Algeria, France, Malta, Teneriffe, and Holland; and then in May the Channel Islands begin sending until August. When that is over the English grower gets a chance! This is hard enough on the professional market gardener; but now that the farmers are being urged to compete with him as well, he is beginning to feel that every man's hand is against him.

SOCIETIES.

Royal Horticultural, *April 9th.*—Stove and greenhouse plants were the leading features of the meeting on Tuesday last, including Orchids, which more than held their own for quantity, quality, and variety. Other prominent subjects were Amaryllis, Clivias, Anthuriums, Streptoselon Jamesoni, Beaumontia grandiflora, Dracaenas, and others. Hardy flowers were plentiful and attractive. Cut blooms of Tea Roses that had been forced were fine and attracted considerable attention. A Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a large group of Orchids and Amaryllis. Amongst the former were the new Dendrobium Hildebrandtii, D. Farmeri roseum, D. atroviolaceum, Miltonia Roezlii alba, Cattleya Schroderae, Lycaste cruenta Rossiana, and the very distinct Laelia Latona, with a great variety of showy and useful spring flowering species. Messrs. F. Sander & Co., St. Albans, also had an interesting group of Orchids, including a large and well-flowered piece of Dendrobium Auguste Victoria, two fine pieces of Cattleya Schroderae, covered with bloom, also Dendrobium Brymerianum, D. Phalaenopsis Schroderianum, Odontoglossum crispum, Eulophiella Elizabethae, and others. Associated with the group was a floriferous lot of Amaryllis splendens, bearing two and three scapes from a bulb (Silver Banksian Medal). A well-flowered group of Orchids was set up by H. T. Pitt, Esq. (gardener, Mr. Aldous), Stamford Hill. Amongst them some interesting pieces of Odontoglossum Cervantesii roseum, O. crispum in variety, Miltonia Roezlii rubens, and M. R. alba. Fine-foliaged plants were arranged in front of them (Silver Banksian Medal). A natural hybrid named Dendrobium Rolfae roseum was exhibited by Major-General E. S. Berkeley, Spetchley, Bitterne Park. A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Wallington, showed a fine piece of Cymbidium Lowianum viride. Some curious Orchids, including Bulbophyllum nigropetalum viride, Dendrobium tetragonum, and the showy Laelia flava aurantiaca and Cattleya guttata Prinzii were staged by Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring. A small group of Orchids, chiefly cut flowers, was exhibited by Baron Schroeder (gardener, Mr. H. Ballantine), The Dell. Amongst them were Cattleya Lawrenceana, C. L. Vinckii, a fine panicle of a splendid variety of Odontoglossum Ruckerianum, and Dendrobium Cycele. Masdevallia ludibunda, Phaius assamicus, Coelogyne lactea, and Cymbidium Devonianum came from the Royal Botanic Gardens, Glasnevin. A Cultural Commendation was awarded to G. C. Raphael, Esq. (gardener, Mr. H. Adams), Castle Hill, Englefield Green, for a splendid spike of Eulophiella Elizabethæ. Messrs. W. & G. Drover, Fareham, staged some varieties of Cattleya Trianaei. A Silver Banksian Medal was accorded to Messrs. W. L. Lewis & Co., Southgate, for a rich and varied group of Orchids including fine pieces of Trichopilia suavis superba, Masdevallia Houtteana, Odontoglossum laeve superbum, and various others. A Silver Flora Medal was accorded to Sir Trevor Lawrence, Bart, (grower, Mr. W. H. White), Burford Lodge, Dorking for a magnificent and well-flowered piece of Cattleya Lawrenceana in a No. 1 size pot. There were from five to eleven flowers on each spike. He also exhibited Eulophiella Elizabethæ, Odontoglossum aspersum violaceum and Masdevallia leontoglossa. Odontoglossum polyxanthum Hardy's var. was shown by F. Hardy, Esq. (gardener, Mr. T. Stafford), Ashton-on-Mersey. Odontoglossum gloriosum Rosefield var. and O.

triumphans Lionel Crawshay, two very fine varieties, but particularly the latter, were shown by De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. A small, but interesting group of Orchids was set up by T. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Whitfield, Manchester. Cattleya Schroderiana splendens was notable for the great size of the flowers, and the huge crimson-purple, much-crumpled lip of Laelio-Cattleya Pallas superba, marked it out as the finest of the hybrid Laelias at the meeting. Some Orchids were shown by J. T. Bennett-Poë, Esq. Holmwood, Cheshunt, including large and well flowered pieces of Cymbidium eburneum, C. Lowianum and Dendrobium Jamesianum.

Messrs. Barr & Son, Covent Garden, contributed a large quantity of hardy cut flowers in first-class order, for which a Silver Banksian Medal was awarded. Narcissi were an exceptionally strong feature of the group, and comprised such well-known kinds as N. princeps, N. Horsfieldii, N. Emperor, N. obvallaris, N. telamonius plenus, N. lobularis plenus, N. rugilobus, N. Golden Spur, and N. Henry Irving, the blooms being large and exceptionally well-coloured. Helleborus punctatus and the allied form Dr. Hagg were also represented, together with numerous bright little bunches of Chionodoxas of various sorts, the pretty Anemone pulsatilla, Iris reticulata, Fritillaries, Erythroniums, and the neat little Sisyrinchium grandiflorum album. The whole group literally blazed with colour, and well deserved the award it received. Messrs. John Laing & Sons, Forest Hill, S.E., staged a quantity of stove foliage and flowering plants in a tasteful and praiseworthy manner, in which some fine trusses of bloom of Clivias Rt. Hon. Joseph Chamberlain and Vesuvius were very conspicuous. Some nicely coloured Crotons and Dracaenas were also present, Caladiums also being an important feature of the group (Silver Flora Medal).

From Mr. Fitt, gardener to Earl Cowper, Panshanger, Herts, came an exceedingly fine display in the shape of some splendidly-flowered sprays of Beaumontia grandiflora superba, the blooms being especially large and fine, and possessed of an unusually powerful fragrance. Mr. Fitt had also a fine head of bloom of Cordyline Australis, as well as a bunch of the delicately-white flowers of Gloneria jasminiflora.

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, showed a quantity of well-grown and shapely plants of Dracaenas, D. Lindeni, D. Madame F. Bergman, D. terminalis alba, and D. Vicomtesse de Belavale being present in particularly meritorious condition (Silver Banksian Medal).

From Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, N., came a bright and interesting collection of hardy herbaceous and Alpine plants, for which a Silver Flora Medal was deservedly awarded by the committee. Narcissi bulbocodium and reflexens, Megaseas crassifolia and speciosa, were very fine, and than the splendid examples here shown of Primulas rosea, denticulata, and its white variety alba, minima, viscosa nivalis, Cashmeriana, and Clusiana, we have seen nothing better this season. Saxifragas apiculata, Burseriana, oppositifolia, O. splendens, O. alba, and the rare Boydi, together with some exceedingly pretty varieties of Hepatica triloba, Draba elongata, and D. aizoides, Puschkinia libanotica, Trillium grandiflorum, Cypripedium calceolus, and Dicentra spectabilis, all helped to add a charm to the group. Messrs. B. S. Williams & Son, Upper Holloway, had superb examples of Clivias, the trusses of such varieties as C. aurantiaca, Holloway Beauty, Martha Reimers, and Mme. Van Houtte, being especially large and fine; also a group of Amaryllis, some good varieties being present. A superbly flowered specimen of Ataccia cristata was at once beautiful and interesting, and constituted one of the prime features of the group. Some really fine flowers of Anthurium Burfordiense, A. Archduc Joseph, A. Lawrencianum, and A. sanguinea, from the same firm, were also very conspicuous, as was also a basket filled with plants of Scutellaria Mocciniana. This was an extensive exhibit, and was accorded a Silver Banksian Medal. A group of Richardia blooms of extraordinary size came from F. C. Carr, Esq. (gardener, Mr. A. J. Reid), Farnham Chase, Slough, Bucks. Mr. Charles Turner, Slough, contributed a basket of Carnation Mrs. Hamlet Riley, a beautiful flesh-pink in colour, and of the Malmaison type. Two large baskets of Violets, Swanley White, Neapolitan, and Marie Louise were sent by Mr. Wm. Slogrove, gardener to Mrs. Crawford, Gatton, Reigate (Bronze Banksian Medal). Mr. George Mount, The Nurseries, Canterbury, obtained a Silver Flora Medal for a couple of stands filled with cut Roses in splendid condition. The whole of the blooms were good, although those shown of Madame Watteville, Catherine Mermet, The Bride, and Marechel Niel, were especially good. A Silver-gilt Flora Medal was awarded to Mr. Frank Cant, Braiswick, Colchester, for a magnificent exhibit of cut Roses, which included superb examples of Niphetos, Souvenir D'Elise Vardon, Ernest Metz, Souvenir D'un Amie, May Rivers, Sport, and Catherine Mermet.

Some splendidly flowered specimen plants of the beautiful deep orange flowered Streptosolon Jamesoni, which were sent by J. Bennett-Poë, Esq., were particularly noteworthy. Although the plants were so large and full of flower they were all obtained from cuttings struck in a gentle heat only a twelvemonth ago (Silver Flora Medal). Messrs. James Veitch & Sons, Chelsea, showed some well-flowered plants of the early-blooming Rhododendron Early Gem, which coming from the open ground testified to its exceeding precocity; also a basket of the pretty little white flowered Loripetalum chinense.

Despite the trying nature of the past winter for vegetables, a very nice collection of twenty-four varieties was shown by Mr. G. Wythes, gardener to Earl Percy, Sion House, Brentford, who received a Silver Knightian Medal. Mr. Wythes also exhibited a box of Strawberry La Grosse Sucrée. The fruits were of large size and exceedingly well coloured, and received a Cultural Commendation at the hands of the Fruit Committee.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

BIRDS AND FRUIT TREES.—*Arbre*: The bullfinch frequents fruit trees in spring but particularly Apples for the sake of the flower buds. The Garden Warbler is not confined to the Apple; it feeds on insects, worms, caterpillars, the fruits of the Apple, Pear, Plum, Cherry, Fig Peas, &c. The goldfinch builds in Apple trees. We have seen the nightingale on Apple trees in early summer where it was singing, but it is by no means confined to the Apple. Blackbirds and thrushes may be found upon Apple and Pear trees occasionally when the fruit is ripe. The titmice may be seen searching the branches and buds for insects. The Apple tree is frequently chosen by the wryneck for making its nest in, if there should happen to be a hole in the trunk. The nuthatch frequents orchards and gardens. The creeper may occasionally be found on Apple trees in company with the titmice. The great spotted woodpecker sometimes plunders fruit trees such as Plums, Cherries and wall fruits in general, but its food is very variable. The lesser spotted woodpecker feeds on insects, caterpillars, ants, spiders, as well as the fruit of the Apple and Plum and Grapes in the vineyards abroad. Jays frequent various trees and sparrows anything that will afford the means of perching. We cannot say what birds make a point of abandoning withered trees. Many birds would leave them when they no longer afford shelter or food. The wryneck on the contrary frequently gives preference to the branches and trunk of a leafless or dead tree. The latter often swarm with beetles and other insects so that many insectivorous birds would haunt them for the food they find there.

FOSTITE.—*Gillyflower* asks what is Fostite, a good dusting of which on Carnation cuttings is said by an American grower to keep away disease? Can any of our readers help him to an answer.

RHODODENDRONS FOR SOUTH AFRICA.—*Hopeful*: The requisite amount of moisture will be the most difficult matter you will have to deal with, and unless the soil is naturally moist, it will have to be taken out to a depth of 2½ ft., and its place supplied with sandy and muddy material, obtained from the banks or bed of some stream, or from some similar source. We hardly expect you will be able to find peat. We should try several kinds by way of experiment. For instance, there are several of the Himalayan species and their varieties that might be expected to succeed in South Africa, including Rhododendron arboreum, R. Aucklandii, R. campanulatum, R. ciliatum, R. Thomsoni, R. Nuttallii, R. Maddeni, R. Edgeworthii, R. Hodgsonii, R. campylocarpum, R. Boothii, R. grande, R. barbatum and R. Championi, the latter from Hong Kong. The above will in most cases require more room than the common R. ponticum and its varieties. Then a selection might be made from the hybrid greenhouse Rhododendrons of the Javan type, including R. Taylori, Rose perfection, Princess Royal, President, Princess Beatrice, Minerva, Monarch, Ne plus ultra, Lord Wolseley, Favourite, Empress, Brilliant, Aphrodite, and Amabile These would be more expensive, but we should expect them to succeed, and they are very beautiful. Some of the beautiful hybrid varieties of R. ponticum might also be tried by way of experiment to see which are likely to succeed best. We should think the present as good a time as any to send them out, because they would have the cool season in Africa to form roots before the drought sets in. On the other hand there would be a considerable advantage in planting them at the commencement of the rainy season, to give them a chance of getting established. Bushy plants about a foot high would be most easy to manage. If not in pots, the roots should be tied up in mats and the soil well watered before starting.

NAMES OF PLANTS.—*John McKinnie*: Freesia refracta.

COMMUNICATIONS RECEIVED.— B. S. W.—J. B. C.—S. C.—Omega—W. C. C.—A. W.—J. Lindsay (next week).

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, 544, King's Road, Chelsea, S.W.—Catalogue of Plants, including novelties, for 1895.

CHARLESWORTH & Co., Heaton, Bradford.—Select list of Orchids.

LONDON SEED TRADE.

April 9th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a good enquiry for Clover and Grass seeds. Trefoil dull; all other articles steady.

COVENT GARDEN MARKET.

April 10th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples.....per bushel	3 0 9 0	Grapes, per lb.	1 0 3 6
Nova Scotia Apples per barrel	12 0 21 0	Pine-apples. —St. Michael's each	2 6 6 0
Cob Nuts and Filberts, per 100 lbs.	18 0	Strawberries, Nobles, per lb.	2 0 3 0
		Other varieties, per lb.	3 0 6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes Globe doz.	3 0 6 0	Lettuces ...per dozen	2 0 0 0
Beans, French, per lb.	2 0 2 6	Mushrooms, p. basket	1 0 1 6
Beet..... per dozen	2 0 3 0	Onions.....per bunch	0 4 0 6
Cabbages ... per doz.	3 0 4 0	Parsley ... per bunch	0 6
Carrots ... per bunch	0 6	Radishes... per dozen	1 6
Cauliflowers.....doz.	3 0 6 0	Seakale...per basket	2 6 3 0
Celery.....per bundle	1 6 2 0	Small salading, punnet	0 4
Cucumbers .....each	0 3 0 9	Spinach .....per lb.	0 6
Endive, French, doz.	2 6 3 0	Tomatos..... per lb.	0 6 1 0
Herbs .....per bunch	0 2 0 6	Turnips ..... per bun.	0 6
Horse Radish, bundle	2 0 4 0		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d. s. d.		s. d. s. d.
Arbor Vitae (golden) per doz.	6 0 12 0	Ferns, invar., per doz.	4 0 18 0
Aspidistra, doz.....	18 0 36 0	Ferns, small, per 100	4 0 6 0
" specimen plants	5 0 10 6	Ficus elastica, each	1 0 7 0
Azaleas, each	3 0 4 0	Foliage Plants, var., each	2 0 10 0
Cinerarias, per doz.	9 0 12 0	Hyacinths, per doz	9 0 12 0
Cyclamen, per doz.	9 0 12 0	Lycopodiums, doz.	3 0 4 0
Dracaena, various, per doz.	12 0 30 0	Marguerite Daisy, per doz.	6 0 12 0
Dracaena viridis, doz.	9 0 18 0	Myrtles, doz.	6 0 9 0
Erica, various, doz....	9 0 18 0	Palms in variety, each	1 0 15 0
Euonymus, var. doz.	6 0 18 0	Palms, Specimen ...	21 0 63 0
Evergreens, in var. doz	6 0 24 0	Primulas, doz.	4 0 6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum Lilies, 12 blms.	5 0 6 0	Pyrethrum doz. bun.	2 0 4 0
Azalea, doz. sprays	0 6 1 0	Roses (indoor), doz.	0 6 1 0
Asparagus Fern, bun.	2 0 3 0	" Tea, white, doz.	1 0 2 0
Bouvardias, per bun.	0 6 1 0	" Yellow, doz. ...	2 0 3 0
Carnations doz. blms.	2 0 3 0	" Safrano (English), doz. ...	1 3 2 0
Double Daffodils, doz. bchs.	3 0 4 0	Roses (French), yellow, doz. blooms	1 6 2 0
Single Daffodils, doz. bchs.	4 0 6 0	Roses (French), red, doz. blooms. ...	2 0 2 6
Eucharis ...per doz.	4 0 6 0	Smilax, per bunch ...	4 0 6 0
Gardenias ...per doz.	3 0 4 0	Stephanotis, doz. sprays	4 0 6 0
Geranium, scarlet, doz. bunches	6 0 8 0	Tuberoses, doz. blooms	0 4 0 6
Lilac (French) per bch.	5 0 6 0	Violets (English) doz. bun.	1 6 2 6
Lilium longiflorum per doz.	4 0 6 0	Violets (French) Parme, per bun.	2 6 3 0
Marguerites, 12 bun.	1 6 3 0	Violets (French) Czar, per bun. ...	2 0 3 0
Maidenhair Fern, 12 bs.	4 0 6 0	Violets (French) Victoria, doz. bun.	2 6 4 0
Orchids, doz. blooms	1 6 12 0		
Pelargoniums, 12 bun.	6 0 9 0		
Primula, double, doz. sprays	0 6 1 0		
Poinsettia, doz. blooms	4 0 6 0		

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FLOWER SHOW FIXTURES, 1895.

April.

18.—Norwich Spring Show.
23.—R.H.S Auricula, Primula and Narcissus Show.
24.—Royal Botanic Society's Spring Show.
24.—Chesterfield Spring Show.
24, 25.—Birmingham Daffodil Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

May.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

June.

3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

July.

3.—Southampton Spring Show.
2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

August.

3, 5.—Southampton Summer Show.
13.—R.H.S. Drill Hall Meeting.
14.—Bishop Stortford Flower Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

September.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

October.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

November.

1, 2.—Chrysanthemum Show at the Crystal Palace.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.

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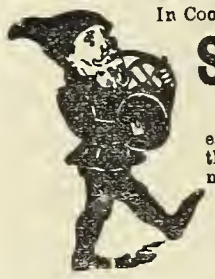

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From Mr. R. G. MILNE, Gardener to the Earl of Minto. Aug. 2nd.

"I am glad to say the BEGONIAS have done splendidly; they are by far the best strain we have. They were greatly admired by all that saw them."

From SIR R. DICK CUNYNGHAM, BART., Cheltenham. Oct. 6th.

"On my return home, after a long absence, I am much pleased to find the bed of nearly four hundred BEGONIAS still full of flowers. The double ones in the house are a show for colour, size and beauty of shape."

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, APRIL 20th, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, April 22nd.—Sale of Plants, Bulbs, etc., at Protheroe & Morris' Rooms.

TUESDAY, April 23rd.—Royal Horticultural Society, Meeting of Committees at 12 o'clock.
National Auricula Society's Show.
Sale of Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, April 24th.—Royal Botanic Society's Spring Show
Chesterfield Spring Show.
Birmingham Daffodil Show (2 days).
Newcastle-on-Tyne Spring Show (2 days).
Sale of Palm Seeds, etc., at Protheroe & Morris' Rooms.
Sale of Orchids at Selwood, Rotherham, by Protheroe & Morris (3 days).

FRIDAY, April 26th.—Sale of Orchids at Protheroe & Morris' Rooms.

TECHNICAL INSTRUCTION IN THE COUNTIES.—The spread of technical education throughout the length and breadth of the country, mainly through the agency of the County Councils, is a pleasing sign of the times. The practical part of agriculture and horticulture is only one side of the question, and at best but a slow expedient, seeing that under ordinary circumstances so many years of plodding labour are necessary for a gardener or farmer, but particularly the former, to acquire anything like an efficient knowledge of the requirements of his profession. There are still many people of good intention who cannot see the value of technical or scientific instruction, and who overlook or fail to see what connection there is between science and practice. Those who go to the root of the matter, however, soon find it impossible to separate an accurate knowledge of plant life from a thorough training in the fundamental principles underlying all cultivation. This means a knowledge of the anatomy, physiology and affinities of plants, their likes, dislikes and capabilities, all of which belong to the domain of botany, whether treated from the gardener's or agriculturist's standpoint. A scientific knowledge of plant life enables the cultivator to hit upon many expedients which he would otherwise be unable to do; it sharpens his wit, trains the mind to habits of correct observation, enables him to reason from cause to effect, and to surmount many difficulties which, to a man with a merely practical knowledge of his profession, would seem insurmountable. He might be very successful in one district and yet be unable to carry his practice to a successful issue in another, owing it may be to lack of expedients under the changed circumstances.

The establishment of agricultural and horticultural schools and colleges in various parts of the country is one good step towards a solution of the question of technical education; but if the fees are to be prohibitive to the industrial classes generally, the advantages will be limited to the comparatively wealthy, and can hardly meet the requirements of any given district or county, so as to make their influence felt amongst the community at large. As far as we know, the County Council of Essex is unique in its liberality towards the students and others who attend the various classes in the different towns and villages throughout the country, but particularly in the case of students who are brought together at Chelmsford. Here there is a central laboratory at which lectures are given in agricultural botany, agricultural zoology and other subjects with demonstrations and practical work with the microscope. During the past session lectures in agricultural botany were given from 11 to 12 noon, after which the demonstrations and practical work were continued till 5 p.m. A few lectures on practical horticulture as applied science together with demonstrations in grafting and other methods of propagation, potting, pruning and seed sowing, were added to the course, and this branch of instruction is to be extended. The students at the central laboratory are drawn chiefly from those engaged in agricultural and horticultural pursuits; and not only is the instruction given free of charge but part of the railway fare is paid for those who come from a distance. The students of the county are therefore under exceptional advantages, as compared with those of similar institutions coming under our notice. Lectures are also given to fishermen in some of the towns or villages round the east coast to advance the cause of the marine industry. A mid-monthly bulletin, under the name of *Biology Notes*, is issued, free of cost, by the County Council to all who attend the biological classes, and to various others resident in the county.

The Yorkshire College at Leeds had a new College Hall opened last October for the admission and instruction of students, but the fees rule very high and must be a bar to many of the industrial classes who would be most likely to benefit from the instruction. There are three schemes for courses in agricultural science, namely, a two year's course, a one year's course, and winter courses, the latter intended for those actually engaged in farming. A session would last from October to June, and is divided into three equal terms, the fees for each of which vary from £25 to £29 10s. Amongst the subjects taught are chemistry, physics, mathematics, botany, geology and surveying, but not horticulture, which is to be regretted. The authorities, however, recognise the value of botanical

teaching in connection with agriculture, and practical work is carried on rather extensively in the laboratory. Botany includes elementary anatomy, physiology, the nutrition of plants, diseases of plants, and descriptive botany, together with the systematic classification of plants belonging to the principal natural orders, with special reference to the pasture and meadow grasses.

Horticulture receives more special attention at the Horticultural College, Swanley, Kent, where the institution is partly kept up by grants devoted to the purpose of technical instruction. A number of the best students are assisted by scholarships. Here again the various cognate sciences having a bearing upon horticulture and the sister industry, agriculture, but more particularly the former, are recognised. Botany includes theoretical and practical work, the latter consisting of microscopic manipulation of plants together with demonstrations in the garden. Both in Kent and Essex there are numerous women students and teachers or instructresses. The fact cannot be overlooked that the advantages of technical instruction are being extended to various sections of the community, and must make their influence felt in proportion as the area and scope are extended so as to reach the greatest number, and the terms are within reach of all would-be students.

Mr. T. A. Glover, late gardener at Manor House, Wallington, has been engaged as gardener to F. Macmillan, Esq., Temple Dinsley, near Hitchin.

Mr. D. Sheppard, for the last thirteen years with Lord Sudeley, has been engaged as gardener and forester at Rostellan Castle, co. Cork.

Mr. J. J. Gribble, late of the Royal Gardens, Kew, has been appointed gardener to — Tapp Esq., The Gables, Shortlands, Kent.

Edinburgh Junior Horticultural Association.—At the last monthly meeting of this Society, at which Mr. W. G. Smith, B.Sc., Ph.D., presided, two very interesting papers were read. The first by Mr. Jobson, of Meadow Park Nurseries, on "Hard-wooded Plants for Spring Flowering," and the second by Mr. C. Mackenzie, of Warriston Nurseries, on "Decorative Palms." Both the essayists dealt ably with their subjects. There was a good attendance of members, and a lively discussion followed the reading of the papers.

Death of Mr. J. W. Thomson.—We regret to hear of the death at Hayward's Heath on the 28th ult., in his 91st year, of Mr. John William Thomson, formerly a nurseryman at Hammersmith and Penge, and whose connection with gardening extended back to the reign of George IV, he having commenced his horticultural career in the Royal Lodge Gardens at Windsor, in 1819. Mr. Thomson was born at Attingham Hall, near Shrewsbury, where his father was gardener to the Earl of Berwick, as his grandfather had been before him. While at Windsor, a great deal of the laying out and planting around Virginia Water was carried out under his superintendence, and after several years' stay at Windsor he went under Mr. Aiton to the Botanic Gardens at Kew, whence he subsequently went to Syon House as gardener to the Duke of Northumberland, whose Duchess was governess or preceptor to the then young Queen Victoria. In 1833 Vanda teres flowered for the first time at Syon, and the young Queen had the first bouquet of this lovely Orchid ever made in England. Mr. Thomson many years ago went into business at Hammersmith, and subsequently went to Penge, which place he left for Hayward's Heath, Sussex, in 1876, and of late years has practically lived there in retirement, his extensive glass houses being allowed to go to rack and ruin.

Phylloxera Devastations in the Gironde Vineyards.—Consul Ward writes:—"Since the first appearance of the Phylloxera in the Gironde department some fourteen years ago up to the middle of 1894, it has entirely destroyed 127,438 acres of vine-growing land, while a further area of 205,513 acres of vineyards has been more or less infested without its having been found actually necessary, as yet at least, to root up the Vines therein. A small proportion of these 205,513 acres, viz., 57,642 acres, has been and is still subjected to preventative treatment, consisting either in submersion, or in the application of sulpho-carbonate of potassium or of sulphuretted carbon; but the remaining 147,871 acres of infested vineyards have not been, and are not being treated at all. Only 93,115 acres of wine-producing land have accordingly, so far, remained entirely free from the inroads of the Phylloxera worm in the Gironde. On the other hand, the total area of new Vine plantations made in the Gironde during the period above referred to has reached 86,220 acres, of which 80,650 acres consist in Franco-American Vines (*i.e.*, American Vines grafted with French varieties) and 5,570 acres in direct-producing American Vines. Adding these above-mentioned figures, viz., 93,115 acres not attacked by Phylloxera hitherto, 205,513 acres infested but not destroyed by Phylloxera, and 86,220 acres new Vine plantations, it will be found that the present aggregate area of vineyards in this department is 384,850 acres, that is to say, very nearly the same as it was stated to have been in 1893. Inasmuch, however, as the area of vineyards entirely destroyed by the Phylloxera during the twelve months 1893-94 is known to have been very considerable, the fact of the total area of vineyards in 1894 having been nearly the same as those for 1893, tends to prove that the extent of new plantations made in 1893-94 in the Gironde must likewise have been considerable.

Death of Mr. W. S. Kimball.—It is with deep regret that we announce the death of W. S. Kimball, Esq., of Rochester, N. Y., who died on March 26th, after an illness of one week, at the Princes Ave. Hotel, Virginia Beach, Virginia, where he had been staying during the winter. Deceased has held a prominent position in floriculture for many years, and his genial disposition and kindliness of manner toward those who came in contact with him in this particular line will long be remembered. Since the sale of the then famous collection of choice plants and Orchids at South Amboy, N. J., at which Mr. Kimball was a large purchaser, his name has figured prominently in this country and also in Europe as a connoisseur and buyer of the rarest Orchids, and from time to time, until his death, valuable specimens have been added to his collection, so that now it ranks as one of the best in the world. It is in charge of George Savage, who has been in the employ of the deceased gentleman for several years.—*Florists' Exchange.*

Market Gardening in the Evesham District.—Among the witnesses recently examined before the Royal Commission on Agriculture was Mr. J. K. Woodward, market gardener, of Evesham. He stated that the market gardens of the Evesham district extended to nearly 8,000 acres, mainly cultivated as spade industry, and all planted with fruit trees and bushes, Asparagus, &c. Most of the land in the district was suitable for market gardening, and there was a great demand for small holdings for the purpose. Market gardens were usually held on yearly tenancies, but a few leases existed for terms of five or seven years, although there were exceptional cases where leases extended to twenty-one years. Owners were not in favour of granting leases, and in many instances refused them altogether; but where granted a higher rental than that paid by the yearly tenant was invariably asked. He had never seen any clause in an agreement enabling a tenant to claim compensation for improvements—*i. e.*, for planting fruit trees, fruit bushes, Asparagus, &c.; artisan gardeners were not generally informed upon their taking a farm that if they planted fruit trees, &c., they would do so at their own risk, but they were protected to some extent by the custom of the country. The rents of market gardeners had not been reduced, and there was no depression amongst market gardeners. Very little market garden land was let at less than £4 per acre, rents of £5 to £7 per acre were not uncommon, and some land let even higher. Evesham was favoured by having two large systems of railway service, placing it in direct communication with most of the large manufacturing districts, but the preference rate given to foreign produce was considered a great hardship. Another grievance was that the rate for lots of two or three hundredweight was nearly double *pro rata*, that of a two-ton lot. A custom prevailed on most estates in the Evesham district whereby a free sale of all tenant-right was permitted, the landlord requiring that the incoming tenant should be sufficiently substantial. The outgoing tenant fixed his own valuation, and on finding a purchaser both went to the landlord or his agent and the name of the incoming tenant was substituted on the rent-roll.

THE ROSE AND CLEMATIS.

Having had some most charming combinations of beauty and colour from these two flowers, and knowing that there must necessarily be many gaps among our Roses after the late frost, I would suggest a few of these to my readers. Wherever blanks occur in beds of Roses we can plant Clematises of the Jackmanni type. Here we have a choice of colour from pure white to deepest purple and blue. They will grow and flower well the first season, and also come into their chief beauty after the main crop of Rose bloom is passed. Walls, fences, pillars, as well as beds and borders may be beautified in this way. A change of flower and colour is gained, while the cost of Clematises is very little if any beyond that of pot Roses, and I fear many of us must look to these for our blank spaces.

Apart from this there is no reason why the two flowers should not be combined. Take the pillar Roses for example. These flower well once in the summer, but are comparatively bare of bloom in August and September. Now it is just at this period when the Clematises are simply gorgeous, and the apparently careless and natural manner in which they clamber among the spent Rose growth is most charming. Each will grow in the same soil, and enjoys the same treatment, while neither can harm the other in any way. I would always keep to the Jackmani type, because these are practically herbaceous. This allows of our cutting out surplus wood of our Roses in spring without the least fear of harming any growth of the Clematis. A thinner show of Rose wood upon our pillars and arches than is generally found would be a decided advantage. Far better to have less wood and all of the desired kind, than to retain the tangled mass too often found. Take the precaution of earthing over or moulding up the base of both Roses and Clematises, and at the return of early spring scatter a little soot or lime around the latter as protection against slugs, who are very fond of the young growths. Rambling among our Roses on walls and fences, too, the many colours of Clematis impart a pleasing autumnal and late summer effect, where we should otherwise have a comparative dearth of flowers.

In beds of strong-growing dwarfs, also, more especially those used for pegging down, I would employ the Clematis for its autumnal display. Where ample room exists, a grand effect is gained by planting a bed of Roses with one variety of Clematis—say Duke of Edinburgh for the Rose and Jackmani superba for the Clematis. Here we get the glowing scarlet of the Rose through June to July, and the deep purple of Clematis from then until frosts are with us. A very little thought in arrangement will give us flowers from June until October with these two flowers alone. We may so arrange our small beds upon lawns or by the sides of drives that the colours of Roses assist the effect of each other, and are followed by Clematises which will make similar foils and contrasts. These pegged down Roses are beautiful for a few weeks only, after which the flower is gone and only growth remains, except for here and there a stray blossom. Vigorous and upright growths spring from the base and give a somewhat rough appearance to our beds, but if we have a few Clematises among these, the growths will not only run among the lower branches of Roses, but also climb several of the upright stems, and these impart a most artistic and pleasing effect for the rest of the season. We use these flowers in combination over bowers and summer houses, but too often fail to follow out the same idea apart from these structures.

Cut away the old wood, both of Roses and Clematis in the spring; give a good mulch of thoroughly decayed manure, and then fasten the maiden wood into the desired horizontal position. Give a dusting of lime or soot to protect against slugs in the case of the Clematis and no more trouble need be taken until the next spring. A beautiful and almost certain show will thus be secured all through summer and autumn, with a most delightful change of colour and form. At first, when the Roses are in flower, the beds will be comparatively level or flat; afterwards, both Rose and Clematis will rapidly impart a broken form that is sure to be pleasing.—*Experience.*

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned subjects were awarded certificates according to merit by the Royal Horticultural Society on the 9th inst.:—

AMARYLLIS DORIS.—The large and widely funnel-shaped flowers of this variety are notable for their intense crimson colour. The lower half of the flower is possessed of a glowing and glossy sheen. There were two scapes from one bulb bearing eight flowers in the aggregate, and all of handsome size. Award of Merit to Messrs. J. Veitch & Sons, Chelsea.

AMARYLLIS CHIMERE.—The flowers in this case are widely bell-shaped with scarcely any tube. The three outer segments are very broad, rounded at the end, and the smaller ones are imbricated over them. All are white with a few deep red lines on either side of the midrib of the upper segments, the lower one and half of two others being white. It is a very telling and attractive flower, and one of the best of the light kinds. Award of Merit to Messrs. J. Veitch & Sons.

ATACCIA CRISTATA.—The leaves of this striking, weird-looking and remarkable plant, popularly called the "Witch of Endor," are oblong, ribbed on each side of the midrib deep green, and furnished with long, purple petioles. The flowers are brown and borne in clusters on stems rising from the rootstock. Numerous thread-like and pale lilac or pale purple bracts hang down from amongst them, and above all rise two large leafy bracts of a pale straw colour, shaded and netted with pink and purple at the base. These bracts earn for the species the name of the Witch Plant. First-class Certificate to Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

ANTHURIUM COMPACTUM.—In this we have a variety of A. Scherzerianum with concave and nearly orbicular spathes, cordate at the base, apiculate, and beautifully marbled, mottled, and marked with scarlet on a white ground. The white predominates on the upper surface, but the scarlet on the back. Award of Merit to Sir Trevor Lawrence, Bart.

CLIVIA THE RIGHT HON. JOSEPH CHAMBERLAIN.—The flowers of this variety, borne in large massive umbels, are bell-shaped with a large lamina and revolute segments of a deep rich orange. The throat is clear yellow internally. Award of Merit to Messrs. J. Laing & Sons, Forest Hill.

SAXIFRAGA BOYDI ALBA.—The leaves of this plant are subulate and arranged in small rosettes forming dense cushions. The white flowers are borne on scapes about 2 in. high, and which produce about three or four blooms on a cyme. The plant resembles S. Burseriana, but the latter has smaller leaves and only one flower on a scape. Award of Merit to Messrs. Paul & Son, Cheshunt.

SOME USEFUL PLANTS FOR FURNISHING.

WHILE in the midst of propagation we must not forget the above. We have so constant a demand, both in variety and quantity, and a little care at this time will do much towards securing a stock of many useful subjects. Orchids and a few very choice things I do not propose to touch upon, but those which anyone with ordinary accommodation can grow with success. A large variety of Palms, the green and variegated Aspidistras, Ficus elastica, and some of the hardier Dracaenas are much used during autumn and winter. Several shrubs, such as the Solanum, Spiraea callosa, Deutzia gracilis, and Pernettya mucronata, are well worth a little early consideration.

Then we must have those pretty trailing subjects, of which Panicums, Tradescantias, and Selaginellas are easily propagated now, and will soon form useful plants that will do service all the season. A few small pots of Lobelia can always be utilised, and give us a much desired and scarce colour. Musk, both the common and Harrisoni, should not be overlooked. Canterbury Bells will afford a great show with comparatively little trouble and cost. Francoa ramosa is always light and graceful, and can be used in so many ways that they should always be grown. Saxifraga pyramidalis is a reliable spring flower.

Then in how many ways we can use the Lachenalia: on brackets, in baskets, groups, almost anywhere in fact. They are no trouble, never fail, and come into use year after year, and extend over a lengthened period. More use might be made of the Echeverias early in the season, E. gibbiflora and retusa being very showy and useful. Fuchsias, Heliotropiums, Begonias, Gloxinias, and also the Chrysanthemums must have attention now, if they are to be of service later on. Abutilons and Sparmanias, with Salvias, will come in as a great help in the autumn with Chrysanthemums. So, too, will Bouvardias and Eupatoriums. The more hardy and useful Caladiums, with many variegated grasses, must by no means be overlooked. Cyperuses, Isolepis, and many Ferns, Cyclamen, Primulas, Cinerarias, Coleus and heaps more may well be borne in mind, and propagated as our needs point out. To be ready for decorating of the most simple kind we must look ahead, and it is very necessary to give this matter a little thought early in the year.—*Experience.*

AMERICAN PERIODICALS

WHILST the periodicals of any subject are supposed to chronicle all the fleeting events of the days and years and to embalm them for future generations, it is the most difficult thing to remember and record the journals themselves. Many horticultural journals have lived and died in this country without having attracted the attention of a single library or collector of books. They germinated in the rich soil of expectation, bloomed in the dewy morning of enthusiasm, and collapsed when the sun rose. I believe that it is no exaggeration to say that 500 horticultural journals have been started in North America. There are about forty in the flesh at the present moment. The first journal to devote any important extent of its space to horticultural matters was the "New England Farmer," which was established in Boston in 1822, and which was one of the chief instruments in the organisation of the Massachusetts Horticultural Society. Its first editor was Thomas G. Fessenden, author of the "New American Gardener," a book which appeared in 1828, and passed through at least six editions. The "Horticultural Register and Gardeners' Magazine," established in Boston in 1835 and edited by Fessenden and Joseph Breck, and Hovey's Magazine were probably the first distinct horticultural periodicals. The former, although a magazine of more than ordinary merit, did not persist long. The latter was founded by C. M. Hovey and P. B. Hovey, Jun., and was called the "American Gardeners' Magazine and Register of Useful Discoveries and Improvements in Horticultural and Rural Affairs," a journal which, in the third volume, became the "Magazine of Horticulture," and which enjoyed an uninterrupted existence until 1868, thus covering a third of a century of the most critical and interesting period in American horticulture.

The next important journalistic venture was A. J. Downing's "Horticulturist," begun in 1846, and continued under many changes and vicissitudes for some thirty years, and still represented, in line of descent, by "American Gardening." It has been published in Albany, Rochester, Philadelphia, and New York. The first seven volumes were edited by A. J. Downing; the eighth and ninth by Patrick Barry; the tenth by Barry and J. J. Smith; the eleventh to fourteenth by J. J. Smith; fifteenth and sixteenth by Peter B. Mead; seventeenth and eighteenth by Mead and G. E. Woodward. Later it was continued by Henry T. Williams, in New York, until the close of 1875, when the "Horticulturist" was united with the "Gardeners' Monthly," of Philadelphia. This latter magazine started January 1st, 1859, as a quarto, but became an octavo with its second volume. It continued until the close of 1887, when upon the death of its publisher, Charles Marot, it passed into the hands of "American Garden," New York It had a long and useful career under the editorial management of one of the most accomplished and conscientious of American horticulturists, Thomas Meehan, whom all the younger generation has learned to love. The "American Garden" itself was a continuation of the "Ladies' Floral Cabinet." In November, 1891, "American Garden" absorbed "Popular Gardening," which was established at Buffalo in October, 1885, and the combined journals became known as "American Gardening." With the issue of September, 1893, the journal passed into the hands of the present owners, and the magazine type of American horticulture ceased to exist. Here, then, is a continuous line of descent from the old "Horticulturist," covering a period of very nearly half a century.

The first pomological journal was probably Hoffy's "Orchardist's Companion," a quarterly, established in Philadelphia in 1841. It was a pretentious quarto, with coloured plates, of which only one volume was issued. Other early horticultural periodicals were Warder's "Western Horticultural Review," Cincinnati, 1851 to 1853; "American Journal of Horticulture," later known as "Tilton's Journal of Horticulture," Boston, 1867 to 1871 (9 vols.); "Western Pomologist," Des Moines, Iowa, and Leavenworth, Kansas, 1870 to 1872, by Mark Miller, Dr. J. Stayman, and others. Probably the first journal devoted to any particular fruit or plant was Husmann's "Grape Culturist," St. Louis, 1869 to 1871. Upon the Pacific coast, the earliest distinct horticultural periodical was the "California Culturist," the first number of which appeared in January, 1859. This ran through four volumes, and it records the marvels of the first era of modern fruit-growing upon the Pacific Slope. The "California Horticulturist" was established in 1870, and ran through twenty half-yearly volumes, when, in 1880, it was merged into the "Pacific Rural Press," which is still in active existence. The current periodical literature calls for no comment here, except to remark that pomology—the one distinctive feature of American horticulture—has no journal devoted to its interests, and that the first successful attempt to establish a weekly, after the pattern of the great English journals, was "Garden and Forest," which appeared in New York, in 1888, under the management of Professor Charles S. Sargent, of Harvard. The country is now represented by four trade journals, two devoted to floriculture, one to the nursery trade, and one to the fruit trade.

America has never been favoured with horticultural annuals to the extent to which England and other countries have. The first attempt of the kind seems to have been Woodward's "Record of Horticulture," edited by A. S. Fuller, which appeared in 1866 and 1867. The next venture was the "American Horticultural Annual," New York, for the years 1868, 1869, and 1870. The attempt was not made again, so far as I know, until I established "Annals of Horticulture" in 1889, and which has now run through five volumes.—*Florists' Exchange.*

BOUGAINVILLEA GLABRA.

IN the days of "specimen plants" and collections of "stove and greenhouse," this grand subject usually found a place, and was sometimes seen—as inferred at p. 501—a miserably distorted specimen. The finest plant that I ever saw was exhibited by Messrs. Jackson, of Kingston, at the Brighton Pavilion some twenty years ago. Many of the so-called stoves are so small and cramped that there is not sufficient space to do full justice to this fine subject; consequently it is grown as a pot plant, and so closely tied in that it cannot make growth sufficiently strong and plentiful to bloom satisfactorily, therefore it is vexing as well as useless to attempt its cultivation in such structures. Classed as a stove plant, and hailing from a warm locality, calls to my mind how remarkably well it succeeded in a lofty conservatory at an establishment I served in some years ago. It was planted in the corner of one of the beds, and trained up an iron supporting column. The lower part, of course, was only stem, but it produced an abundance of growth at the top, near the roof glass, where it got rather warm during the summer time, and well ripened the growth, so that it flowered splendidly: in fact we could cut barrow-loads of fine sprays. It was pruned in close during the winter, and the bed in which it was planted contained large Tree Ferns and Palms, but the head of the Bougainvillea towered well above them, so that it had the benefit of all light and sunshine. The soil was composed of turfy loam, peat, and sand, was efficiently drained, and received copious supplies of water during the summer; the structure being occasionally fumigated to keep down green fly. Just outside of the wall of the bed in which it was planted ran some hot-water pipes, which undoubtedly warmed the soil in which it was planted. I should have been sceptical as to the adaptability of the Bougainvillea glabra for conservatory adornment, thinking that the temperature would not be sufficiently high for its welfare, but having seen and admired that plant I should have no hesitation in utilising it could I but allow it a similar structure.—*Pathfinder.*

BEDDING PANSIES AND VIOLAS.*

In 1862 Mr. James Grieve, manager to Messrs. Dicksons & Co., Edinburgh, began to cross the show strain of the garden Pansy with Viola lutea, which grew upon the neighbouring Pentland Hills, and the following year he continued his work with V. amoena and V. cornuta. In the course of time he raised Bullion, Virginalis, Holyrood, and Grievei, which are still popular and largely grown. Some little time before this Mr. John Wills, when at Huntroyde, perceived the value of V. cornuta as a bedding plant, and although the plant had been introduced from the Pyrenees in 1776, yet its decorative value had been overlooked till Mr. Wills made it exceedingly popular. Some years after this, Mr. Fleming, gardener to the Duke of Westminster, Cliveden, made his name well known amongst the gardening fraternity through the raising of several varieties which were popular in their day. V. grandiflora, a large yellow form from Switzerland, was also utilised to gain new varieties. With exception of V. cornuta all of the above are simply wild forms of the Pansy (V. tricolor) of perennial duration, with a dwarf, procumbent habit, and the property of throwing up numerous suckers from the rootstock and a succession of bloom during the greater part of the season. Those of this parentage and habit had oblong or oval flowers, not circular, and were termed Violas. Several of the free-flowering Pansies were also utilised for garden decoration under the name of bedding Pansies. V. cornuta is a distinct species, and from it several fine forms were raised, including Perfection, Enchantress, and Magnificent; but after enjoying some years of popularity they were gradually neglected and lost with exception, perhaps, of Perfection, which is still more or less used as a breeding parent on account of its habit. The reasons for this were, to a considerable extent, owing to its lateness of blooming, as it seldom makes any display before June, and because the more variable and showy bedding Pansies made a stronger bid for popular favour.

For many years the true Violas were neglected or so intercrossed with Pansies that the popular bedding forms were more Pansies than Violas. The habit of the latter was retained as much as possible, but the flowers approached the circular form. The habit was also to a great extent lost, and although the name Viola was retained many gardeners and amateurs asked in vain for a distinction between Pansies and Violas, for in truth there was none except in the case of a few still very much cherished varieties. Amongst the numerous varieties at present grown a large number require weeding out to make way for the newer kinds with the true Viola habit.

Rayless and Miniature Violas.

In 1887 a chance seedling turned up in the garden of Dr. Stuart, Chirnside, Berwickshire, and which then and now has proved of exceeding interest and has been named Violetta. It is of dwarf, continuous flowering habit, small, deliciously fragrant and white with a yellow blotch on the lip, but entirely without rays or streaks on any part of it. The same raiser also worked upon Viola cornuta Perfection, a large white one named Countess of Hopetoun and possibly some others. One of the best of his early productions was Sylvia, a large, creamy-white and rayless sort. We have now many rayless varieties, a large and a small-flowered race, the former represented by Sylvia and the latter by Violetta. The latter name means a small or miniature Viola, and, curiously enough, is the Spanish name for the Pansy. A rayless Viola may be of any colour, but must have neither rays nor blotches in the centre, though the eye may extend down the lip in the form of a yellow or golden blotch.

Many raisers, both professional and amateur, mostly living north of the Tweed and Cheviots, now emulate each other in the production of new and improved varieties of Violas, so that they were never more popular nor more extensively grown than at the present day. Annual shows are held in Scotland for Pansies and Violas. More recently, the London Pansy and Violet Society has been formed for the encouragement of Pansies, but more particularly fancy Pansies and Violas, and a show is annually held in June. A Viola Conference was held at Birmingham on the 3rd August, 1894; and on that occasion it was resolved to merge the large rayless Violas with the ordinary kinds, while it was also resolved to keep the small rayless strain distinct under the name of Miniature Violas.

The properties of Violas as explained by the chairman of the conference, Mr. William Cuthbertson, were that no severe standard should be laid down as to form, but anything that was intrinsically beautiful would commend itself. Well balanced and graceful flowers would be accepted whether circular, oblong, or oval. Large size is not desirable, but colour and substance are essential. It may here be noted that self colours of various hues and intensity constitute a large proportion of the most popular varieties. Striped, splashed, and blotched varieties find considerable appreciation and are termed fancy Violas. Those in which the dark colour is confined to the margin are spoken of as edged varieties.

The ideal properties of the miniature, type as defined by Mr. George Steel, Etal, Cornhill-on-Tweed, were that the form may not be circular, but may be narrow and more oval, smooth, and of good substance. The colours should be bright, uniform, or shaded, or edged, but not rayed; and the gold or orange eye may extend down the lip forming a blotch. It may be observed that in white varieties all colours have been eliminated with exception of that of the eye which the florist has never been able to pick out. Fragrance is recognised as an essential; size is allowed to vary from 1 in. to 1½ in., but neither above nor below the range of those figures. The habit of the plant should be dwarf, bushy, short-jointed, and the flower stalks of good length.

Cultivation.

Those who make their acquaintance with Pansies and Violas in the north, and afterwards undertake their cultivation in the southern counties of England, soon become impressed with the fact that they dislike a dry and sunny climate. In the wild state they affect hilly and upland districts where they enjoy a cool and comparatively moist climate. This to a great extent will account for the number and success of the cultivators in Scotland, and not actually their choice nor superior cultivation. Climate then is the most troublesome factor with which we have to contend in the cultivation of this most varied and showy class of garden flowers. Generally speaking, soil is a secondary matter, provided it is sufficiently moist to carry them through the drought of summer. Choice should therefore be made of a cool situation to plant them where they will be shaded from the heat of the midday sun; but failing that, means may be taken to protect them from the injurious effects of drought.

The ground should be deeply dug or trenched, preferably in autumn or early winter and well manured at the same time. The manure may be kept within 6 in. of the surface or thoroughly incorporated with the upper foot of soil. Should the natural material be thoroughly bad, either sandy or clayey, then about 12 in. or 18 in. of it may be removed and replaced by a compost consisting of four parts of good loam, one of rotted leaves, and one of stable dung with some sand if considered necessary, and all well mixed together.

March is the best time to make the principal plantations, so that when the weather permits, and the soil is suitably dry, the latter may be levelled down and raked moderately smooth on the surface. Whether in beds or borders the plants may be inserted at distances varying from 9 in. to 15 in. according to the vigour of the varieties to be grown, the amount of ground at disposal, and the object for which they are intended. Those who grow for exhibition should allow the plants plenty of room to avoid crowding, and also reduce the number of stems from a stool to ensure vigorous growth and large flowers. It is not advisable to plant too thickly even for garden decoration, if you wish to favour continued growth and a constant succession of bloom. The modern idea of a good bed of Pansies or Violas, is to cover the ground so densely that the blooms seem like a crowd of people in Trafalgar Square, packed as closely together as their shoulders and heads will allow them, with their faces all turned one way. No wonder they hang their heads and think.

As the ground dries after heavy rains, stir the surface lightly with a hoe to prevent its getting baked or dried up with the sun. In May, or earlier if necessary, cover the ground between and around the plants with well-decayed stable manure or anything that will preserve the moisture during the equally trying months of June and July. Cocoanut fibre is a good mulching material and by no means unsightly. Horse-droppings swept off the roads, when they can be had, are even better than cocoanut fibre, because they supply nourishment as well as a prevention against drought. Keep the ground perfectly clear of weeds, and give copious supplies of water till the plants cover the ground, after which little attention will be necessary unless the summer is prolonged and exceptionally warm and dry.

Propagation.

Increase is chiefly effected by means of seeds and cuttings. Seed raising is the quickest and easiest method of getting up a stock for ordinary garden decoration and the chief means of procuring new and improved varieties. Mixed strains of seed of high quality are easily procurable from the leading seedsmen at the present day, and many varieties can be selected when in bloom equal to named kinds, and there is always a chance of finding improvements. Strains of particular kinds may also be had separately. Inferior ones from the florist's point of view will, however, generally predominate. The best kinds may be saved and propagated from cuttings, by which means you can get together a stock of good kinds that may be discarded from year to year for better types. Sow the seeds in March or April for summer blooming, putting them in pans or boxes in a cold frame. Provided you desire to save transplanting in the boxes sow thinly to allow the growth of stocky plants that may be transferred to the beds or borders when large enough, with soil upon their roots. For spring and summer flowering sow in August or early in September, and place the boxes in a cool position if the weather is still very warm, and plant out in October or defer it till March in suburban districts and particularly if the plants are small.

The only method of perpetuating good varieties true to character is to take cuttings of them, and plants so raised always give larger and finer flowers than old plants or divisions of the same. Procure cuttings of the side shoots that have not flowered, or better still, pull up the young suckers that come from the base or from the soil around the mother plant, and which will often be rooted like the Irishman's cuttings. This may be done at any time from March till the beginning of October, omitting June and July when drought prevails. It is often very advantageous to take cuttings of Pansies at various times to ensure a succession, but Violas need only be propagated in August or September, or at most in March. September is the best month, more particularly in exceptionally dry seasons like 1887 and 1893, when, if done earlier, many of the cuttings will die off in large numbers under the best of treatment, owing to the injurious effect of an arid atmosphere and the weakening influence of mildew. Insert the cuttings in boxes in a mixture of sandy soil and leaf mould, and stand them in the shade of a north aspect wall. Otherwise you may dibble them into similar soil in a cold frame facing the north, or even at the foot of a wall in the open, shading them for a few days according to the amount of sunshine. Water them overhead with a rose-watering pot late in the afternoon before they get very dry. They give very little trouble in moderately moist weather or with heavy dewfalls at night.

(*To be continued*).

* A Paper read by Mr. J. Fraser at a meeting of the Ealing and District Gardeners' Society on the 5th March.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Orchids from Rosemount, Perth.—A box of Orchid flowers has reached us from Mr. James Lindsay, gardener at Rosemount Gardens, Perth. Amongst others were some beautifully coloured varieties of Odontoglossum crispum, bearing from ten to fifteen flowers on a spike, and flowering for the first time. There was a remarkable absence of blotches on them, some small, brownish-red markings on the lip being all the colouring taking this form of arrangement. The sepals were beautifully tinted with rose, and the paler petals with lilac. The latter were broad, rhomboid, and jagged or toothed at the edges, the teeth being deepest about the middle. The column was marked with crimson. A flower of Lycaste Skinneri alba showed fine form, and was pure white with exception of a pale yellow tint on the lower part of the lip. The variety

received a First-class Certificate from the Royal Horticultural Society as long ago as 1866, but fresh importations continue to be made. Oncidium serratum is a showy and interesting species with twining stems 6 ft. to 9 ft. long, furnished with branches here and there bearing four to six large flowers. Those sent us by Mr. Lindsay were of large size and of a rich cinnamon-brown, the petals being variegated with yellow. The structure of the flowers is very remarkable, and the beautiful crisping of the petals gives interest to the whole. The species is not at all too common in cultivation. There was also a richly coloured form of Odontoglossum luteo-purpureum, the blotches and markings of which were of a dark chocolate and handsome.

The undermentioned Orchids received awards according to merit from the Royal Horticultural Society on the 9th inst.

Odontoglossum triumphans Lionel Crawshay.—Last year a small plant of this magnificent variety bearing four flowers was honoured with an Award of Merit, but now it has grown stronger, and bore six flowers when shown on the 9th inst. The sepals are elliptic, broad, and of a rich glossy brown, with the edges, tips, and a few other lines yellow. The petals are similar in form, toothed at the widest parts, with a large brown blotch on the upper half, and several on the lower more amalgamated into one than when shown last year, and variously interlaced with yellow. The lip is roundly cordate, finely toothed at the edges, and rich brown with a large yellow blotch at the base, giving the brown the form of a horse-shoe. On the whole, it is the finest of all the many forms of O. triumphans that has been seen. First-class Certificate. Exhibited by De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks.

Odontoglossum gloriosum Rosefield var., *Nov. var.*—The sepals and petals of this variety are lanceolate, drawn out to a long slender point, bright yellow, and marked all over with dark chocolate, almost black blotches, those on the petals being smaller than the rest. The lip is smaller and paler, with a single blotch in front of the crest. It is the darkest spotted or blotched form we have seen. It is flowering for the first time, and came out of Horsman's importation of 1893. Award of Merit. Exhibited by De B. Crawshay, Esq.

Laelia flava aurantiaca. *Nov. var.*—The pseudo-bulbs of this beautiful Laelia are conical, narrowed to a neck, 3 in. to 4 in. long, and tinted with purple. Each bears an oblong, leathery, solitary leaf about 4 in. to 5 in. long. Above this the flower scape rises to a height of 2 ft., bearing a shortened raceme of six to eight flowers. The sepals are oblong, recurved, the petals are similar but narrower, and all are of a soft but glowing cinnabar-orange. The lip has a curved orange tube, and an obovate, crisped, orange terminal lobe with a creamy disc extending into the tube. The colour recalls that of L. cinnabarina harpophylla, but is paler and brighter. Award of Merit. Exhibited by the Right Hon. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring.

Bulbophyllum nigropetalum.—The flowers of this species are of a dull black, covered with velvety down and remind one of a Pleurothallis, but the small ovoid pseudo-bulbs bearing one, linear, leathery leaf are those of a Bulbophyllum. The pendulous flowers are borne on one side of the scape, and have subulate sepals, broader petals, and a curious, moveable lip that passes into a luring green hue at the base. It is certainly a great curiosity. Botanical Certificate. Exhibited by the Right Hon. Lord Rothschild.

Masdevallia ludibunda.—This was originally introduced from New Grenada in 1882, and is a dwarf-habited, neat, and pretty, though not a showy species. The upper sepal is boat-shaped or very deeply concave and rich purple with a yellow edge, and a yellow tail 1½ in. long. The lateral sepals are obliquely oblong, separated very nearly to the base, very pale purple, passing almost to white at the apex, and terminating in yellow tails 2 in. long. Botanical Certificate. Exhibited by the Curator of the Royal Botanic Garden, Glasnevin.

The National Chrysanthemum Society's Catalogue.—Centenary Edition. Containing 1,000 new varieties. All the novelties. A history and complete bibliography of the Chrysanthemum by Mr. C. Harman Payne. Price, 1s.; post free, 1s. 1½d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

THE FLOWER GARDEN.

As the natural result of the generally cold and unkindly weather that prevailed during the greater part of March as well as the beginning of the present month, things are quite three weeks or a month late to what they are in ordinary seasons. Many of the hardy trees and shrubs that are usually in flower long before this are only just now commencing to open their flowers; many, alas, are still further behind, being killed outright. Some of the early-flowering Rhododendrons, such as R. praecox and R. Early Gem, are a blaze of bloom. If the beauty of these plants is to be preserved a temporary shelter should be placed about them wherever it is possible to do so, for, although the plants are hardy enough, the flowers are not so, and a few degrees of frost will effectually mar their beauty.

Continue to pay attention to the rolling of all grass upon which the mowing machine will have to work during the ensuing summer and autumn. The grass has not commenced to grow yet to any appreciable extent, but given a few gentle rains and some warm spring days and nights it will not be long in making a start. Attend to the weeding of gravel walks where this is necessary. To pick them out by hand is always the best plan, for although scuffling with the Dutch hoe is practised in many places owing to lack of time, it is not to be recommended if firm smooth walks are desired. If weeds are very numerous a watering with weed-killer must be given. In the application of this considerable care must be exercised, however, for, if it is allowed to fall upon the edges of the lawn, scorched and unsightly grass verges will result.

THE PLANTING OF EVERGREENS if not completed should be finished as soon as possible now, for the season is getting quite far advanced for this class of work, although everything being so late will allow a little time yet. Trees and shrubs which were planted last autumn as well as those which have been put out since the breaking up of the frost must be looked after for water or they will be sure to take harm, as dry weather has generally prevailed, and although we have had some dull days but comparatively little rain has fallen.

FLOWER BEDS.—Where these are empty they should now be forked up and put ship-shape in readiness for the plants that are to occupy them. If the instructions given in these columns during the autumn months has been followed, forking over will not be a lengthy operation, for the beds will have been dug deeply in autumn and any manure that was necessary applied then. If, owing to lack of time, however, this was not looked after then no time must be lost in seeing about it. Avoid making the soil too rich for Zonal Pelargoniums or they will be inclined to make gross rank growth at the expense of the display of flower which after all is the chief consideration.

HOLLYHOCKS.—These time-honoured old favourites should find a place in every garden, for their tall handsome spikes of flower are quite out of the ordinary run of herbaceous stuff. They will have been grown on under glass from plants obtained by grafting small cuttings upon pieces of their own roots in early spring and should now be nice little plants in 48-sized pots. The ground which they are to occupy should have been well manured and trenched, for Hollyhocks are rich feeders. Knock the plants out of the pots, and, without disturbing the roots any more than is unavoidable, transfer them to their positions, making the soil nicely firm about them, and giving a good watering in soon after. If treated thus they will receive no check at all and will grow away freely and come into bloom early enough to enjoy a good long flowering season before autumnal frosts intervene.

FRUIT UNDER GLASS.

VINES.—In the earliest house the Grapes should now have passed through their first colouring stages and be fast assuming that deep bluish-black hue (of course, supposing a black variety is being forced) so dear to the heart of every Grape grower as bespeaking good and tasty fruit. The atmosphere of the house must of course be kept quite dry and plenty of air must be admitted as long the temperature does not fall too low. Very little water will be needed at the root also, although it is not advisable to let the borders become too dry. Only clear water must be given, however, and a bright warm day should be chosen on which to apply it, as this will allow much of the moisture to be dissipated before nightfall. In the succession house the pinching out of laterals, which should be stopped at the first leaf, must be seen to. The temperature here should not fall below 70° Fahr. by night and may rise to 85° by day, shutting the house up in the afternoon as soon as the heat commences to decline. A little air may be left on all night on the bottom ventilators, however, as it assists in keeping the atmosphere sweet and buoyant. Tying down the growths in the latest houses will now require care. The ligatures, as before recommended, should be tied to the wire with a running knot, and thus they may be tightened or loosened as occasion requires.

PEACHES AND NECTARINES.—Under the increase of temperature, which was advised to be given the earliest house in the last calendar, the fruits should now be swelling fast assisted by the liberal supplies of liquid manure, which must now be given at each watering. Keep the syringe well at work, or during the period when the fruit is ripening and consequently a dry atmosphere is necessary. Red spider will obtain a hold, and this at a time when it is extremely difficult to deal with it. In the later houses continue the thinning of the fruit, also the tying in of the growths as they reach a sufficient size. Do not force the trees too hard, however, but air well and freely during the day, leaving a little on all night to promote healthy and vigorous growth. A night temperature of 55° Fahr. for these succession houses will be amply high enough for the present.

ORCHARD HOUSE.—This is the name usually given to a house where a mixed collection of fruits are grown but where early forcing is not attempted, things being allowed to come on of themselves. Here it is that pot fruit trees find a place, and the culture of Apples, Pears, and Plums in this way has received considerable attention of late. As a rule also Peaches, Nectarines, Apricots, and Cherries are accommodated on the walls or roof. With this heterogeneous collection of subjects, some of which stand forcing, others positively detesting it, nothing but cool treatment is practicable. The trees, however, are a little earlier than those outside and will now have about finished setting for fruit. The syringe may therefore be started to work here also, although the syringings should be given early enough in the afternoon to allow the foliage time to dry before night. The house should be freely ventilated on all favourable occasions, the employment of artificial heat not being necessary except in cases of severe frost, as a night temperature of 45° Fahr. will be quite sufficient.

HARDY FRUIT GARDEN.

OWING to the cold winds that have so generally prevailed of late, as well as to the few night frosts we have experienced, the flower buds are opening but slowly, and, indeed, do not seem to be so vigorous as usual, especially upon Apples. It is perhaps all the better that growth is slow, however, for we may thus stand a chance of escaping to a large extent the mischief done by the spring frosts, which proved so great a calamity to the fruit crop last year.

PEACHES AND NECTARINES ON WALLS.—As growth advance, disbudding must be commenced, supposing anything like fine weather to prevail. If cold winds visit us it is not advisable to disbud much as long as they remain, for these of themselves will sufficiently check vegetation. As in the cultivation of the Peach under glass, so when dealing with it on outside walls it is an exceedingly bad plan to leave the work of disbudding until the growths have attained a large size, and then to remove a large quantity at once. The check thus given to the tree cannot fail to be very great; whereas if disbudding were gradually performed, commencing before the growths had taken a great quantity of nutriment from the tree, and the weakest shoots first taken away, no damage would be done. Remove the coverings as far as possible on warm sunny days, so as to allow all the light possible to get to the tree as before advised. Watering, too, should be looked after, for vigorously growing trees will soon absorb the moisture in the strata of soil nearest to their roots, and if more is not given they will strike their roots into farther, and perhaps more uncongenial soil, in order to obtain the necessary moisture.—*A. S. G.*

HINTS FOR AMATEURS.

The Tuberous Begonia.

The lovers of gardening for its own sake, who are never more happily employed than when they are "pottering round," as some one has phrased it, their few square feet of glass, may well regard with unqualified delight the great attention that has been paid by florists to the improvement of the Tuberous Begonia, until from a somewhat ungainly and decidedly straggling habited plant, with its comparatively small and loose flowers, we have got a plant as dwarf in habit as could be desired, bearing flowers of large size, good form, and of many and brilliant hues, ranging from deepest crimson to purest white. Yellows also are not without their representatives, although up to the present we have no yellows to vie with the pinks and scarlets in excellence. Doubtless this is but a question of time.

As an amateur's plant the Tuberous Begonia takes a lot of beating, and may be seen in all its glory in many a cottage window during the summer season. As a bedding plant also it is well nigh perfection, and is, in fact, the only subject that has threatened to seriously affect the popularity of the scarlet Zonal Pelargonium as a subject for the filling of beds and borders in the flower garden. Apart from its undeniable beauty and usefulness during the growing season, the Tuberous Begonia possesses the additional merit of being very easily satisfied during the winter months. The question of heat during winter is perhaps the most serious and perplexing one with which the amateur is called upon to deal, and thus the plants which he is able to cultivate must stand cool treatment during the dull months of the year. Of all subjects the Begonia is perhaps the most easy to winter.

Plants which have been grown in pots will have been suffered to become dry, and, after all the old growths have fallen off, the pots containing the tubers will have been stored away in a shed or cellar from which frost has been just excluded. At the approach of severe frost, any plants which have been growing outside should have been lifted, the tubers placed close together in shallow boxes, and covered with sand. These boxes may have found a place upon the shelves of the storehouse, and their contents should also have passed through the winter safely. As the season is now getting on, however, no time must be lost in looking after them, if indeed they have not already received the necessary attention. All those tubers which it is intended to plant out in the flower garden should be taken out of the sand and placed in rather shallow but well-drained boxes, packing them nicely in with any light sandy soil that may be to hand. They must then be removed into a warm growing temperature, and the surface of the soil kept moistened with the syringe twice or thrice a day. Under such conditions they will soon start strongly into growth. As soon as the tubers have made a good start, and the young growths are about a couple of inches in length, they must be taken out of the boxes and planted in a bed of light rich compost, which may be made up in a pit or frame. Keep the plants fairly close, and maintain a moist growing atmosphere, and thus ensure the possession of good strong plants in readiness for bedding out as soon as all danger of frost is past, and from which a brave display of bloom may be looked for during the ensuing summer.

For pot Begonias a little more attention is necessary, although their culture in this way is also exceedingly easy. The tubers should be knocked out of their pots, and all of the old dry soil shaken away, potting them up into small pots to start them. A compost of equal parts of loam, leaf soil, and peat, with plenty of sharp sand, will answer admirably. Do not bury the tubers too deeply, only just covering them with the soil, and, above all, do not pot too firmly. Too firm potting with the Tuberous Begonia is a great mistake, for it will be found that the tubers exhibit much stronger root action, accompanied with a corresponding vigour of growth, when the soil is comparatively loose. A warm greenhouse temperature will also be an essential, together with the same conditions with regard to moisture as were recommended as necessary for those plants which were intended for use in the flower garden.

As soon as the pots have become well filled with roots, a shift into larger pots will be necessary. The compost this time should be light but rich, and thus a little dried manure may be mixed with it. Less peat should be given, and a little more loam than was recommended for the first potting. The soil may also be made rather firmer around the plants in this second potting than it was in the first. Pressure from the fingers will, however, be quite sufficient to impart the necessary firmness, and on no account should a rammer be used. In the after treatment the most important point is to see that an abundant supply of water is given the plants, for carelessness or neglect in this matter means failure as the Tuberous Begonia revels in copious supplies of water during its growing and flowering season. Shading will of course be also very necessary during bright days.

Staking, too, is a matter of no small importance, and upon its proper performance depends in a great measure the possession of shapely and well-grown plants; for the growths made are usually so succulent as to be too heavy to support their own weight unless some artificial support be given. If green painted stakes are procurable these should be used, as perhaps they are the neatest of any. Take care when inserting them in the pot, however, that their points are not allowed to pierce the tubers, as this is a manifestly harmful proceeding.

Weeding out.—It often happens that as the tubers increase in age a corresponding deterioration in the shape and size of the bloom is noted. A constant weeding-out of inferior plants should therefore be kept up, for a bad plant takes up quite as much room and in many cases much more than a good one. All plants of straggling habit, or those bearing poor and worthless blooms, should therefore be relegated to the rubbish heap without delay, as it should be the aim of every cultivator to obtain plants of dwarf habit and free blooming qualities; and it is not possible to attain this desirable end by other means than by the constant selection of the best varieties, and by the consistent removal of the inferior ones.—*Rex.*

A COLLECTION OF IMANTOPHYLLUMS.

There are some critics who urge that the name should be spelt Himantophyllum, seeing that it is taken from two Greek words, *imantos*, a leather thong (the i being aspirated), and *phyllon*, a leaf. It refers, of course, to the leathery and strap-like character of the large evergreen leaves, which are so conspicuous a feature of this class of plants. The flowers adorn the houses during winter and spring, but in greatest force and in best condition during March and April. The leaves are effective at all times of the year. A collection of varieties may now be seen in the nursery of Messrs. J. Veitch Sons, Chelsea. The plants are located in two houses, though the bulk of those in flower are staged in one of them, and present a gorgeous appearance, such as plants of this class are capable of effecting.

The plants are moderate in size, being confined to small pots, so as to get the greatest quantity in bloom from a given space. Large pots encourage a great development of foliage without a corresponding enlargement of the flowers. Feeding with liquid manure while the flower stems are being developed helps the blooms wonderfully when the root-room is restricted. Amongst the numerous varieties now in flower we noted the peculiar features of importance that render them so serviceable in greenhouses and conservatories at the present time. The large and long flowers of Excellent are deep orange, with a pale yellow throat. Alongside of it Excelsior appears of a soft orange. There is a considerable amount of white in the throat of the long, funnel-shaped flowers of Acquisition; the broader portion of the segments is warm orauge. Where large flowers of moderately dark colours are appreciated, this possesses considerable merit, but by contrast the intensely orange-scarlet flowers of Brilliant will shine forth even more conspicuously. At the same time, whether the varieties are brought into contact or not, the rich, dark green hue of the foliage shows off the blossom to the best advantage. The flowers of Marie Reimers are differently shaped from any of the above, being short, bell-shaped, and of a brilliant orange hue. A fine variety is Madame Van Houtte, with long, funnel-shaped flowers of a rich orange-scarlet; the segments are also broad and overlapping, so that they give to the individual bloom an aspect of solidity and compactness which is not to be met with in the comparatively open and starry blooms of the original and wild type, which is getting scarcer every year in cultivation as the new and improved forms increase and take its place. The bold and handsome appearance of both foliage and flowers cannot be surpassed by anything of this class for spring decoration of cool houses.

PLANTING OUT ONIONS.

The practice of sowing Onion seed under glass and of transplanting the seedlings when ready to their permanent positions outside has of late years increased considerably in popularity, and is practised and recommended by many good vegetable growers. Still, the method of sowing the seeds in the open ground is still the usual custom, simply because it possesses the merit of age. This year, however, the ancient practice of sowing outside has received somewhat of a check, and many of those growers who made undue haste in getting their seed in before the ground was properly fit will now be watching eagerly for its appearance above the soil, and in more than one case, perhaps, lamenting its non-appearance and their undue haste. Seed that was sown in boxes under glass should have furnished an abundance of strong young plants, which, if they have been pricked off into pots or boxes, will stand unharmed until the weather allows of their being planted out. Until this is done, however, it is very necessary that they should be kept as close to the glass as possible, and air given them whenever it is possible to do so.

The ground which it is proposed that they should occupy should meanwhile be thoroughly prepared before planting out is thought about. In addition to the heavy manurings which will have been given as a matter of course in the autumn, a good dressing of soot and wood-ashes must now be given, and forked well in. This will serve the double purpose of acting as a first-rate manure, and also serving to assist in the destruction of any vermin that may be present in the soil. The young plants may be taken out of the pots or boxes in which they have hitherto been growing, and with as good balls as possible, a trowel being used for planting. The distance between the plants should be about nine inches, and eighteen inches of space being allowed between the rows. A good watering-in must be given when planting is completed. Treated thus the plants will grow away without experiencing much of a check, and will soon get hold of the manure that has been previously incorporated with the soil, and fine large bulbs fit for any exhibition table will result; indeed, this is the method usually adopted for obtaining those monsters which are to be seen upon our exhibition tables during the autumn months.

Not only is this the best plan for procuring large bulbs for show purposes, but it also has much that should recommend it to the favourable notice of the holder of small gardens who wishes to make the most of every square foot of his limited garden area, for heavier crops can be procured in this manner than when the time-honoured custom of sowing the seed in the open and thinning the plants as required is practised, although its adoption may entail the expenditure of a little more time and trouble. This, however, is amply compensated for by the excellence of the material obtained.—*Beche.*

DENDROBIUM JAMESIANUM.

Of all the species of Dendrobium of the nigro-hirsute section D. formosum and D. infundibulum with their varieties are most often met with in collections, while several allied kinds turn up now and again, but are difficult to keep in good condition. D. infundibulum and its variety D. i. Jamesianum repay the cultivator's skill as well as any, and have a fine appearance when well furnished, with their large snowy blossoms and orange throat, sometimes almost scarlet. The variety under notice comes from the mountains which separate Burmah from Siam, and grows in a variety of positions according to the locality and conditions. Plants from the Arracan mountains grow upon trees, but those from the higher mountains on the borders of Siam grow upon rocks and have shorter and much stouter stems, often thickened and almost globular. The inside of the lip is rough with small elevations or outgrowths along the veins, and this circumstance, together with the different form of the side lobes, serve to distinguish the variety from the type. Owing to the high elevation from which it comes, it succeeds in a lower temperature than D. infundibulum, and when its special wants are attended to by a careful cultivator who loves his plants, it produces a considerable quantity of bloom. The accompanying

illustration shows the manner in which the flowers are produced in a dense cluster close to the apex of the stem and appear terminal. The plants are usually grown in pots, kept in the cooler end of the Cattleya house close to the glass, and well supplied with moisture during the growing season, both at the roots and in the atmosphere.

CONFESSIONS OF AN AMATEUR.

I HAVE often thought the florists' trade one really worthy the attention of a gentleman—there is something refining about it, to say nothing of the immense profits. I have thought, too, that a man of my calibre might elevate the business; I mentioned this to a Rose grower of my acquaintance, but he seemed to think I was more likely to depress it—in fact, he said something unpleasant about running it into the ground. Strange to observe the narrowness of some minds! I did not, however, make up my mind suddenly to embark in this business. My own interests (Sharps, Flattes & Co., real estate and loans), were quite absorbing, but I spent my leisure in my garden, and gleaned much information from the horticultural departments of the daily papers. When I read of the lady who made $17,000 from Violets one winter (all grown in frames, which she attended to in her leisure moments), I was fired with emulation, and the description of the De Billion wedding, which called for 143,000 Roses, 11,000 Lilies, and 44,000 yards of Smilax, using the entire crop from Boston to Denver, made me feel that there was still room for a really conscientious grower. I began, about this time, to visit all the commercial growers I could, note-book in hand, and I must own they were very willing to impart information, only, unfortunately, they used such very singular language that I found great difficulty in understanding them. For example, I went into a Carnation house one day, and noticing it was excessively hot I asked Mr. Cuttings, the proprietor, whether it was the usual temperature. He said, "Oh no, it's just about time I put a crack of air on." I said, "On what?" and he answered, with some surprise, "On the house, of course." Well, I watched him, for what a crack of air was I couldn't imagine, it sounded like a nautical term, and I assure you, upon my word, he didn't do a thing except wind up a very stiff wheel at one end of the house.

I found the same difficulty in their plant descriptions. I am (or rather, I was) much interested in Chrysanthemums, feeling sure they would be very remunerative, for all you have to do is to cut a plant up into slips, stick them into dirt, and grow them on. The greatest trouble I had with them was to train them to one stalk, which Mr. Cuttings said was the way to produce the finest flowers. He told me to stop the buds, and as the only means of stopping them, so far as I knew, was to remove them entirely, I cut the tops off all my plants. One would think this was sufficient stop for any plant, but those miserable Chrysanthemums, instead of restricting themselves to one big flower on top, immediately began to throw out weak little branches all down the stem, and before I realised what had happened my single stem plants were all bushes. This was discouraging, so I gave up any idea of prize Chrysanthemums that year, and determined to study them closely at the November shows. Mr. Cuttings and his friends were very kind here, but their manner of imparting information was very singular. I was making notes on an immense sandy-hued blossom which had attracted my wife's attention, chiefly from its strong resemblance to Herr Ruffanthumpski, the distinguished pianist, when Mr. Cuttings remarked, abruptly, "Mrs. Lafayette Smithkins is too leggy for me, and weak in the neck, too." This seemed really insulting, particularly as Mrs. Smithkins is one of our society leaders, and I was simply amazed when Mr. Grafts, another florist, remarked contemptuously, "None of that Smithkins type has any constitution, and they're eat up with rust. When do you strike Smithkins?" I said indignantly, "Gentlemen, what would you strike for?" and they answered in chorus, "Why, for exhibition blooms only—no earthly use for anything else." It gradually dawned upon me that they were speaking of the flower, not the individual, but until I became familiar with plant names I had several similar shocks. What was I to think when Mr. Cuttings informed me that Miss Tompkins was a heavy feeder, that Mrs. Smith needed bone, that Colonel Jinks was liable to be crooked, and that Dr. Fourthly had a tendency to go blind? I can not help thinking this style of naming is overdone, though of course there are occasions where it seems advisable, as in the case of my new set, to be sent out next year (J. Robinson Sharps, Mrs. J. Robinson Sharps, Miss Ianthe Sharps, and Master Beddgelert Sharps).

My studies among the trade resulted in the building of a block of modern houses, and the selection of a staff of employees. My greatest difficulty was in securing a foreman—of course I intended to supervise the entire place myself, but still a working foreman seemed a necessity. The first man selected for the place only stayed two days, owing to an unfortunate difficulty with Mrs. Robinson Sharps and the cook. It was the opinion of the latter that the foreman, not being expected to work as steadily as the other men, might very well attend to the vegetables and other errands for the house, and of course Mrs. Sharps coincided with the cook. The foreman, however, didn't; in fact he was really unpleasant, and, asserting that he was no

DENDROBIUM JAMESIANUM.

scullery maid, and wouldn't be bossed by petticoats anyway; he left on the very next train. It was annoying, for I was anxious to get my Roses planted as soon as possible, as Mr. Cuttings had informed me that I was already late for such work, it being the end of October. However, by abundance of manure and plenty of heat I had no doubt of soon catching up. I had selected American Beauty as my chief crop, having noticed that they always command such a high price, and I calculated that even at the conservative estimate of one flower a day for each plant, I should pay for my entire establishment that winter, and have enough left for a European trip besides. I must confess, however, that my hopes were not realised; every kind of bug and worm known to floriculture appeared to make itself at home in my houses, and by the time I had conquered the insect world, there wasn't anything left of those unfortunate Beauties except bare sticks. However, they were not entirely valueless, as I planted the houses with English Cucumbers, and trained the Vines over the dead Rose bushes; the effect was really unique, and I noticed that even Mr. Cuttings was evidently surprised when I took him in to look at them.

I had given some attention to the question of bulbs, as a very intelligent gentleman from Holland had given me a lot of information on the subject, and the bulbs were so remarkably cheap that it was impossible to lose much by them, even if they didn't all bloom freely. My Tulips were rather disappointing, however, as they failed to produce a succession of flowers; after cutting one crop all my efforts to start them blooming again were a failure, and I had the same trouble with Hyacinths. I suppose they were not really strong bulbs. My Bermuda Lilies didn't bloom at all. I had a difference of opinion concerning them with my second foreman. He was potting them in very rich earth, with an abundance of manure. I knew that couldn't be right, as I had seen Lily of the Valley forced in nothing but pure sand, and there seemed no reason why Bermuda Lilies should be treated differently from any other Lilies. My foreman objected strongly to this—he was opinioniated, like most Scotchmen—and he simply pulled off his burlap apron, and remarking "Do as ye like, mon, but I'll no be a pairty to starving yon puir bulbs," he left me. I thought McCulloch acted in a very hasty manner, but Mr. Cuttings has since informed me that none of the florists grow Bermuda Lilies in pure sand.

I must own that I found a great deal of difficulty in securing adequate help that really met my views. As I had entered the business with the firm intention of elevating it I did not desire the type of gardener I have so often seen about commercial establishments, who seem to have no idea of the refinement of their occupation. I tried to give my views to my third foreman, but though a most respectable young man and well recommended, he didn't seem to sympathise. He said, with unnecessary vigour, "Well, sir, if you want a lot of bloomin' livin' pictures around this place you can get 'em, but I'm looking for men that can work, and if my men are shy on culture you can bet they'll hustle when it comes down to work." His views, though crudely expressed, seemed to work admirably in actual practice, and I have always regretted that circumstances caused him to leave me.

My experience (I have certainly had experience) leads me to disagree with those who regard the Carnation as a money-making flower. I decided to grow Carnations quite heavily, as I noticed by the daily papers they brought from $2 to $4 a dozen, and didn't require any artificial heat except in very severe weather. I had some idea of growing them in frames, the same as Violets, but my Violet experience was so discouraging that I gave up the idea. Instead of growing my Violets faded away like a vision; first they became afflicted with an eruptive skin disease uncommonly like vegetable measles, and then they absolutely melted. I have heard of an ice plant, but I am quite sure the ice plant couldn't melt any faster than my Violets did. When I named the matter to Mr. Cuttings he simply told me my Violets had "the disease," and I had better burn whatever was left of them, and not replant till the next season. So my Violet frames were empty and useless until my foreman planted them with Spring Onions, Radishes, etc., which was well enough, only that my wife had christened our place "Violetsholme," and it was embarrassing to acknowledge that the Violets were chiefly Onions. But to return to the Carnations. My foreman dissuaded me from growing them without any heat, and I was amazed to find that they needed as much attention as Roses. However, I picked a few flowers in November, and sent my first consignment of 400 to Mr. Addem, the commission dealer, with a good deal of pride. I was rather shocked when my consignment slip came back, crediting me with 97 cents. I immediately went to interview Mr. Addem, and was very pleasantly received by that gentleman, but when I mentioned my Carnations he told me in a genial manner that he didn't expect to sell them at all, only he had met with a man who didn't know Carnations when he saw them. It appears, from what he told me, that commission men have a prejudice against consignments of long and short stemmed Carnations of all colours, packed loosely together in the box, and I found that if I expected to sell my flowers they must all have long stems, and be packed as tenderly as Sevres china. This must diminish the profits very seriously, although Mr. Addem tried to persuade me that there is more money in selling 100 flowers at $2.50 than 300 at 50 cents. But I was not obliged to puzzle long over the question of selling flowers; as the politicians say, I was soon confronted by a condition, not a theory. If my Violets appeared to suffer from measles, my Carnations undoubtedly had small-pox, most objectionable pustules appeared all over the leaves, and gouty-looking swellings at every joint. My foreman said they had "the disease," but this was so very indefinite that I consulted Mr. Cuttings. He pronounced it a combination of rust and purple joint. I asked him what to do, and he told me genially that I might use Bordeaux mixture for a time, if I wished—then I could throw the plants out and burn them, and be sure that the place was properly disinfected before I planted Carnations there again. This mention of disinfecting gave me an idea of antiseptic treatment, so I painted all the steam pipes with tar and then burned pans of sulphur through the houses, but this utterly failed, and the plants never rallied. I have since learned that the sulphur treatment was unwise, and that nothing will ever grow in those houses so long as there is any tar left on the pipes. This is embarrassing; it seems that my only resource is to buy a lot of incubators and turn my Carnation houses into a chicken run. I hope chickens don't mind coal tar. So my first season left my Rose houses filled with Cucumbers, Carnation houses full of chicken coops, and Violet frame full of Onions—to say nothing of my experience. I think I shall try Orchids next—it is absurd to think that an experienced man of business can not master the details of such a simple profession in time—that is, if his money holds out—although at times I doubt whether the profits are as great as the newspapers lead us to believe. I think I shall try raising new Roses and Chrysanthemums—the process is not difficult, and the remuneration very large; otherwise my outlay must be charged to profit and loss.—*J. Robinson Sharpe, in "American Florist."*

A GARDENER'S EDUCATION.

(*Concluded from page 522.*)

Upon leaving school it should not be supposed that the lad has finished his education by any means. He has only passed up among the higher boys, if I may so phrase it. He has left the school for the University, the University of life—the highest school at which any student may attend, and it now rests with him to improve upon and adapt to the exigencies of every-day-life the knowledge gained in his earlier years. I have purposely asked the opinions of successful gardeners with regard to this subject, men whom I have known to have received superior education in their younger days, and it is rather remarkable to note how closely their verdicts agree together: "that their education only commenced when they left school and passed forth into the world to make their own way."

As a rule, when a boy starts as an apprentice in a good garden it is in the *role* of crock boy. He is expected to perform the odd and menial jobs among the houses, to run errands and to make himself generally useful. This is, I think, an excellent plan, as it enables the youth to get a general idea of the kind of work going on, and prepares his mind for taking in, presently, in detail the particulars of the requisite operations peculiar to the various departments. After not more than eighteen months of this kind of work he should be moved on into the flower garden, in which he must spend at least a year, so as to get an acquaintance with the routine of work in this department. The year of probation over there, a like period should be spent by him in the vegetable and hardy fruit gardens, after which eighteen months of under-glass experience will be necessary, half of this time at least being passed in the fruit houses.

Our young friend will now emerge a full-blown journeyman, and if he has taken advantage of the facilities granted him for improvement educationally, should have rather more than an elementary knowledge of his calling. He will now be about twenty years of age, and will have pretty well developed those natural characteristics which shall afterwards determine his course in life, for it should be borne in mind that the bending of the twig often indicates the shape of the future tree. At least a year's stay in each of three good private gardens or nurseries as a journeyman gardener should now follow, for it must by no means be forgotten that to get about the country, to see fresh faces, to learn fresh ways, and to get a more extended and liberal view of life in general and his chosen profession in particular, is in itself no small part of the education of a gardener.

At any rate, any situation that our young friend takes as a journeyman should be accepted with a view to the gaining of experience that shall be the most suitable for the particular branch of the profession he intends to follow. Thus, if to be the head gardener in some nobleman's or private gentleman's establishment is his own aim, he cannot do better than keep in touch with gardens of this kind. If, however, he would prefer to become a superintendent of public parks or pleasure grounds, then a year or so in one of the London parks or in an establishment like Kew will be of inestimable service. In all cases it is well to decide upon the mark to be aimed at, and then to strive earnestly to hit that mark whatever it be. The man who, like Reuben of old, is unstable as water has this warning sounding in his ears—"thou shalt not excel"—and we all should, I think, unanimously agree in dubbing a man who wavered in his aim like the uncertain wind as a very poor tool indeed.

During all this time the standard of excellence and proficiency to which our young friend will attain, will in a great measure be governed by the use he makes of his spare time. The long winter evenings are laden with immense possibilities for self-improvement, and should not be suffered to glide by on idle wings. Attendance at science and art classes, where these are get-at-able, is a most profitable way of spending spare time, and if the studies pursued there have a bearing upon horticulture so much the better. As subjects for study at such classes, I might suggest botany, both systematic and economic, chemistry, physics, freehand and geometrical drawing, entomology, etc. The thorough and systematic perusal of several good books on gardening will be of inestimable value to the student. Works like Dr. Lindley's "Theory and Practice of Horticulture," Thomson's "Gardener's Assistant," and McIntosh's "Book of the Garden," are worth their weight in gold. These, too, should be supplemented by books dealing with special subjects. Thus, a good book on Orchids, another on stove and greenhouse plants, as well as works devoted to the detailing of the culture of vegetables, hardy fruits, etc., may be mentioned as items on a list that might be indefinitely extended. The weekly study of one of our horticultural papers is also a matter of considerable importance, as it will serve to keep the student well informed with regard to current topics, the introduction of new plants or fruits, and hints as to the cultivation of the same.

I must not forget to give honourable mention to the gardeners' mutual improvement society. Be he a young man or be he old, be he illiterate or be he learned, a novice in his profession or a practical and successful gardener, he can always gain some knowledge by consistent and regular attendance at the meetings of a good mutual improvement society, and the great popularity into which these institutions have jumped of late years is sufficient guarantee of the high esteem in which they are held by the more thoughtful element of the horticultural public. In societies of this kind the youthful member gets most forcibly impressed upon his mind

that knowledge is strength, and, as it is quite natural for a man to covet strength, he has additional inducement held out to him to follow after knowledge.

In fact, the friction of mind with mind, which is one of the inevitable results of meetings of this kind, will go a great way towards rubbing the corners of a man, and will infallibly make him a better gardener and a more useful and intelligent member of society. Besides gaining knowledge with regard to the workings of his profession, he will learn to express his own ideas logically, coherently, and in proper sequence; and the man who can do this is, rest assured, possessed of no mean qualification. Personally, I have the highest belief in the great power for good exercised by gardeners' mutual improvement associations, and would advise all, the younger men particularly, to become active members of some society or other. I say active members advisedly, for the man who takes all and gives nothing is not making the most of his advantages, and is, to say the least of it, acting a selfish part. The younger members may make excuse and say, oh, there are older men present, and it does not become me to push my opinions before theirs. Now this is a very right and proper feeling, but must not be carried too far in its application. Youth does not necessarily imply ignorance. There are some men who will learn more in five or six years than others will in a lifetime. Youth is not a crime, although we have known some people term it a misfortune, and it is one of the signs of the times that comparatively young men are to-day occupying more positions of importance than perhaps at any other period of the world's history.

We have followed the youth from the schoolroom through his apprenticeship, and seen him fairly launched at the commencement of his gardening career equipped with a considerable share of knowledge, which is of course a guarantee that he will thirst to obtain more. I suppose there never breathed a man, let him have drunk as deeply as he may at the fountain of knowledge, that was ever satisfied with his achievements, or whose thirst was ever entirely quenched; and just as this is true in a general sense, so it is true with regard to the student of horticulture. It is a profession that is never learnt, the inmost recesses of which are never explored. A man may devote the whole of his life to the systematic study of this truly noble profession, may grow grey-headed in its services, and yet be forced to admit at the end of such a useful and well-spent life that he has by no means drunk of the deepest waters of knowledge, but has yet much left to learn.

Now, supposing our young friend to have made the most of his opportunities, and his three or four years of probation as a young gardener to have been spent in the manner suggested previously, he will naturally aspire to a foreman's position. In many large gardens there are, of course, several foremen, one usually being placed in charge of a department; thus, the care of the glass may fall to the lot of one, the charge of the flower garden to another, the vegetables and hardy fruit to a third, and so on; or in cases where things are conducted on a very large scale these departments may be even further divided. Now while this departmental system undoubtedly has its advantages, it has its disadvantages also. It to a large extent tends to make the foremen in charge of the several divisions specialists, and specialists only; and if we are to take any notice at all of the advertisements that appear from time to time it is good all-round gardeners that are wanted. Now it follows that a man who is a specialist with regard to the treatment of any one class of plants becomes so only by losing to a certain extent his practical and up-to-date acquaintance with other and perhaps not less important branches. Therefore, before accepting a departmental foreman's place, the journeyman should ask himself whether it will materially assist him in reaching the particular goal at which he is aiming. If so, well and good.

But I am of opinion that to those who aspire to fitting themselves for one day taking a gentlemen's place "on their own hooks," as so many young men fondly phrase it, it is by far the wiser plan to endeavour to obtain a foreman's place in a less pretentious establishment, where they will not be so strictly confined to one division, but will be able to keep in touch with the whole, or nearly the whole.

After three or four years of foreman's experience our friend, if he has got any grit or any true ambition in him, will at last be in a position, provided the fates prove propitious, to fill a head gardener's place in a good establishment, in the enjoyment of which we will leave him after having safely seen him through what we may term the embryo stages of his existence. The discipline he has undergone should make him capable of managing a staff of younger or less experienced men, and render him able to direct them in the right performance of their duties. It should not be forgotten, however, that just as when a young gardener he had certain duties to perform with regard to respect and obedience to his superiors, etc. he has also, now he has got so far up the ladder of success, duties to perform towards the young men under his direction.

In far too many cases the head gardener forgets the young men after he has lost sight of them at the close of the day's work, and that it is his duty to assist them in the pursuance of their studies in the evening seldom enters his head. If the head gardener would bear this in mind and strive to assist his young men in the following after knowledge a great end would be gained. The younger members finding their superiors taking such a lively interest in their educational advancement would most certainly take encouragement and vigorously pursue studies that are now in far too many instances not taken up at all, or, at least, followed up in a very half-hearted and intermittent manner, like the proverbial donkey's gallop. The friendly feeling between juniors and seniors, inferiors and superiors, would then be increased to an extent that could not fail to be most conducive to the smooth and comfortable working of the horticultural machine. It is a great pity that the example set by a well-known gardener of to-day, viz., that of keeping up a correspondence with all the young men who have at any time served with him is not more frequently followed. For, although it would entail a great amount of trouble in the cases of the larger establishments, the extra labour would be more than compensated for by the strengthening of the bonds of a friendship that are at present often conspicuous by their absence.

With regard to the higher education of gardeners there is yet, we must all admit, a lamentable deficiency in this respect. What I would like to see is a number of schools or colleges devoted to the teaching of the higher branches of horticulture, the students therein to be admitted through the passing of a competitive examination, the prizes in which should be scholarships for periods of not less than two, although it might advantageously be extended to three years. The sister science, "agriculture," is to a certain extent provided for in this respect, and I trust the time is not far distant when horticulture will look after her young disciples in a similar fashion. I hope the two scholarships given by the Horticultural College of Swanley are only the example that shall be followed in many other parts of the country ere long. We are all, I think, in hopes that a brighter day will yet dawn for the gardener when we shall in deed and in truth be able to sing in the words of the good old ballad:

The gardener's is the noblest,
The richest craft of all!
It was the only thing thought fit
For Man before the Fall,
Although the first of brotherhoods
Their own the "Masons" call,
Our grand old Father Adam wore
The "Apron" first of all.

The gardener is the freeest
From sorrow or disease,
His "Pulse" is always healthy
And he never wants "Heartsease."
And beauty blushes where he goes
With flowers that never dim,
And "Love-lies-bleeding" at his feet
While "Tulips" glow for him.

The gardener is the richest,
For all he has he tills,
His "Stocks" are always rising
And his "banks" he always fills.
When other folks are saving
He may go it without stint,
He never can get short of cash
For he's always got the "Mint.'

Then sing the gardener's song,
It is the best of trades,
The "King of Trumps" in our esteem
Shall be the "King of Spades."

A. S. Galt, Kew.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

GARDEN CAMPANULAS.

At the meeting of the Royal Horticultural Society which was held in the Westminster Drill Hall on Tuesday, April 9th, Mr. Selfe-Leonard presiding, Mr. J. Wood contributed an essay upon garden Campanulas which was read by the assistant secretary of the society. In his opening remarks the essayist touched upon the wide range of geographical distribution which the genus Campanula enjoyed, the old world appearing to be particularly rich in its representatives, probably from the fact that we possessed a better and more complete knowledge of this part of the world than we did of North and South America. The great variety in the habit of growth, colour of bloom, period of flowering, etc., exhibited by the various members of the genus was, he said, immense, and included tall and stately plants several feet in height as well as dwarf or prostrate Alpines, together with all the intermediate stages. It was of the hardy perennial section of the genus that the essayist wished principally to deal with and amongst them there might, he said, be mentioned a host of beautiful garden plants.

The paper then went to describe what in the opinion of the essayist would be an ideal Campanula garden, for why, he said, should we not have a garden devoted to Campanulas as well as to Roses or any other class of plants? In making such a garden it would be found that a piece of land environed by shrubs, although open to the rays of the sun, would be the most suitable; for the brilliant reds, the rich purples, or dazzling whites of the Bell Flowers, were always exhibited to greater advantage against the sombre background of evergreens than they were when such an environment was not present. Besides this, he had always found the Bell Flowers to flourish best in the immediate vicinity of dwarf trees and shrubs, as these served to moderate the dryness of the atmosphere. The plan of planting in masses of one sort was recommended, and the essayist drew a glowing picture of the glories of a Campanula garden where such a plan was adopted and where a certain amount of naturalness was permitted. Most of the best known Campanulas were then enumerated, together with many of their distinguishing peculiarities, and a few hints as to the particular situations most likely to meet their special requirements.

With regard to their culture, the essayist averred that although it was attended with no great difficulties, still many of the members of the genus had special needs which must be attended to if it was expected that they should thrive and gladden the heart of the cultivator with their beauty. Thus it would be found that many of the taller growing plants needed a deep rich soil and an abundance of water at the root, whilst many of the Alpines, such as, for instance, C. Raineri loved to be allowed to creep along a moist stone ledge where only a light covering of soil was present. With regard to propagation, root division was at once the most reliable method as well as the one most commonly adopted. The cutting up and dividing of the roots was, the essayist said, much better performed with the knife rather than with the spade, for it was his experience that very few of the Campanulas would stand to have their roots chopped about with a spade.

In the discussion that followed the reading of the paper Dr. Masters stated that, while many of the Campanulas were undeniably beautiful plants and as such deserved every attention that could be bestowed upon them, he was sorry to say that at present there existed a very lamentable confusion with regard to the correct names of many of those which were now in cultivation. He was glad to say that steps were being taken at Chiswick to conduct a series of Campanula trials and to gather together a collection of the most valuable members of the genus; and he pressingly invited any Campanula growers who might be present to contribute of their abundance and to send to Chiswick pieces of any plants they might have in their possession. A cordial vote of thanks to the essayist terminated the proceedings.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultura Society's Gadens, Chiswick; Secretary of the Fruit Commitee. Demy 8vo., Handsomely bound in Cloth. Price, 5s. post free, 5s. 3d. Publisher, Gardening World, 1, Clements Inn, Strand, W.C.

PLANTS FOR A BALCONY.

Foliage (especially that of sub-tropical plants) is now recognised as essential in grouping flowers; in fact, we have of late years so enlarged our list of foliage plants that but little more is needed to furnish our windows and balconies with brilliant colouring as well as graceful greenery. Flowers, however, never look so well as when draped with plenty of handsome leaves and Fern fronds, which add elegance and distinction to flowering plants, showing off their delicate tints to the greatest perfection.

Perhaps the most valuable selection of plants for a balcony in spring may be made amongst the Rhododendrons, the Kalmias, and Azaleas from America, all these adding lovely blossoms to their fine foliage at a season when out-of-door flowers are still rare. The Catawbiense group of Rhododendrons is the most suitable for a balcony, with rose-coloured blossoms in many shades; Azalea pontica, Azalea mollis, and the beautiful hybrids which claim both these as their parents, being usually tinted with some shade of apricot, toned with crimson, most decorative in effect against the fine dark foliage of the Rhododendrons; while the neat sprays of the Kalmia, crowned with waxen pink blossoms, are very lovely; all these being useful as foliage plants after their blooms are faded.

Eucalyptus plants, from 4 ft. to 6 ft. in height, are largely grown for their health-giving qualities as well as their silvery glaucous foliage, the usual variety chosen being E. globulus. But a still more valuable plant is E. citriodora, with leaves which are almost equal to lemon-scented Verbena in fragrance. This variety is not quite so hardy as the more common E. globulus, but both do well in the open air from April to October, only lifting them indoors in case of late and severe frosts. Both these Eucalypti (being forest trees in their native countries) require large pots and plenty of water, or they may be grown in boxes, to fill the corners of the balcony, standing well in a staircase recess (or in any position free from gas fumes) during the winter, until they become too large to be manageable, when seedlings can easily be substituted, raising them in a hotbed in April. But the young E. citriodora seedlings need a moist warm atmosphere during their early stages; while E. globulus soon needs hardening, and may be grown in the open air when a few inches high.

As a contrast to these tall plants, the broad crimson-brown fans of the Castor-oil plant (Ricinus Gibsoni), are invaluable, its singular blossoms (of the same shade with creamy touches), being followed by bunches of prickly pods containing seeds, each very like a small beetle. These seeds will germinate in a greenhouse, or even in a sunny window; the dark red seedling looking at first as though it were made of indiarubber, and growing with surprising rapidity in moist warmth. The plants do well, however, in the open air from the beginning of June, being carefully hardened off before that time, and placed in large pots of rich soil. A remarkably handsome plant, both in form and tint, is Solanum robustum, being powdered with gold dust, almost metallic in its brilliancy. Its shape is very symmetrical, each leaf taking singularly elegant curves, the golden central spray bearing soft mauve and white flowers, not unlike Potato blossom. It does not attain its perfection, however, during the first season after being raised from seed; and it is therefore desirable to procure plants of this handsome Solanum which are about a year old.

Another fine Solanum is the species Warscewiczii, with gigantic leaves of dark green, the whole plant reaching the height of about 5 feet. Solanum marginatum is equally desirable, but as a contrast to the others, for its foliage is of the softest silvery velvet, crinkled and crimped at the edges, the smaller shoots being the most distinct in this way, for which reason the young plant (easily raised from seed in a hot bed) should have its points pinched out once or twice as it grows.

Grevilla robusta (the silky Oak of Australia) is a valuable plant, either for a room or a balcony, as it does not object to a little gas in winter, though it enjoys the outer air in summer time. It is extremely graceful and Fern-like in growth, the young leaves being of a rich bronze, while the older foliage is bright green, so that it is singularly decorative in effect. As it requires the shelter of glass during its earlier stages, well-established plants should be procured for the balcony, unless it can be raised in warmth for twelve months. But for quick effect there is nothing like Japanese Maize (Zea japonica variegata), which throws up its elegant striped ribbon-like foliage (in the form of a fountain) very quickly, and germinate in a window from the end of April, soaking the seeds in tepid water for six hours before planting each separately in a thumb-pot, from which it must be transferred to a large pot, with rich soil, when about 6 in. high. Foliage plants (in contradistinction to flowering plants in pots) require ample room for their roots, the effect being to ensure a quantity of large leaves, where flowers are not needed. This Zea, however, is crowned with a fine feathery spray of male blossom, below which the silky tassel of the female flower will appear, to be followed by the Indian corn in autumn.

Another family of splendid foliage plants, also producing blossom, is that of the Cannas (Indian Shot), now so largely grown. The seed of this plant is almost as hard as the shot from which it obtains its name, and needs soaking in tepid water for twenty-four hours before planting each singly in a small pot, which must be plunged in a hot bed. The handsome sheaths of large leaves (bronze, striped, or bright green) grow quickly when they appear, and should be potted on, in rich soil, to flower in August. The dwarf Cannas, lately introduced, are far superior to the taller and older varieties, having large spikes of brilliant red and gold flowers and fine sturdy foliage. They are invaluable for decorative work all through the year, for, if given a moderate amount of heat in a conservatory, they will throw up fine spikes of bloom as well in winter there as in summer on the balcony.

For wreathing the ironwork of a balcony, the Japanese Hop (Humulus japonicus) is very useful, as it grows quickly, and can be raised from seed in April. The variegated Japanese Hop is also very handsome; but against a house of a light tint the rich green of the first-named variety will have the best effect.

A pot Vine, too, may be employed to wreath a balcony with its elegant sprays; those who have admired the Vine-covered pergolas of Italy will readily admit that there is no more beautiful foliage than that of a Vine, with its delicate tendrils and broad transparent leaves. A Buckland Sweet Water Vine may even ripen its Grapes well in the shelter of a warm corner, and a stout young plant in a large pot or box will be an interesting study as it grows.

The best Ferns for the open air are some of the beautiful British kinds, which have of late years obtained the attention they deserve, and are now very popular. These hardy Ferns can be cultivated in a town garden, or even in an area (the cool moist air of which suits them extremely well), and well-established pots of Fern are invaluable in all kinds of floral decoration. Even the splendid flowering Fern Osmunda regalis will do well in a box of peaty soil in an area (if kept constantly damp), while Hartstongues (Scolopendrium) of many handsome new types (S. cristatum and S. fimbriatum), crested and crinkled, are evergreen, and therefore useful even in winter. Polypodium vulgare, a very graceful Fern, which is also evergreen, does best when rotten sticks are mixed with the soil for its roots to fasten on; baskets and low boxes of this Fern have a very pretty effect in grouping flowering plants; and smaller pots of the exquisite French Fern Asplenium adiantum nigrum (which is so largely sold in Covent Garden) may also be added. The larger British Ferns (such as the Lady Fern, Athyrium filix foemina, and many of the Lastreas) are very beautiful throughout the summer, and therefore valuable for a balcony, especially where the aspect is not very sunny, as they enjoy a semi-shade.

Many other fine hardy Ferns may be selected from the collections of our Fern growers, including handsome varieties from New Zealand and Canada. With plenty of these, and a selection of good foliage plants, it will be easy to decorate our balconies, windows, and rooms throughout the year.—*I. L. Richmond, in "The Queen."*

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

PROPAGATION OF SEAKALE.

The great value and importance of Seakale as a winter and early spring vegetable has been so amply demonstrated this year in face of the exceptional scarcity of all kinds of green stuff that any further remarks upon its value would at present be superfluous. But while every gardener has had enforced upon him the necessity for having a good stretch of Seakale, it is not every one perhaps who knows the way to obtain a good stock of crowns for forcing with very little trouble and practically no expense. While it is pretty generally admitted that the Seakale obtained by forcing the crowns as they stand in the open ground is of slightly better flavour than that obtained when the crowns are lifted previous to forcing and potted up—five or six in large pots, and placed in heat as required—still, the labour consequent upon the shifting of the Seakale pots and the heaping around them of a sufficient quantity of fermenting material is so great as to militate considerably against its extensive adoption. Upon lifting crowns for forcing all the small whip-like side growths, which they always bear in greater or less quantity, should have been cut off and saved, for every one of these if planted out now will produce a good crown by autumn. These little sets should be dibbled into the soil 5 in. or 6 in. apart and about a foot between the rows, after which but little trouble will be needed except to keep the beds free from weeds and an occasional watering if the summer prove to be a dry one.

VENTILATION.

Of all the thousand and one operations with which the gardener has to make himself familiar that of ventilation is perhaps the one that needs the most careful attention. All the more so because no hard and fast rules can be laid down with regard to it, for the principles once learnt these have to be very considerably moderated according to locality, the time of the year, the weather, and the particular class of plants involved. Accordingly the young gardener who has learnt how and when to give air, and when to take it off, has progressed considerably in the pursuit of his profession and must be regarded as something more than a novice in the practice of his chosen calling. The last few weeks have been an exceptionally trying and anxious time for the gardener, for, late as things are outside, indoors it is a very different matter.

At the beginning of last month the want of sun was severely felt by the occupants of the plant and fruit houses, and in several gardens where weather records are kept, an almost total absence of direct sunlight for a period of three weeks was registered. This, of course, could not fail to be producive of immense damage, and weakened and flimsy plant tissues have been the inevitable result. During the last few weeks a change has occurred certainly; but whether it is a change for the better is, to say the least of it, a matter of very great doubt. We have had plenty of bright sunshine it is true, but this instead of bringing with it the genial and balmy airs, which rightly or wrongly the most of us usually associate with the month of April, has been accompanied by keen cold winds, as searching as those of the bleakest day of February or March. The warm sun of course causes the temperature of the houses to run up dangerously high, and however desirable and indeed necessary it is to give air it is scarcely possible to do so without generating those cold draughts which every cultivator who has from practical and perhaps sad experience fouud out the harmful results of tries his hardest to avoid.

Thus, just at this season of the year, when the occupants of the houses are usually in a critical condition, the gardener finds himself seriously handicapped, and scarcely knows what to do for the best. Many a novice in the art of ventilating, for that this is an art everyone will I think confess, on finding the temperatures of his houses up rather higher than they ought to be, is apt to fall into the mistake of rushing too much air on at once in a attempt to remedy the evil which a few minutes' neglect may have occasioned. Such a proceeding whilst at all times fraught with considerable danger is, during the prevalence of the cold winds that we have of late been experiencing, doubly perilous. Especially with regard to vineries is it imperatively necessary that

great caution is exercised in the opening and shutting of the lights. Air must be given very gradually, and on one side of the house only, viz., upon the sunny side. Now and again one comes across houses ventilated upon the old plan and having the lights towards the north. To ventilate on this side of the house in the case of three-quarter span or hip-roof erections is exceedingly dangerous and is a proceeding that cannot be too strongly deprecated; for, whilst Vines at all periods of their growth, before the colouring of the fruit particularly, dislike and make haste to resent the presence of cold draughts, at the stoning time this dislike is considerably increased, and the injury resulting from a wanton disregard of this important point in successful Grape growing is illustrated in proportion. With regard to fruit culture under glass, every gardener knows that if he is going to have the pleasure of seeing strong sturdy growth upon his Vines or Peaches air must be given both regularly and well. Accordingly, the present trying time is exceedingly vexatious, and no one can wonder that gardeners one and all are earnestly wishing for a cessation of these unkindly remembrances of winter which have such a blighting effect upon vegetation generally, but which have insisted in staying so long with us.—*G.*

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

PINE AND PLANE, &c.—*Bois*: The Plane is a native of the Levant, and doubtless grows wild there even yet. The Pine is an aboriginal native in this country, and there are primeval woods of it in Inverness; it also becomes naturalised in various parts of the Highlands. The Wild Cherry (Prunus avium), and the Bird Cherry (P. padus), are different species. The Cornelian Cherry is Cornus mas, and other species of Cornus are also spoken of as Cornel. In our opinion there are several trees that are loftier than the Oak. There are many species of Poplar, and you should state to what particular species you refer. There seems to be no reason why birds should not build in Weeping Willows provided they find a suitable position for the nest. Insects may be found by chance, as it were, in any kind of tree, including Weeping Willows, but certain insects affect certain kinds of tree only when in quest of food or when laying their eggs. Willow trees, generally, support a great variety of species of insects.

BIRDS AND TREES.—*Arbre*: We do not believe that the birds you mention would evince any special liking for withered trees in preference to those clothed with foliage. You should be more specific than use such terms as doves and fauvettes, for there are several species of dove, and some frequent woods, while others take to rocks, towers, and houses. The wood of the Apple tree is fine grained, hard, and dark in colour, and, we believe, is occasionally used in turnery; it is also used for making wood ashes and charcoal in gardens, and may be used as firewood, but it is hardly a commercial tree for the sake of its timber. On some parts of the Continent, hedges are made of the Wild Apple or Crab. The leaves are eaten by horses, cows, sheep, and goats, and in gardens they may occasionally be used for making leaf mould, though no special preference is given them.

ORCHIDS FROM LIVERPOOL.—*F. H. Moore*: The variety of Dendrobium Wardianum which you sent was rather distinct in its way owing to the twisting of the sepals, but it differed from D. W. Elvinia in the manner of twisting and in size, though the flowers may not have been at their best. The lateral sepals of D. W. Elvinia are turned downwards then become incurved, approaching one another like a bull's horns, and the whole flower is of great size. The varieties of D. nobile are light-coloured, but the one with the larger flowers appears to be D. nobile elegans, or a close approach to it. The variety of Odontoglossum Cervantesii was very pretty and comes close to O. C. decorum, but the latter has a few purple spots scattered all over the lip besides the other markings, which in your specimen were beautifully clear and well defined. All were rather dried up before we had time to make a note of them owing to the interruption of the holidays. Possibly after another season's growth the Dendrobium will be in finer condition.

RED FLOWERS.—*Rubens*: Heuchera sanguinea is the Red-flowered Alum Root, and Anthurium Scherzerianum the Flamingo Plant. There is no English name for Masdevallia. We do not know the Flesh Plant nor crimson Darnel-flower under those names. The Foxglove and Centaury would hardly be in bloom during June. The Columbine and Red Sandwort might be flowering then. Juneating or Joaneting is yellow, Dutch Codlin and English Codlin are green, and all three have a faint red cheek; Nonsuch has broad red stripes next the sun; Norfolk Beefing is brownish red; Norfolk Storing is the Winter Colman and is dull red on the shaded side but mahogany brown on the sunny side. Of the above only the Juneating would ripen in June, the Codlins and Nonsuch in September; the Norfolk Beefing ripens in January and keeps till June; the Winter Colman ripens in November and keeps till April.

YOUNG APPLE AND PEAR TREES.—*Omega*: We should give them what pruning is necessary at once whether newly planted or not; it will make them break all the stronger. The fact of their having been recently planted, makes it certain that the root system has been more or less curtailed and therefore less able to support a large top. Besides, if you allow the trees to complete another year's growth before pruning them, you will lose a year's time in the pruning, and what is more, the shoots that are so left will be more or less bare of buds and spurs towards the base, so that when you prune them back next winter or spring, the poor buds at the base can neither break so freely nor so strong as they would when the shoots of one year's growth only have been cut back.

COMMUNICATIONS RECEIVED.—A. D.—W. H. W.—A. M.—Wanderer—J. G.—D. and G.—Boz.—W. W. A.—E. D. H.—S. B.

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April 17th, 1895.

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Other varieties, per lb.	2 0	5 0

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	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	2 0	2 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	3 0	0 0
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket	2 6	3 0
Small salading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	1 0
Turnips ..... per bun.	0 6	

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" specimen plants	5 0	10 6
Azaleas, each	3 0	4 0
Cinerarias, per doz.	9 0	12 0
Cyclamen, per doz.	9 0	12 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Erica, various, doz....	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, in var. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	7 0
Foliage Plants, var., each	2 0	10 0
Hyacinths, per doz	9 0	12 0
Lycopodiums, doz.	3 0	4 0
Marguerite Daisy, per doz.	6 0	12 0
Myrtles, doz.	6 0	9 0
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Azalea, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Double Daffodils, doz. bchs.	2 6	3 6
Single Daffodils, doz. bchs.	3 0	4 0
Eucharis ...per doz.	4 0	6 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	6 0	9 0
Lilac (French) per bch.	5 0	6 0
Lilium longiflorum per doz.	4 0	6 0
Marguerites. 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pelargoniums, 12 bun.	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	1 0	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 3	2 0
Roses (French), yellow, doz. blooms ...	1 6	2 0
Roses (French), red, doz. blooms. ...	2 0	2 6
Smilax, per bunch ...	4 0	6 0
Stephanotis, doz. sprays ...	4 0	6 0
Tuberoses, doz. blooms ...	0 4	0 6
Violets (English) doz. bun. ...	1 6	2 6
Violets (French) Parme, per bun.	2 6	3 6
Violets (French) Czar, per bun. ...	2 0	3 0
Violets (French) Victoria, doz. bun.	2 6	4 0

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FLOWER SHOW FIXTURES, 1895.

APRIL.

23.—R.H.S.; Auricula, Primula and Narcissus Show.
24.—Royal Botanic Society's Spring Show.
24.—Chesterfield Spring Show.
24, 25.—Birmingham Daffodil Show.
24, 25.—Newcastle-on-Tyne Flower Show.
27.—Spring Show at Old Trafford.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

3.—Southampton Spring Show.
11.—R H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Southampton Spring Show.
2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

3, 5.—Southampton Summer Show.
13.—R.H.S Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show.
14.—Bishop Stortford Flower Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—B rmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.

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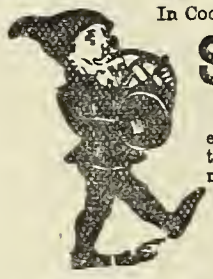

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A splendid 13 var., distinct colours, to include 4 of the above, for 2s. 6d.; 3 of each, 6s. 6d.; 6 of each, 11s.; 12 of each, 20s.

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From SIR R. DICK CUNYNGHAM, Bart., Cheltenham. Oct. 6th.

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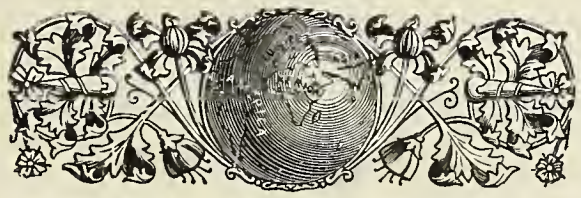

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, APRIL 27th, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, April 29th.—Sale of Plants, Bulbs, etc., at Protheroe & Morris' Rooms.

TUESDAY, April 30th.—Trade Sale of Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, May 1st.—Sale of Maples, Bulbs, etc., at Protheroe & Morris' Rooms.

FRIDAY, May 3rd.—Orchid Sale at Protheroe & Morris' Rooms.

DOUBLE FLOWERS.—Several reasons may be assigned for the prevalent desire for double flowers amongst a large section of the community. They are looked upon as novelties, notwithstanding their being only monstrosities from nature's point of view, and really very monstrous in appearance and a burlesque upon the grace, the beauty and the simplicity of the single forms. They generally last longer than the single ones of the same kind, and are sought after for cut flowers accordingly, and in certain cases they are really beautiful, and commend themselves to people of taste. Artists, as a rule, cry out against them, because they do not lend themselves to artistic effect; and the more formal, regular and beautiful from the florist's point of view the more displeased is the artist. But we do not consider this as a standard by which double flowers should be judged. The interests of the artist and florist are frequently antagonistic. A massive and formal flower may really be beautiful, and yet be unsuitable for transferring to canvas because its parts do not offer sufficient contrasting and relieving lines and projections; consequently it appears as a mere daub of paint more or less confused. On the contrary an artist will fix upon some ragged looking flower for his subject, and usually magnifies its deformities than otherwise from the florist's standpoint.

Putting all the views together, it is evident that beauty and utility should be the leading commendations of a double flower to popular favour. Many double flowers, like many of the variegated trees and shrubs in cultivation, are inferior to the wild originals in point of beauty, and should be discarded to make room for something better. Amongst Monocotyledons there are very few double flowers that are really beautiful. For instance, what is more wretched and unattractive than Lilium candidum monstrosum? Several others such as L. tigrinum present a huddled mass that is anything but graceful. The semi-double L. auratum that turned up on the Continent some months ago is a striking exception. Here the three outer stamens have been changed into segments or petals as the gardener would term them, and, being precisely like the others in colour and form, they add to the fulness and beauty of the whole, without any twisting, displacement or distortion. A double Snowdrop loses all the grace and elegance of its drooping bell-shaped flowers, its later flowering being its only recommendation. Amongst the Daffodils there are many double kinds, and the larger the flowers the more unsightly they become. There are a few exceptions, it is true, such as the Gardenia-like forms of the Poet's Narcissus, which have delicious fragrance and late flowering properties to recommend them for cutting purposes. But in spite of the numerous double forms it is gratifying to notice the predilection for single varieties for spring bedding. They really "take the winds of March with beauty," and those of April too. Double Colchicums may be an advantage in the stormy months of autumn to help strengthen the fragile and easily torn segments.

In the other great class of flowering plants, namely the Dicotyledons, we have many really beautiful double flowers. It may be that this class is more favourable to beauty of form in the double state, but it is dependent also upon the particular method of doubling. A great number of them owe their characteristics to a greater or less number of the stamens becoming petaloid, that is, assuming the form and colour of petals. Hybrid perpetual and Tea Roses offer an instance of this, and few there are that can find fault with them. The double forms of Paeonies, raised from the Siberian P. albiflora, and those of Tuberous Begonias, are familiar examples of double flowers that have gone through various stages of development towards an ideal standard of perfection. The early forms in both cases, but more particularly those of Begonias, were rough, ragged and irregular. The long brush of stamens of B. boliviensis developed very irregularly, but the florists considered that a great point had been gained, and persevered so that the originals eventually disappeared from cultivation. In proportion, as the flowers of both Paeonies and Begonias develop broad and regularly arranged petals, so are they the more highly esteemed, provided the colours are also beautiful and distinct. Hollyhocks may be mentioned as a similar case. There are several fairly beautiful types of double Poppies, but their value is not always apparent owing to the hiding of their beautiful blotches and markings; nor do they last much longer than the single varieties to which there has been a great reversion of public favour for some years past.

The family of composites and the species of Scabious, are well adapted for the production of double flowers, as is well illustrated by Chrysanthemums, Dahlias, Gaillardias, Daisies, Pyrethrums, and others of that class. The so-called doubling in these cases is no doubling at all as compared with the subjects previously mentioned, because it consists merely in the elongation of the individual florets, and not a multiplication of parts. Sometimes the whole of the florets assume the strap-shaped form like those of the ray, but in other cases they remain or become tubular. Both particular forms may be formed amongst Chrysanthemums, Daisies, and several others, while Anemone Chrysanthemums consist of a varying proportion of both kinds of florets. When the latter are all regularly developed, the head of florets, or the bloom as it is popularly termed, assumes a pleasing Japanese form. Chrysanthemums are no exception to the rule, because, although the florets may be variously disposed, there is "method in their madness," and their ever-varying disposition is productive of fine and striking effects. Semi-double florets are often very beautiful, and for various reasons sometimes displace the double one of their own kind. There are instances amongst the Azaleas like Duetsche Perle, Chinese Primulas, which can readily be raised from seed, and amongst the Delphiniums. The smaller number of petals leaves space for their greater size and more regular arrangement. In the case of Delphiniums the small brown or yellow petals become enlarged and coloured like the petals, and have displaced the truly double varieties with their small crowded petals.

Aberdare Flower Show is fixed to be held on August 1st, 1895.

Mr. C. H. Humphries, late sub-foreman in the flower garden at Kew, has been appointed to succeed the late Mr. William Crowther as Curator of the Botanic station at Aburi, Gold Coast, Western Tropical Africa.

Dictionary of Orchid Hybrids.—M. Octave Doin, 8, Place de L'Odéon, Paris, has just published in a very neat and handy form, a list of "all artificial and natural hybrids known up to the 1st of January last, with names of the raisers or introducers, and the date of their appearance." The work has been compiled by M. E. Bohnof.

Clever gardeners.—Several Continental journals, including *Rosen Zeitung*, *Sempervirens* and *Bulletin d'Arboriculture*, cite a case where two gardeners employed by a Rose-grower of Lyons challenged one another for a record of grafting. Both set to work early in the morning. After a short time for refreshments they betook themselves to the job again, and put in eleven hours work. The patron afterwards counted the Roses grafted and he found that the two gardeners together had grafted about 4,506, that is, 2,253 each and about 204 per hour. The most important fact about it is that scarcely 8 per cent of the grafts failed.

Hardy Fruit Growing.—The council of the Royal Horticultural Society of Great Britain offer a prize of £10 for the best essay on "The Commercial Aspect of Hardy Fruit Growing in the United Kingdom." The essay, not to exceed 10,000 words, is to be sent under seal to the secretary of the Society, 117, Victoria Street, Westminster, on or before August 1st, 1895, each essay to be signed with a motto and the writer's real name and address enclosed in a sealed envelope bearing the same motto outside, the prize essay to become the sole property of the council of the Society to deal with in any way they may think fit. Unsuccessful essays will be returned after October 1st, 1895, on application, enclosing the necessary postage and the motto of the writer.

Death of an Eminent Plant Collector.—We regret to learn of the death at Newtown, N. Y., on the 29th ult., of Mr. Ignatius Forsterman, at the early age of 40 years. Mr. Forsterman was a native of Coblentz, and for several years was employed by Messrs. F. Sander & Co. as an Orchid collector in the East, and greatly distinguished himself in this arduous pursuit. It was Mr. Forsterman who accomplished the long thought to be hopeless task of discovering the native habitat of Cypripedium Spicerianum, of which only a solitary plant originally found its way to this country. Subsequent to this Mr. Forsterman went to America as business representative of the same firm, and finally settled down at Newtown as a grower of market plants on his own account. He made troops of friends in his adopted country, and at his funeral the floral emblems sent by loving sympathisers would have filled two large waggons.

The Wild Flowers Collecting-book.—This is the name given to a work being issued in parts by Messrs. Cassell & Co., Limited, London. Each part consists of twelve sheets, and when opened, the left hand page contains a sketch of some British plant or other, together with a popular description of the same. The right hand page is blank and is intended for actual specimens of the plant described and illustrated on the opposite page. Instructions are given in the introduction, concerning the method of drying plants and preserving them from mildew and insects. It is entirely intended for amateurs and beginners who may desire to make the acquaintance of the British flora at a minimum of time and trouble. By closely attending to the illustrations and following the descriptions we should think no one with a fair faculty of observation would fail to determine all the more common species at least. Six parts are already projected and take the plants in order as they come into bloom. They would cover a space up to August, or thereby, and must make the collector busy if he or she intends to collect them during the season, not on account of their number but the distances that must be travelled sometimes in order to get certain particular kinds. Popular names only are used, but we think that the botanical one should also have been appended, as the popular one often varies in different localities. The size of the sheets is 8½ in. by 6¾ in. so that all the space will be required to get typical representatives of some plants on to them.

The Carnation.—At the monthly meeting of the members of the Brighton and Sussex Horticultural Society, on the 18th inst., at the Imperial Hotel, Brighton, under the chairmanship of Mr. W. Balchin, Jun., Mr. Richard Dean read an interesting paper on "The Carnation." According to all accounts, he said, King René was the first cultivator of the Carnation. Shakespeare in the "Winter's Tale" (1601), made Perdita describe the fairest flower of the season "The Carnation and streaked Gillivors," so it might be assumed that the Carnation was then well known in England, and Chaucer, who lived so much earlier than Shakespeare, states that the Clove Gilliflower was cultivated in this country in the age of Edward III. But the modern history of the flower dated from 1850, when the first proper exhibition in the Society of England took place at Slough, and the National Carnation and Picotee Society was founded, and from that time to the present the Society had held exhibitions each year, and there were now annual Carnation and Picotee shows in London, Oxford, Birmingham, and Manchester. Mr. Dean went on to trace the evolution of the Carnation, and dealing with its classification, he said, in the estimation of the florist, the Bizarre type stood higher than the flaked Carnations. There were three classes—the most important being the scarlet Bizarre, which was flaked with scarlet and maroon, and the more brilliant the scarlet the greater was the contrast. Next came the crimson Bizarre, and in that case the colours were crimson and rose on a white ground; while, lastly, there was the pink and purple Bizarre, the colours purple and pink on a white ground. He also dealt with the Picotee and its classification, and finally described in considerable detail the method of cultivation.

The French Horticultural Society of London.—This Society is organised on lines similar to that of mutual improvement associations in this country and has similar objects in view. Its annual report, sent out under the name of the *Bulletin de la Societe Francaise D'Horiculture de Londres*, is written in the French language, and gives the rules and organisation of the Society as well as the names and addresses of its various members, a general report of the past session, and a report of the transactions of every meeting. The Society has been carried on for some years, and continues in a prosperous and flourishing condition. Thirty titulary members were added during the past year, and thirty-two new honorary members. Besides the higher officials the Society at present consists of thirteen honorary life members, 120 honorary and twenty-five titular, and fifty-four corresponding members. The meetings are held monthly throughout the year. Numerous short papers on various horticultural subjects are printed at the end of the Bulletin, including articles on Climbing Solanums, the Vine of Hampton Court, Culture of Allamandas, Cycads and their Culture, the Javanico-jasminiflorum Rhododendrons, the English Culture of Forced Tomatos, the Book of Choice Ferns, and others, with which gardeners may be interested. Various books on gardening are presented to the Society from time to time by different donors, mostly English. A considerable number of the members are English, and others are Continental, many of whom are permanently or temporarily resident here.

Shirley Gardeners' and Amateurs' Improvement Association.—The first meeting of this session was held at Shirley, Southampton, on Monday the 22nd inst., the president, Mr. W. F. G. Spranger presiding over a fair attendance of the members. "Seeds: their Composition, Growth, Structure and Germination" formed the subject of a very interesting and instructive lecture most ably treated by Mr. W. F. Perkins M.R.A.C. The subject of curiosities of seed life enabled the lecturer to show some of the devices of nature for securing a distribution of seeds in places to which they could not otherwise attain. In illustration a large number of seeds were exhibited by Mr. Perkins and Messrs. Toogood & Sons, and a curious pod of seed was shown by Mr. W. H. Rogers containing a great number of winged seeds each about an inch square, name unknown. There was a good show of spring plants &c, and a hearty vote of thanks was accorded to the lecturer and the exhibitors, and a resolution passed to have an outing to Kew Gardens in July.

PRIMULA OBCONICA.

In all probability the outcry some time ago about this pretty subject causing irritation to the skin of some of those who engaged in its cultivation is the reason why we do not see it more generally grown; or, when it is, why we do not meet with it in better condition, as in many instances it is wont to present such a puerile appearance as to give the observer the idea that it is dreaded, and therefore has had to take care of itself to a certain extent. In passing through the old-fashioned town of Eltham the other day I visited the gardens attached to Eltham House, and was much struck with a batch of Primula obconica I there saw. I enquired of the intelligent Head Gardener, Mr. A. Ryder, his mode of treatment, which he gladly gave me. He sows the seed about this time of year thinly in a pan containing fine light soil, with plenty of sand, allowing good drainage. The pan is placed in gentle heat, carefully watered, and shaded with a sheet of paper to prevent the surface becoming baked by bright sunshine.

The seed takes some little time to germinate, and when the seedlings are large enough to handle they are pricked off into other pans, potting them off into 60's as soon as large enough for the purpose. During the summer they receive similar treatment to that accorded Chinese Primulas, shifting them into 48's when sufficiently rooted. Mr. Ryder's plants were housed in the beginning of October, have now been in flower several months, and at the time of my visit were a picture of health and floriferousness. The old stalks of decayed blooms are kept cut off, so that seeding does not rob the plants of vitality, but the removal of the seed pods greatly assists them to keep on producing flowers.

It is of easy cultivation, a charming subject for grouping, and of great decorative value. As they were so good, I naturally thought they had received special treatment, and that the result was brought about by either particular compost or the application of some artificial manure, but Mr. Ryder smilingly assured me that such was not the case in either inference, nothing artificial had been supplied, and as to soil, they were cultivated in old "Mum" com-

post, with more sand added to it, but if they had been potted on into 32's, they would have been finer still. In answer to my query Mr. Ryder informed me that he potted them himself, and never experienced any irritation of the skin follow, and that he was inclined to look on that theory as "great cry for a little wool."—*Wanderer.* [It is no theory, but, as many have experienced, a very painful fact.—Ed.]

SPRING FLOWERS IN HYDE PARK.

The flower garden portion of the park situated along the east side between the Stanhope Gate and the Marble Arch is now remarkably gay with various spring flowers, amongst which the Hyacinths and the Daffodils are at present the most conspicuous. Near the Stanhope Gate the beds line one side of the path only, and are planted in simple, inelaborate, but very effective designs. Very attractive is a bed of Queen of Hyacinths mixed with the Daffodil Sir Watkin playfully nodding in the breeze and contrasting with the red hue of the Hyacinths. Equally pleasing is the contrast between Hyacinth Couronne de Celle and the Daffodil Princeps a little farther on. A bed of the white Hyacinth Mirandolina is powerfully fragrant, but without the life of the two above mentioned. A bed of Queen of the Hyacinths and Narcissus Horsfieldi seems to have been planted late, and is not yet at its best. Fancy Pansies, blue Hyacinths, and Daffodils make up another mixed bed. Hyacinth Gigantea is notable for the size of its flesh-coloured spikes, but though distinct it serves to show off the beds next to it chiefly; it is mixed with Daffodils, but the latter seem most effective by contrast with blue and red of various shades. Narcissus maximus is always telling on account of its massive, wavy mouthed trumpet and the golden hue of the whole flower; here it is mixed with the blue Hyacinth Regulus.

Probably the most massive bed in the whole garden is that planted with the Hyacinth Grand Maitre, which not only has massive spikes as a rule, but many bulbs bear three, five and eight of them, giving the bed the appearance of being thickly planted. The colour is a dark yet bright and effective blue. There is a double edging of the rose-coloured Hyacinth Lord Macaulay. Some of the varieties are naturally late, or have been planted to make them so, in order to prolong the succession. This is the case with the rosy Hyacinth L'Incomparable, whose flowers are scarcely half-expanded. Hyacinth Alba maxima, which forms the edging, is in full bloom, so that the lateness of the other must be a question of variety. A pretty and effective bed is that filled with Hyacinth Orondates, the long spikes of which are deep blue and stand out in bold contrast with the pale H. Gigantea. In its bold and conspicuous character it may be compared with Grand Maitre. Hyacinth Fabiola is another late pink variety not yet at its best. Norma forms a striking contrast to the last-named, for it is now practically over, yet its edging of the beautiful and pale sky-blue Czar Peter is yet in perfection.

Tulips are grown in considerable quantity, but they are planted mostly in contiguous beds so as to make a distinct display of their own when they come into bloom. Only the earlier varieties are yet expanded, including a yellow one, Proserpine, and La Belle Alliance, the latter having brilliant scarlet flowers with a yellow base. They occupy the beds where the ground widens and is laid out with a single row of beds on one side of the walk and parallel with it, and with a double row at right angles to it on the other side of the walk. Here also are some circular beds entirely devoted to Daffodils now quite gay. Red, white and pink Daisies, separately or in mixture, also serve to make a display of their own peculiar kind, representing an old-fashioned but pleasing phase of gardening. Beds of Alpine and other Auriculas in mixture are also in keeping with the Daisies. The black threads supported on twigs and distributed all over the beds, indicate that the ubiquitous sparrow is troublesome even here. Polyanthus in mixture of dark colours and Primroses and Polyanthus in shades of yellow also find a place. The scarlet and yellow Tulip Keizer Kroon finds its way into every bedding arrangement, and is already becoming conspicuous. The Wallflower is very late, and what escaped the severe winter is not yet in bloom.

Where the beds are in pairs, each pair is planted with the same varieties and arrangement of design. Here again the Hyacinths are very extensively planted with a telling effect. Two beds of William the First represent perhaps the darkest blue Hyacinth in the collection. There are two of the red General Pelissier and there are at least ten beds of red varieties, differing in the shades of colour. There are four pairs of beds of white or flesh coloured varieties, like the last within a short compass of space. The pale sky-blue flowers of Lord Derby are very beautiful and represent one of the lightest blues to be seen, while Charles Dickens is one of the finest of the dark blues, recalling some of the fine kinds mentioned towards the beginning of this article. The display as a whole is very fine indeed notwithstanding the severity of the winter.

VEGETABLE CROPS AND THE FROST.

The winter of 1894-5, especially the latter half, will long be remembered as one of the most severe and destructive to vegetable crops on record. In many places it is reported that the water in pipes, three feet under the surface, was frozen, and in gardens and fields similar reports are to hand. In the Stirling district we had ground frozen more than two feet deep, and on all hands it is truthfully accepted that such destruction of vegetable crops never was seen in these parts by the oldest inhabitants whose observation on such matters is most reliable. In 1860-61 the reports from all parts of the country on the severity of the frost, and the losses of vegetables, by market men especially, were most depressing. I have a distinct recollection of the severity of that season. I was living in East Anglia then—but visited other parts of England and Scotland that year—and witnessed sad havoc in market gardens (as well as private ones), and nurseries; but vegetation generally had not suffered so severely in the north as in the east, south, and west of England.

In the Fulham market gardens the greatest amount of destruction was seen. But, severe as that season was (only for a comparatively short time), it fell far short in severity to the winter just ended. I have seen a number of gardens of late, and each seemed almost clear of green leaf. I noticed in a Forfarshire garden that the snow had been very deep, and therefore afforded protection to many kinds of vegetables which succumbed to frost many miles further south, but the evergreen shrubs in the northern parts had suffered more severely than those in the south. We have had no snow from where I write and have therefore suffered as severe as our neighbours, but did not have the thermometer down to zero.

The destruction of shrubs is only showing what we may expect later on when help is more required from the roots. Cabbage, Borecole, and Brussels Sprouts were in extra fine condition when frost set in, but were soon black and in a state of decay; Curled Kale is, however, giving nice gatherings as sprouts. Broccolis were very promising, but few were left alive; Veitch's Main Crop has stood the frost better than most varieties. Cattell's Eclipse is one of the hardiest; this sort I noted many years ago at Burghley by Stamford, where it was a great favourite with Mr. Gilbert, who used to pack bracken among the plants and saved them from much damage; I wonder how our old friend has fared this year? I have looked in vain for his report. Celery has suffered worse than I ever saw it; though covered thickly with litter the frost went below the roots! Cauliflower plants under hand-light protection were uninjured—they were covered with mats for weeks and frozen hard. The varieties are Veitch's Extra Early, Early Erfurt, and Walcheren. Leeks, Lyon and Musselborough, are almost uninjured. They are lifted and placed behind a hedge, and will do good service till June. Onions kept capitally in a cold dry outhouse, where they were frozen hard for two months. Cranston's Excelsior, Ailsa Craig, and Brown Globe are still in first-rate condition, and ought to keep well till June.

I noticed that in a Forfarshire garden vegetable plants under the snow covering stood much better than with us. But shrubs generally had suffered more. Roses, especially climbers, suffered severely, but though much cut down no deaths are yet observable. The prospect of fruit crops is excellent; Cherries, Plums, Apples, and small fruits especially. Such was our report last year, but oh the frost!—*M. Temple, Carron, Stirlingshire, N.B.*

BEDDING PANSIES AND VIOLAS.

(*Concluded from page* 534.)

Insect and other Pests.

In moist and dewy mornings, more particularly in spring while the plants have few leaves and fewer stems, slugs and snails often prove troublesome by destroying the leaves, cutting the stems or entirely devouring small plants or seedlings. These marauders should be collected and destroyed by frequently looking them up in the morning and early evening or even during the day in moist weather. In mild winters it will be necessary occasionally to make a raid upon them amongst boxes of cuttings and seedlings. Woodlice sometimes prove troublesome to the latter in spring while still in the frames. Let them share the same fate as the slugs with which low company they associate. After they are planted out and begin to show their flower buds in spring, you congratulate yourselves upon the promise of an early and fine display of bloom; but the next time you visit them, perhaps, you ascertain to your disgust that the thieving sparrows have been there before you and removed every flower bud. You may or may not lose your Heartsease, but most probably you will lose your temper, wasting it uselessly in curt epithets. Time would be better employed putting some pegs in the ground and stringing them together with black cotton thread about 3 in. from the ground. I have always found that sufficient to alarm the feathered rascals for the safety of their precious necks and heads.

Sometimes Aphides prove troublesome. During May and June, when seedlings should be growing rapidly and old plants or cuttings flowering freely, they may seem to be dwindling, and later on the leaves become curled and spotted, especially in dry weather. Certain varieties are much more liable to thisthan others. Upon close examination you will probably discover that the plants are being destroyed by swarms of green fly, which in this particular case generally happens to be red. Give the plants a good watering overhead by means of a rosed watering pot and then dust them with tobacco powder, taking care to scatter it well into the crown buds and about the axils of the leaves. I have on two different occasions found one application to be sufficient for a season. In suburban gardens there are still some other enemies to contend with such as your neighbour's chickens and musical parties of the cats, the latter particularly during the night time when the lawful owners of the gardens are in bed. The chief remedy is to have a close fence of some sort or wire netting, but even then the household cat and her myrmidons find their way in.

Pansies and Violas are also subject to fungoid diseases, of which the commonest and most destructive is mildew. A remedy against this is sulphur if applied early and efficiently as a dusting over the moistened foliage. Good cultivation acts as a preventive to a great extent. Moist and warm weather cause it to spread very rapidly, and thus the plants get weakened, ceasing to flower or die outright. Never plant under the drip of trees if you can avoid it. Although shelter on all sides may seem advantageous to the flowers, yet the plants get drawn and weakly, and the garden becomes a hot-bed of mildew. A moderately free play of air about the plants is conducive to health, therefore do not plant the Violas too closely nor allow them to be too closely confined or overhung by taller subjects. What is termed the Violet disease (Aecidium depauperans) attacks the stems and leaves of Viola cornuta, covering them all over with orange coloured pustules to their great injury. There is no remedy so that the affeoted plants should be pulled up and burned. I stopped the ravages of the fungus in that way. If you cannot afford to lose the plants take healthy cuttings and root them before burning the old stools.

Cross-breeding and Hybridisation.

The highly specialised form of the flowers and the bright colours of Pansies and Violas are pretty certain indications that they are and have been visited by special insects for untold generations. This could hardly escape the notice of our great teacher Darwin, and I here take the liberty to insert his notes of observations which he communicated to Sir John Lubbock on the subject:—"When I formerly covered up a fine, large, cultivated

variety, it set only eighteen capsules, and most of them contained very few good seeds, several from only one to three; whereas an equally fine uncovered plant, growing close by, produced 105 fine capsules. The few capsules which are produced when insects are excluded are probably due to the curling up of the petals (as Fermond and Müller remark) as they wither, by which process pollen grains adhering to the papillae may be inserted into the cavity of the stigma. The moth Plusia is said to visit the flowers largely. Humble bees are common agents in fertilising these flowers; but I have seen more than once a fly (Rhyngia rostrata) with the under side of its body, head, and legs dusted with the pollen of this plant, and having marked the flowers which they visited, found, after a few days, that they had all been fertilised.

"It is curious in this case, as in many others, how long the flowers may be watched without seeing one visited by an insect. During one summer I repeatedly watched some large clumps of Heartsease many times daily for a fortnight, before I saw a humble bee at work. During another summer I did the same, and then one day, as well as on two succeeding days, I saw a dark-coloured humble bee visiting almost every flower in several clumps; and after a few days almost all the flowers suddenly withered, and produced fine capsules. A certain state of the atmosphere seems to be necessary for the secretion of the nectar, and as soon as this occurs it is perceived by various insects, I presume by the odour emitted by the flowers, and these are immediately visited."

I have made observations and carried on the work of fertilisation for three summers without the above information as a guide, as my copy of the book was absent on loan, and I read the paragraphs only a few weeks ago. There are certain points to which my experience compels me to take exception. The first is, that pollen grains inserted into the cavity of the stigma would be useless and without effect. There is a small, pale or whitish lip on the lower side of the stigma, blocking the entrance to the nectary, and the pollen must come in contact with the outer face of this to produce seeds. Again, it is my firm belief that no reliance can be placed upon the visits of any particular insect having fertilised any given flower unless it has been previously covered up and again covered after the observer has made his notes, and before he leaves it to wait the results.

Amongst the insect visitors which I have watched upon Violas and Pansies are the Silver Y Moth (Plusia gamma) the Red Admiral (Vanessa Atalanta) the small white Cabbage Butterfly (Pieris Rapae) and large individuals of the humble bee (Bombus terrestris). All of these I believe are capable of fertilising the flowers in question. In Violas with long-tubed nectaries, only long-tongued insects are capable of reaching the nectar. This is particularly the case with Viola cornuta, V. lutea and their allies amongst the garden forms. All of the above fly by day, but the Silver Y Moth also flies in the dusk of the evening, and possibly after darkness has set in, for I have detected it when it was almost too dark to see the brown quick-flying moth. It visits Viola and Pansy flowers of all colours indiscriminately, and is so adroit and quick that I believe it is the most active agent in fertilising and mixing up the strains higgledy-piggledy, good and bad, so that if it ensures an abundant harvest of seed, it does not guarantee the quality. Darwin had not seen this moth when he wrote his communication, and only gave the name of the genus. The Silver Y Moth enjoys as wide a distribution as the Pansy and its various forms; and, if any one insect might be named as the legitimate visitor, it is this one, and possibly others of the genus. The other insects I mentioned are less diligent and relatively awkward plunderers of the nectar, though we cannot overlook their influence.

My own experiments in crossing and hybridising were undertaken with a view to determine whether it were possible by scientific means to raise varieties from large-flowered bedding Pansies with the true Viola habit, to obtain rayless from rayed varieties and settle other cognate questions. To do this I found on the results of the first summer's experiments that it is absolutely necessary to exclude all insects whatever. If you do not cover up the unexpanded bud, you must be the first visitor after the bloom is fully expanded, and after pollination you must protect the flower till it withers. This can be done simply by gumming a piece of paper over the entrance to the nectary, or by any other means you may devise. Mark the flower by some coloured thread, and make a record of it all on paper before leaving the plant. When the seed pods attain full size you must tie them up in thin gauze or something of that kind, otherwise the seeds may disperse on their own account when your back is turned, on fine days. Without this care all your labour will be in vain, and insects will mix up anything or everything together in the Pansy line. Others, as well as I, have discovered that the results of well planned crosses have resulted in a heap of rubbish, and that

The best-laid schemes o' mice and men
Gang aft a-gley,
And lea'e us nought but grief and pain,
For promised joy.

I busied myself nearly a whole day tying up the seed capsules in cotton wool, went to business next day, and upon returning found that the sparrows had pulled off and carried away almost the whole of the wool. Thus another day's labour was lost.

After many experiments I find that several varieties are perfectly barren with their own or other pollen. Rarely a pod or two are produced but contain no seeds. Amongst these I may name Duchess of Fife, Goldfinch, Columbine, Blue Cloud and possibly others. Ardwell Gem seldom seeds in my experience, but with care I have little difficulty in making it set and ripen good seeds. Insects cannot make barren varieties fertile.

In the space and time at my command I can only mention a few of the crosses or hybrids I have made and the results. When Viola cornuta is used with one of the Pansy tribe (V. tricolor), the laws of botany allow us to call the resulting progeny a hybrid, because two species are concerned in it. When two varieties of one species are used, it is termed a cross. In 1892 I crossed the large, pale yellow Ardwell Gem with the miniature Viola named Old Gold. All the seedlings had small yellow flowers and one was rayless and the upper half of it white. All this was due to the pollen parent, which reduced the size of Ardwell Gem, removed the rays from it, and introduced white. Seedlings from any of the rayless Violas, in my experience, readily revert to white. Blue or purple lies dormant, as it were, in Ardwell Gem, as is proved by the sports from it, and last year the seedling I have just mentioned sported and became blotched with blue, showing how unstable and unreliable the first year's flowers of Pansies and Violas are owing to their complicated parentage.

During 1893 I effected several hybrids and many crosses. Starting with the old V. cornuta Perfection I pollinated it with True Blue, and raised many seedlings with the Viola habit, and large though less circular flowers than True Blue, and of various shades of blue and purple, and in one case almost identical with the colour of the pollen parent. This single generation shows what can be done from the small flowers of V. cornuta Perfection. Whether I effected a hybrid or not I am unable to say, as no one knows the parentage of True Blue, but it seems more nearly related to the Pansy than to V. cornuta. In another case I had even more remarkable results by using V. cornuta Perfection as the seed parent, crossing it with the creamy-white Countess of Hopetoun. One lot of seedlings produced several shades of blue, and others were white but rayed. They had the Viola habit of the seed parent but the large flowers of Countess of Hopetoun. Another lot of seedlings from the same cross were all white, and some had as well-shaped flowers as Countess of Hopetoun, though those of the seed parent were small, starry and blue.

I used the miniature Violetta with white flowers as the seed parent. When I employed the pollen of the orange-crimson Cardinal upon it, the result was dusky yellow flowers of the size and form of the pollen parent. In other cases I crossed Violetta with Cornuta Perfection, producing well-shaped flowers of various shades of blue or white tinted with blue, but spoiling them by introducing the vulgar rays. Violetta crossed with the large plum-purple Mrs. C. Turner produced a mixed lot varying in size from the seed parent up to that of the large pollen bearer. The colours ranged from white to a pretty decidedly deep blue, and very beautiful on first expansion, though one parent was white and the other purple. In all these cases you must have noted the preponderating influence of the pollen parent in most of the characters of the progeny.—*F.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Dendrobiums from Falkland Park.—From Mr. A. Wright, gardener to John McMeekin, Esq., Falkland Park, South Norwood Hill, comes a box of Dendrobium blooms, which in most cases were notable for their great size, which is ample evidence of good cultural treatment. Dendrobium nobile No. 1 was particularly conspicuous in this respect, having long sepals and broad petals warmly coloured at the upper ends. D. nobile No. 3 showed a close approach to D. n. nobilius in richness of colouring. D. nobile No. 4 had a short and broad heart-shaped lip, giving the whole a meritorious appearance. The very light or almost white sepals and petals of D. n. elegans delicata gave it a graceful and elegant appearance that could not fail to be noticeable in a collection. D. nobile No. 6 was slightly darker, but the segments were all much broader. Amongst the blooms was a fine hybrid raised between D. Ainsworthii, itself a hybrid, and D. nobile nobilius, with richly coloured segments. D. Wardianum was to the fore, as usual, with its huge waxy-looking flowers. A variety of this species bearing small blooms was notable for the primrose-blue tips to the segments, fading to rose tinted with violet. D. Wardianum candidum Falkland Park var. was pure white, with the exception of the orange blotch on the lip and two small maroon spots. D. lituiflorum Freemanii is often so richly coloured, as in this instance, that it would be highly prized were it not that it is often put in the shade by the large-flowered and highly-coloured forms of D. nobile.

THE PLANT HOUSES.

The Stove.

The plants in this department will now be in full vigour of growth, and as a natural result will call for more room. Attention must therefore be paid to the necessary thinning out, if nice shapely specimens are required; for it is useless to expect these if they are crowded together almost pot-thick. It is far better to have a limited number of plants and these in good condition than to attempt to grow a larger quantity in a too restricted space. In most establishments a greater or less amount of plants are required for indoor decoration, and it is usually the stove that is called upon to supply the requisite material. In many cases, therefore, the drain upon the resources of the stove is exceedingly great, especially when the demand is a heavy one, and the under-glass space all too small—a state of things which many a gardener has to lament.

In any case no plants should be left in the darkened rooms of the mansion for too long, until a great part of their colour has been lost, and the majority of their leaves hopelessly crippled for the season; for foliage plants, particularly, are usually very slow growing subjects, and do not recover from such a decided check. As soon, therefore, as plants in stands or vases show signs of suffering they must be removed for a few days to a warm pit, where plenty of heat and moisture can be given them, to assist them in recouping themselves, afterwards keeping them rather cooler and admitting more air, thus fortifying them against the injurious influences which a brief stay in rooms or staircases invariably exercise upon them. Many of the Aroids or subjects of enfeebled constitution that were plunged in warm close pits at the commencement of spring to facilitate growth will now have progressed sufficiently to warrant removal to the larger stove where they will serve to fill up any gaps that may have been occasioned by the removal of plants for purposes of indoor decoration.

Pancratiums.—These are among the most beautiful of our flowering plants requiring a stove temperature. Although in most gardens the name of Pancratium is still common, most of them should be referred to the genus Hymenocallis, to which they rightfully belong. Thus the correct name of the plant known in gardens as Pancratium fragrans is really Hymenocallis ovata. But no matter by what name it is known it is an exceedingly beautiful plant, and its umbels of deliciously fragrant flowers are always acceptable. Other species which are well worthy a place in every stove are H. speciosa and H. macrostephana. All of them need copious

supplies of water during the summer months, and as soon as their flower scapes make their appearance manure water may be given with advantage.

ACALYPHA MUSAICA.—This is an exceedingly bright and useful foliage plant, and is also very easy of culture. In order to obtain as much colour in the leaves as possible the plants should be well exposed to the light, for if shaded too heavily it loses a great portion of its brilliant colouring. Aphis is particularly fond of this Acalypha, more especially to its young leaves, which it invariably cripples unless steps are taken to stay its depredations.

Greenhouse and Cool Conservatory.

Free and abundant ventilation must be the order of the day in this department, and nothing like a confined or a close atmosphere should be tolerated. Shading, too, will now need the closest attention, although the blinds must be pulled up as soon as the sun becomes obscured by clouds. Many of the plants that have been making a fine display throughout the early months of the year will now be getting scarce, and will need removal to other quarters. Primulas which have got shabby, and from which no seed is desired, may be thrown away at once and the pots they fill thus set at liberty. Those plants, however, from which it is desired to obtain seed should be placed on a shelf near the glass and be kept supplied with water. Hyacinths, Tulips, etc., may be stood outside, where they will take no hurt. A like plan should be adopted with Richardias, from which all the flowers have been cut and which show no signs of throwing up more. This will allow of the admittance of much of the later flowering material such as Pelargoniums, Franccoas, etc., which should be arranged in batches in the lightest parts of the house.

CAMPANULAS.—Not only do these look exceedingly well in the hardy flower garden, bnt many, such as C. Media, C. M. calycanthema, and the rather later flowering C. pyramidalis are exceedingly useful and handsome subjects when grown in pots in the greenhouse. As they begin to throw up their flower stems copious supplies of liquid manure must be given them, for not only are they thirsty subjects but they like rich feeding as well. Treated thus, some snrprisingly noble and beautiful plants may be obtained which will produce their flowers in a few weeks' time with luxuriant profusion.

Pits and Frames.

Here the work of hardening off all kinds of bedding stuff will be actively in progress, for the time is now not far distant when a great portion of it may be planted out. Dahlias in pots or those which have been started in baskets must be looked after to see that their tops are not being injured by coming in contact with the glass, as they grow very quickly and damage is soon done.

BALSAMS.—These are exceedingly useful plants for the greenhouses and conservatory and batches of seed should be sown at intervals to supply a succession. The earliest batch which were potted off into sixties a few weeks backs should now be shifted into their flowering pots. Thirty-two's will be found to be a handy size; whilst a compost of two parts of good loam, one of leaf-soil, and one of well-dried manure, with a good sprinkling of silver sand will suit them well. The plants may be potted rather firmly, as this conduces to the production of short-jointed and stocky growth. The same treatment will also suit the golden and crimson varieties of Celosia pyramidalis, but for Cockscombs the plants must be potted very firmly, and subsequently kept very close to the glass or they will become "leggy" and worthless.

CLERODENDRON FALLAX.—These bright and beautiful plants should find a place in every garden, blooming as they do during the dull days of autumn. It is always best to grow on young plants each year, for although old plants will bloom well onough they are never of so good a shape as the young ones. Two methods of obtaining young stuff are commonly practised by cuttings and by seed, the latter plan being perhaps the better of the two. Seed which should have been sown a few weeks ago in heat should now have produced plenty of nice young plants which must be potted up singly into small pots before the roots get matted together in the seed pans, shifting them on as occasion requires.

VIOLETS.—The time has now arrived when Violets which have been grown in frames should be seen to for division, as by cutting them up now a nice long season of growth is allowed them, and thus good strong plants ready for planting into frames by the end of September will be obtained. The young crowns should be dibbled out on a prepared spot on a north border where they will soon make themselves at home. A distance of about nine inches between the plants and fifteen inches between the rows will be sufficient, a good watering is being given after planting, and at subsequent intervals until they become established. The beds may be given light scufflings with the Dutch hoe now and again to keep down weeds, after which little trouble will be needed. —*A. S. G.*

THE ORCHID HOUSES.

EPIDENDRUM PARKINSONIANUM.—It is not often that we find this rather curious Orchid growing and flowering well, for the simple reason that we do not as a rule afford it sufficient light and air. The thick fleshy leaves tell one as plain as if they could speak that in its native habitat they get a long season of rest. Basket culture perhaps is preferable to pots, as they can then be more easily suspended close to the glass. An ordinary plant stove, where the shading is not quite so thick as is used for the Cattleyas, would be a most suitable place for them. Moss and peat with plenty of pieces of crock intermixed is what they like. They are just now opening their flowers, which come mostly in pairs, but where the growths are extra strong they have three flowers to a spike. They last a good time in bloom, which is something in their favour.

MESOSPINIDIUM SANGUINEUM.—Not so attractive as some other Orchids, and therefore not so popular, on account of the individual blooms being small, this, if grown into large plants, which in their season will produce ten or twelve spikes, forms objects of great beauty, and on account of the colour of their flowers looks well arranged with Odontoglossum crispum. During the hot summer months they should be given a light place with the cool Orchids, but during autumn and winter they require rather warmer quarters, such as in the cool end of the intermediate house; otherwise they should be treated like the Odontoglossums.

SEEDLING ORCHIDS.—If raising Orchids from seed is slow it is extremely interesting, and especially so when the hybridiser has an object in view, for it is little use—in fact, it is a waste of time unless you are going to get something which is a decided improvement on the parent plant. It is not difficult to get fertile seed of Cattleyas, Dendrobiums, Cypripediums, &c., but Odontoglossums are with us as yet a failure; whether it is because our cool houses are too shady or too cold for them I do not know, but, on the assumption that that is the cause of failure, we have this season sown the seed on our Laelia anceps, and hope to be able to report favourably later on, for there are signs of their germinating already. We always sow the seed on plants that have been freshly potted, being then sure that the compost is sweet, and that there are no woodlice to eat off the little fellows when they make a start. Once up, with care they will go on all right: one thing we have found out is that it is much better to shift them into new and sweet material when in a very small state than to leave them where they were sown for two seasons. They hardly require a small pot to themselves until the third season, unless it is a strong growing kind, and then the pots should be plunged in pans of moss, so that they will not dry up too quickly. Give them sweet material and a genial atmosphere; keep them free from insects and do not coddle them, and success is assured.—*C.*

Gleanings from the World of Science.

Field Mice in a Beehive.—A monthly periodical named *Biology Notes* is issued by the County Council of Essex, and, besides being the medium for the dissemination of the subjects taught at the Central Laboratory, Chelmsford, it is open for short notes of observation upon various natural history subjects made by the students attending the classes and others. Mr. G. Godfrey, Chigwell, records the finding of a nest of field mice in a bar frame hive on the 17th February. The discovery was brought about by the remains of comb, bees, and other matter strewed about the mouth of the hive. The discoverer on opening the sliding door caught sight of a mouse, and, having procured the assistance of a neighbour to kill the mice as they came out, he lifted the hive from the floor board. In this way four out of six mice were killed. The remains of the nest in which the family of young ones had been reared was found between two of the frames, and had been made partly from the carpet covering the hive. After having been comfortably lodged here, the old pair and their young afterwards fed upon the combs containing honey and pollen, and must no doubt have been comfortable during the winter months till discovered. Few bees were found in the hive, and they died afterwards, owing possibly to the disturbance. Another question arises whether the bees strewed about the door of the hive had been killed by the mice, or whether they had been eliminated because troublesome to the illegitimate possessors of their home and the fruit of their industry. It would be interesting to know whether mice could act in the same way while the bees are active in summer. It is scarcely likely however. A similar case occurred at Great Baddow, where a long-tailed field mouse robbed a hive.

Preparation of Bouillie Bordelaise.—The materials used by the Wilts County Council in the preparation of this fungicide consist of two pounds of sulphate of copper and one pound of lime to ten gallons of water. The sulphate of copper is obtained in the form of crystals. For small quantities it is dissolved in three-fourths of the water, while the lime (which must be of good quality and quite fresh) is slaked in a separate vessel and mixed up with the remaining portion of the water. The lime is then poured into the solution of copper, stirring it the whole time. On a larger scale a different method is pursued. Some days before the Bouillie Bordelaise is required, one or two paraffin casks (according to the requirements) are obtained, and one end taken out. A short canvas bag is nailed to two strips of wood, in order to suspend it in the barrel, which is filled up with water after the bag has been filled with crystals of sulphate of copper. The latter dissolve in a few days, till the water is almost at saturation point. This solution is diluted as required. A hydrometer is used to test the strength of the solution, and this is indicated by degrees which correspond to certain degrees of specific gravity. By these means is ascertained the necessary quantity of water to dilute the solution for use. For instance, if Twaddle's hydrometer is employed, and it indicates 13 degrees when dipped in the solution, it means that there is a specific gravity of 1·065, which is equal to the same amount of pounds per gallon of the sulphate of copper solution. To make 40 gallons of the Bouillie Bordelaise, 7·5 gallons of the solution are used.

Amount of material for spraying an acre.—About 150 to 160 gallons of Bouillie Bordelaise will be required for spraying an acre of Potatos. If the solution of sulphate of copper in stock is of the strength of 32° according to Twaddle's hydrometer, about twelve gallons of it will be necessary, and this may be taken to the field in a water barrow. Wooden vessels only must be used for this solution. About fifteen pounds of lime or fresh quicklime will be required. The man who mixes the material, according to the method adopted by the Wiltshire County Council, first slakes about four pounds of lime in a bucket for about half an hour. Then, supposing a forty gallon cask is used, thirty gallons of water are put into it, and, after measuring the requisite quantity of the copper solution, that is added and the whole well stirred up. The lime in the bucket is stirred up till like cream and is then poured into the cask amongst the other ingredients in solution and thoroughly stirred up. Be careful that no lumps of lime or other hard sediment gets into the mixture, otherwise the spraying apparatus will get choked up. The remainder of the cask is then filled up, stirred, and is ready for use. It would be well however to test the mixture with ferrocyanide of potassium to see whether sufficient lime has been used to precipitate the copper. A drop of the former put in the mixture will cause a dark brown colouration where it falls, if sufficient lime has not been used, so that more lime may be applied until the copper has been precipitated and rendered innocuous to the Potato foliage.

HINTS FOR AMATEURS.

BEDDING PLANTS.

IT is quite natural that everyone who possesses a flower garden, even although it may be somewhat limited with regard to area, should like to see it look gay and bright during the summer months. Indeed, in many districts in the vicinity of large towns there usually exists a spirit of friendly rivalry amongst neighbours as to whose garden is to eclipse the others in splendour. Where this is the case the severity of the past winter will have caused not a little worry and trouble to many an amateur who sees its deplorable results before him on every hand, and views with rueful eyes his woefully decreased stock of bedding plants. Even the usually hardy Calceolarias have had their numbers thinned considerably, and as was only to be expected from the soft and succulent character of the cuttings last autumn the deaths in the ranks of Zonal Pelargoniums have been exceptionally large. This dearth of material may have been partly made up for by the systematic striking of cuttings, where these have been obtainable, during the last few months; but still there will yet remain many gaps to be filled.

There can be no doubt whatever that much of the charm of the flower garden depends upon the variety of the display afforded in it, and thus the wholesale destruction of Pelargoniums and Calceolarias may not be altogether an unmixed evil, as it will bring to the notice of the owner of the garden many plants that have not before been thought about. Many of the most showy Annuals can be raised from seed at a surprisingly small cost, and the results obtained from a judicious utilisation of their profuse blooming qualities are as gorgeous as could be wished.

TROPAEOLUMS.—No showier or more easily grown plants than these exist. The dwarf-growing sorts, such as Tom Thumb and the pretty double yellow, make splendid subjects for the filling of beds. These latter of course need to be struck from cuttings, which will root very easily in a gentle heat. The tall-growing varieties of T. majus and the bright yellow T. canariensis cannot be beaten as quick growing subjects for the covering of bare brick or stone walls. The one great drawback to the extensive employment of Tropaeolums in the flower garden is that they are exceedingly susceptible to the blighting influences of frost.

SWEET PEAS.—Where the garden is a very small one it would not, of course, be advisable to give Sweet Peas a place in it, as they must be allowed sufficient room if they are to produce a fine effect, and to introduce them into a small front garden would not be at all wise. If any objectionable corners need to be hidden, however, nothing can be more suitable for the purpose than a row or two of Sweet Peas, which, when neatly staked up, will make a perfect wall of flowers. If seed has not been sown no further delay must be made in seeing to it, for, although the plants resulting from seed sown now will not commence to bloom until the summer has pretty well advanced, they will come in when the earlier rows are past their pristine splendour. For filling up any gaps that may have been caused in the shrubberies such things as the taller growing Perennial Asters (Michaelmas Daisies), Hollyhocks, Sunflowers, Perennial Phloxes, and Dahlias may be used, for a judicious employment of a few of these will greatly assist in doing away with much of the monotony and sombreness that pertains to most of the shrubberies usually seen.

THE WHITE MARGUERITE, too, is an exceedingly useful plant. Cuttings which were struck last autumn, and which have been stopped once to induce a bushy habit, make splendid material, and will flower away all summer as profusely as could be desired. The blue Cornflower may also be allotted a little space with advantage, as the flowers look exceedingly pretty when cut and placed in vases indoors. For some reason or other the blue Cornflower has become a very fashionable flower of late, and there is no reason at all, as far as we are aware, why the amateur should not follow fashion if he feel so disposed when to do so means the growing of such a lovely plant as the blue Cornflower. The bright flowers of some of the many fine varieties of Phlox Drummondi, and of the bedding Verbenas produce very fine effects when grown in patches, and a packet of seed sown under glass of the former in the early months of spring will give an abundance of plants. Verbenas are notoriously hard to keep through the winter, as they are so liable to be attacked with mildew, but where they can be so preserved we prefer to propagate by cuttings rather than raising new plants from seed each year; for unless this latter is obtained from a reliable source disappointment will likely ensue.

STOCKS are almost indispensable plants, and a number of the dwarf German Ten Week, the large flowering Pyramidal Ten Week, and of the East Lothian varieties will be found very useful. Seed of two or three sorts of China Asters may be had very cheaply, and for late summer and autumn display nothing can be finer. There are several different types of flower, one which is usually called the dwarf pyramidal section being especially suitable for cutting. One or two varieties of both the Chrysanthemum and Paeony flowered sections should also be grown. For late flowering seed may yet be sown in well-drained pots or pans in a cold frame.

ANTIRRHINUMS.—No list of bedding plants, however unpretentious, would be complete without a reference to the Snapdragons. A great deal of improvement has been made in them of late by the florist both as to habit and length of flowering period and we have now some exceedingly dwarf varieties well under a foot in height that are all that can be desired for the filling of beds in the flower garden.

In addition to the foregoing the following will also be found to be very showy and easily grown plants: Marigolds of both French and African sections, Petunias, more particularly the single flowering varieties, Zinnias, Candytuft, both crimson and white, Nemophila insignis, Linum coccinium, Clarkia pulchella, Helichrysum monstrosum and Collinsia bicolor. A few plants of the Tobacco, Nicotiana affinis are also very showy and effective and are well worth growing.—*Rex.*

HARDY FRUIT GROWING IN THE FUTURE.

IN the recently published issue of the Royal Agricultural Society's *Journal*, Mr. Lee Campbell, Glewstone Court, Ross, takes exception to a statement reported to have been made to the Canadians by the Governor General, Lord Aberdeen, that there was an inexhaustible market for fruit in England. As a matter of fact, says Mr. Lee Campbell, no market is inexhaustible—witness the present collapse in the price of cereals. In a report of Vice-Consul Mortimer, of Los Angeles, on the orange crop of California, it is said :—"Oranges are produced in quantities far in excess of the demand in consequence of too extensive planting." Look also at the present over-production of Grapes, when, quite recently, tons of this fruit were rotting in the cellars at Covent Garden through the impossibility of finding buyers, and Channel Island Grapes were being hawked about the streets of London at 4d. per lb. How much does that mean for the grower? And to cite only one more case, what about the enormous Pear crop of last season? What proportion was allowed to rot, because it was not worth handling? Of course, the general depression in everything accounts, in part, for this state of things; but I think enough has been said to justify the objection that Lord Aberdeen, in giving such encouragement to the Canadian growers, is luring them on, perhaps, to their ruin, and rendering our position more onerous.

Perhaps the source of greatest aggravation to the fruit grower is the enormous disproportion between the net result to him, and the price paid by the consumer. On this subject I have the authority of Mr. R. D. Blackmore, who thus gives his experience of growing pyramid Pears :—"Of course, it never paid to do so. My enthusiasm, though forty times annually disappointed, is not dead yet. I have about ten acres of Pears, but lose a lot of money every year, although my fruit is superior to that of many growers. This year I have the largest crops ever known, and hoped to make a profit, but shall have a loss once more, through *very low prices*, while the figures in the shops have been as high as ever. Pears have been 2d. each even in the streets, and 4d. in the shops, when mine, of the same size and sort, were going at six a penny. This exorbitance limits the demand, and stimulates importation, as well as sanguine, but mad, competition."

In fact, the producer, who has borne the burden and expense of twelve months' labour and worry, starves while the middleman thrives.

From what has now been said it will be gathered that the risks in fruit-growing are many and serious. Indeed, except under very favourable conditions, I must question the wisdom of engaging in it. A vital matter remains to be considered. Who are to be the fruit-growers of the future? The farmer never was qualified to undertake the work. He has not the technical knowledge, nor has he the experience in details of management. The state of our old orchards affords incontestible proof of this, and now he lacks funds. Landlords can hardly be expected to risk their capital in a venture which depends largely on the aptitude of the tenant, who may be here to-day and gone to-morrow, and be succeeded by some one who is quite incapable. The only promising extension in this way would be on the lines proposed—but I believe never carried out—by the late Earl Beauchamp, that he should supply the trees, and that a competent man should go round the plantations to see that all the trees were kept in order. The solitary hope I can hold out is, that a race of practical fruit-growers may spring up, either possessing sufficient capital themselves, or associated with others who are more fortunate in this respect. Such men should have served an apprenticeship, and have paid for their experience. After many years of farming I am quite sure that the worries connected with fruit-growing put those of farming entirely in the shade, and that to ensure success in fruit-growing more than ordinary qualifications are essential.

My task would not be complete if I did not give some details of the results attending my own operations. Under circumstances, in the main far more favourable than those which will fall to the lot of most growers, I ought to be able to chronicle a conspicuous success. Taking the eleven years of working, I allow five years for the trees coming to full growth. During the period I had several years of partial crops, three years of severe insect attack, two years of too much rain, and one year of drought, which also affected the results of the following year. In 1892 I picked 14 tons of Victoria Plums from one acre, and these grossed £176. Another year I have only picked 13 cwt. I have sold Apples—Peasgood's Nonsuch—at 32s. per cwt., whilst my lowest price has been 6s. The net results have not been such as to cause either undue elevation or depression.

Fruit-growing is a most fascinating and absorbing occupation, but must in the long run, like every other business in this hard, practical age, be judged by the test, Will it pay?

RICHARDIA ELLIOTTIANA.

THE introduction of this yellow Richardia to British cultivation was a general acquisition, and all praise is due to Captain Elliott, of Farnborough, Hants, who brought it from South Africa. The plant is dwarfer than R. africana under the same cultural conditions, whatever it may ultimately develop to under the hands of a skilful cultivator. The broadly arrow-shaped leaves are of a rich dark green, spotted or finely blotched all over with white markings, reminding one of some of the Caladiums. The spathe is similar in shape to that of the better-known species, but is more suddenly narrowed to a point, of a uniform clear yellow on the inner face, but tinted with green externally in the earlier stages. The spadix is golden yellow, and almost concealed in the folded or tubular portion of the spathe. A few plants of it first turned up at the Temple Show of the Royal Horticultural Society, on the 25th of May, 1892, but since then a First-class Certificate has been accorded it by that body. It is to be hoped that it will soon get distributed throughout the length and breadth of the country, so as to make its appearance alongside of the white one, for which it constitutes an excellent companion. R. africana is now a highly appreciated cottage window plant, and it is to be hoped that R. Elliottiana will prove as amenable for that purpose. We are indebted to Messrs. J. Veitch & Sons, Chelsea, for the present opportunity of figuring it.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultura Society's Gadens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s. post free, 5s. 3d., from GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C.

NOTES FROM CALCUTTA.

Those of our readers who are interested in gardening and other matters pertaining to the same in foreign countries may be pleased to note the subjoined particulars communicated to us by Mr. R. L. Proudlock, Curator of the Royal Botanic Garden, Seebpore, Calcutta:—

We have no difficulty in maintaining a lawn or green sward such as I was accustomed to in England. We have plenty of green sward in the garden, and we never need to water it; but I must tell you that, although it is beautiful green grass, it is a very deep rooted and rather coarse kind. There are several species of grass and other weeds which make up our grass plots, just as there are several kinds which fulfil the same purpose in England, but I have only referred to the one which is the chief kind. Lawns, as a rule, are made of another kind, known here to natives and Europeans alike as the "Doob" grass. It is a very fine-leaved and soft grass of a glaucous green colour. It makes splendid lawns, which may be equalled, but are certainly, so far as I am able to judge, not excelled in any country in the world. To walk over a well-kept lawn of "Doob" grass is like walking over a carpet. It is a grass that will stand drought well and likes plenty of sunlight. I must tell you that the earth is well tilled before this grass is planted in it (not sown), usually in the rainy season.

The Amherstia nobilis does very well here indeed. We have the northern half of the Thomson Avenue planted with it, but the plants do not reach much above 10 ft. in height. We have, however, about six trees something like 20ft. to 25ft. high growing in the garden, and at the present time (March 20th) they are simply laden with their long pendulous racemes, several feet long, of vermilion-coloured flowers, which is a sight worth seeing. Poinciana regia (Royal Peacock Flower) does remarkably well here and all about Calcutta. Some trees I have seen are just like a flower garden on their tops, the flowers are so numerous and produced so closely together. I must qualify this remark to some extent, for the individual flowers are not very close together, but it is the great number on a tree that makes them look so numerous.

By this week's mail I am sending you a copy of our new "Garden Guide." Dr. King (the Director) has written it, and I believe it is the first Guide Book which has ever been written for the Royal Botanic Garden, Calcutta. Dr. King has named all the roads after botanists, and you will observe that Kew is honoured by having three of the roads named after three of its leading men. They are "The Hooker Avenue," "The Dyer Avenue," "The Clarke Avenue."

Our Brownea trees are now in full flower, and they are a grand sight. The southern half of the Thomson Avenue is planted on each side of the road with Browneas, and they form quite a tunnel as they meet overhead, and almost completely shut out the light. The trees are from 20 ft. to 30 ft. high, and many of them are laden with heads or clusters of their scarlet flowers. They might be likened to the Rhododendron, only their flowers are pendent instead of being produced in the erect position as in the Rhododendron.

Our Orchids are now at their best. The show is rich in species of Dendrobium, and is a fairly representative one of tropical and sub-tropical, East Indian and Burmese showy Orchids. Our annuals also are now at their best in the flower garden. We have one of the finest strains of Petunia I have ever seen.

I must also tell you that my wife and I have taken up photography recently, and we find it a very interesting hobby. I enclose you a group of six of our work-people—four men and two women. Their names are as follows:—Mohr, Mango, Lodhar, Bhawney, Beersha, and Gobonu, the two latter being the women. The tool like a hoe (represented in the photograph) is called a "khodalie," and is used by the natives of India for the same kinds of work as the spade is used for in England. The earthen pots are used to carry water in. This is the usual way men carry water in India, although a class of men called "bhisties" (that is, water-carriers by profession) carry water in a large pigskin bag on their back and hip. The baskets (also shown in the photograph) are used for carrying soil, etc., in; they are carried singly by women on their heads; and men carry two baskets supported by strings attached to a split bamboo dressed off and slung across one shoulder, as seen in the photograph.

These coolies are not natives of this part of India. They belong to the district of Chota, Nagpore, lying about 150 miles to the west and north-west of Calcutta, and they are representatives of the aborigines of India. They are certainly a fine, simple, and honest sort of people, and we find them by far the best workers we can get. The women get four rouhles per month, and the men from six rouhles to nine roubles per month, according to length of service and ability shown. Nine rouhles is a very high wage, but the majority of the men draw about seven roubles per month. We have eighty-six men and sixty-eight women of the above-named class working in the garden at the present time. We provide them with good houses to live in rent free, and as much wood as they require to burn.

The tall straight-stemmed trees (shown in the background of the photograph) are Casuarina equisetifolia, and the thickish bent tree with the creeper on it is the Rain-tree (Pithecolobium Saman). Both species are plentiful in the garden, but the latter is one of the quickest-growing shade-giving trees we have. The Casuarina attains a height of quite 120 ft. here in the garden, and makes most excellent firewood.

Richardia Elliottiana.

CLIVIAS AT FOREST HILL.

Every year sees fresh additions to this class of plants, in the shape of seedlings, in the nursery of Messrs. J. Laing & Sons, Stanstead Park, Forest Hill. Owing to the large number of seedlings and new varieties named every year as they come into bloom, the bulk of the plants consist of single crowns,

great sturdy fellows with leathery leaves like harness thongs except in colour. On the top of the central stage are some of the best of the older varieties, which have been saved out of many batches of seedlings, as time rolls on, and better ones are always coming to light These are in large pots, and in several cases have many crowns, which, however, are never allowed to become crowded, and consequently attain a great size, with massive umbels of bloom, such as would put the originally imported wilding into the shade. Good substantial soil and liberal feeding with liquid manure, especially when the flower scapes are being thrown up, are necessary to develop such vigorous growth.

Amongst the young plants flowering for the first time the richly coloured blooms of the Right Hon. J. Chamberlain are noticeable for their great depth of colour. The flowers are in the style of Lady Wolverton, but darker; that is, they are wide open, with broad, overlapping, and recurving segments of a rich orange. The variety was honoured with an Award of Merit from the Royal Horticultural Society on the 9th inst. Many of the seedlings now flowering for the first time have not yet received names, including one with wide open and deep orange flowers. Close by is another one raised from Lady Wolverton crossed with Ignea, and this is characterised by very long, widely funnel-shaped flowers of a rich orange-scarlet. The plant is dwarf, with very broad leaves, and in this respect resembles the seed parent. The palest variety we noted, and the nearest approach to an albino, was that named Lemonia, which may be described as a soft yellow, tinted with the palest pinkish red, with a white throat. It is certainly a colour difficult to describe, but remarkably distinct in a class of plants where the prevailing hue is orange. The blooms are both long and of large size. A seedling obtained from John Laing crossed with Ignea was just expanding its blossoms on the occasion of our visit, but will probably prove one of the best when fully developed, on account of the large size of the flowers and their brilliant scarlet colour, with a white throat. It is the darkest of two from the same pod.

The blooms of Miss Ellen Terry are long and funnel-shaped, with the segments spreading towards the tips; they are of a peculiar shade of colour, quite distinct from the other flowers alongside, and may be described as orange-red, with a pale yellow and white throat. The shape of the flowers of different varieties does not exhibit a great range, but there are distinctions that constitute a feature of several. A seedling from Stanstead Beauty crossed with Sulphureum has short and bell-shaped flowers of an orange-red hue, with a yellow throat and deeper yellow stamens. These latter characters may have been derived from Sulphureum, a variety with pale yellow flowers tinted with a soft red. The leaves of this seedling are 2 ft. long. Lord Rosebery has flowers of moderate length, wide open, and of a warm orange-scarlet. The intensity of colouring met with in Vesuvius reminds us of the seedling obtained from John Laing crossed with Ignea, but the segments are narrower. It is a very choice variety, however, and acquires its deepest hue as the flowers are getting old or have been expanded for some time. Duchess of York has bell-shaped, widely expanded flowers of an orange-scarlet, of moderate intensity, and pleasing when in perfection.

All of the above are new varieties, but a number of the selections of past years is still highly cherished and well worthy of a place on the benches of the greenhouse or conservatory at this season of the year. Their bold and noble appearance has a telling effect whether associated with flowering or foliage plants. Amongst these we would name Clara Reimer, a continental variety of some repute in its day. The flowers are of a soft orange, more or less decidedly tinted with rose as they get past their best, but even then are pleasing. Mrs. John Laing is one of the best of the older sorts on account of its deep orange-scarlet flowers and huge umbels; the latter owe their great size to the number of flowers in each, and the long spreading pedicels of the individual flowers and which are necessary to give each bloom proper space to develop. A large plant of Patrick Davidson consists of several great crowns with proportionate umbels of orange flowers that are sulphur-yellow in the throat. Scarlet Perfection is a continental variety with dark orange flowers of good size, though now exceeded in intensity here. The work of improvement still goes on, and though it is difficult to get them to depart from the prevailing orange colour, yet there are decided variations of it and the flowers are steadily being increased in size. It might be urged that the flowers might be crossed with those of some other genus of the same family in order get a desirable break, but only a few months ago some of the continental growers were complaining of the weakening of the progeny owing to their being obtained from Clivias crossed with the deciduous Hippeastrums. The loss of the evergreen leaves would not be an advantage, but on the contrary a great calamity. Hitherto the improvements have been entirely confined to Clivia miniata, but surely if this were crossed with C. Gardeni, we would get an infusion of fresh blood and new colours. The first generation would have smaller flowers than the best existing forms, but even that could be remedied in course of time.

THE AURICULA SHOW.

To the surprise of all lovers of this prime old favourite flower, the show brought together at the Drill Hall, S.W., on Tuesday, by members of the National Auricula and Primula Society proved to be both greater in extent and richer in quality than could reasonably have been anticipated, considering the lateness of the season. Plentiful as they were, however, even the southern growers needed another week to enable them to show their full strength. The northern growers under such circumstances were not expected to show much, and, as a matter of fact, only one plant was forthcoming, and that was brought by the Rev. F. D. Horner, from Kirkby Lonsdale, who, with Mr. Ben. Simonite, of Sheffield, and Mr. A. R. Brown, of Birmingham, may be said to have represented the midland and northern growers at the meeting. But few seedlings of high merit were on view, but Mr. Horner's solitary specimen, a wonderful seedling self named Favourite, was a host in itself, and more than made up in quality for any lack in numbers.

For twelve Auriculas, dissimilar, Mr. Henwood, Auricula Villa, Reading, distanced all competitors, exhibiting the following varieties: Abbe Liszt (Douglas), Richard Headley (Lightbody), Heroine (Horner), Mrs. Potts (Barlow), James Hannaford (Simonite), Geo. Rudd (Woodhead), Prince of Greens (Traill), Acme (Reid), Black Bess (Woodhead) Lancashire Hero (Lancashire), John Simonite (Walker), and the Rev. F. D. Horner (Simonite). Mr. Sanders, gardener to the Viscountess Chewton, Cobham, won the second prize, Mr. Patterson, Sunderland, and Mr. Philip J. Worsley taking third and fourth places respectively. For six Auriculas, dissimilar, Mr. Sanders took the premier position with Rev. F. D. Horner (Simonite), Mrs. A. Potts (Barlow), Heroine (Horner), George Lightbody (Headley), George Rudd (Woodhead), and Acme (Reid). Mr. Henwood came second, and Mr. Patterson third in this class. Mr. J. Sargent, Cobham, had the best four Auriculas, dissimilar, showing Heroine, F. D. Horner, Acme, and Rachel; second, Mr. Smith, Bishops Stortford; third, Mr. Collier, gardener to Miss Kyrke Penson, Dinham; fourth, Mr. Phillips, Bracknell. Mr. Sargent won the first prize for two Auriculas, dissimilar, with plants of L'Hero and Rachel, Mr. Smith coming second, and Mr. Walker, Reading, third.

In the classes for single plants of show varieties the awards went as follows:—Green-edged: First, Mr. Douglas, with Abbe Liszt (Douglas); second, Mr. Saunders, with Rev. F. D. Horner (Simonite); third and fourth, Mr. J. E. Henwood, with the same varieties; fifth, Mr. C. Phillips, with Rev. F. D. Horner; sixth, Mr. W. Smith, with Abbe Liszt; and seventh, Mr. Saunders, with Rev. F. D. Horner. Grey-edged: First, second, and third, Mr. Collier, gardener to Miss Kyrke Penson, Ludlow, J. T. Bennett-Poë, Esq., and Mr. T. E. Henwood, with George Lightbody (Headley); fourth, Mr. Bennett-Poë, with R. Headley (Lightbody); fifth, Mr. Patterson, with Lonely Ann (Oliver); sixth, Mr. Collier, with George Lightbody; seventh and eighth, Mr. Smith, with George Rudd. White-edged: First and second, Mr. Douglas, with Marion (Douglas), and Acme (Reid); third, Mr. W. L. Walker, with Heather Bell (Horner); fourth, Mr. Douglas; fifth, Mr. Saunders; sixth, Mr. Collier; and seventh, Mr. Henwood; all showing Acme. Selfs: First, Mr. C. Phillips, with Miss Barnett; second, Mr. Douglas, with a Seedling; third, Mr. Smith, with Mrs. Potts; fourth, Mr. Paterson, with Black Bess (Broadhead); fifth, Mr. Douglas, with Mrs. Potts; sixth, seventh, and eighth, Mr. T. E. Henwood and Mr. Saunders, with Black Bess.

In a class for fifty Auriculas, comprising not less than twenty varieties, including Alpines, Mr. J. Douglas, gardener to Mrs. Whitbourn, Ilford, obtained the first prize with an exceedingly fine collection, conspicuous among which were Colonel Champneys (Turner), Elaine (Horner), George Rudd (Woodhead), and many of his own seedlings. The second prize was taken by Mr. Saunders, and the third by the proprietors of the Guildford Hardy Plant Nursery.

Mr. Charles Phillips, Bracknell, Berks, had the best twelve Alpine Auriculas, dissimilar, exhibiting Little Gem (Phillips), Seedling (Phillips), Sophia (Phillips), Mrs. Gorton (Phillips), Dot (Phillips), Dragon Fly (Phillips), Mrs. Martin Phillips (Phillips), A. R. Brown (Phillips), and Clara (Phillips). The second prize fell to Mr. Douglas, the third to Mr. Patterson, and the fourth to Mr. Chas. Turner. For six Alpine Auriculas, dissimilar, Mr. J. Douglas obtained the premier award with Miss Mollie (Douglas), Miss Moon (Douglas), Novelty (Douglas), Charles Turner (Turner), Seedling (Douglas), and Dean Hole (Douglas). Mr. Phillips came second, and Mr. Charles Turner third.

Mr. Walker contributed the finest four Alpine Auriculas, dissimilar, showing John Keen (Walker), John Lawrance (Walker), Mrs. Lawrance (Walker), and Freda (Walker). Second came J. T. Bennett-Poe, Esq., and third, Mr. Keen, Southampton.

In the single plant class for yellow centres, Mr. C. Phillips was first and second, with Dreadnought and Evelyn; Mr. W. L. Walker third and fourth, with Geo. Stanton (Walker) and Miss Moon; and fifth, Mr. Douglas, with Nellie Hibberd. Mr. Weston, Balham, had the best six gold-laced Polyanthuses, dissimilar, Mr. R. Dean, Ealing, taking the second position, whilst Mr. Jas. Douglas came in third. The last-named gentleman contributed the best three gold-laced Polyanthuses, dissimilar; second, Mr. Dean; third, Mr. Weston.

The first prize for twelve fancy Auriculas, six of them at least to be distinct, and not more than two of any variety to be shown, went to the Guildford Hardy Plant Company, who had Bronze, Innocence, Lallah Rookh, Old Gold, Rolt's Green, Khartoum, and Belle in good condition. The second prize here fell to Mr. Jas. Douglas, and the third to Mr. Dean. The last-named gentleman outstripped all other exhibitors in the race for the finest twelve fancy Polyanthus, showing exceedingly fine samples. Second came Mr. Saunders, third, Mr. Douglas, and fourth, Mr. Gilbert. The premier award for twelve single Primroses, dissimilar, was carried off by Mr. Dean, who had some splendidly grown plants, Mr. Jas. Douglas making a good second, Mr. Saunders occupying the third place. Mr. J. Douglas was again successful in obtaining a first prize for eight splendidly-flowered plants of the Double Crimson Primrose, also a like award for the best twelve Primulas of distinct species or well marked varieties. He had excellent examples of P. viscosa var. decora, P. intermedia, P. verticillata, O. obconica, P. cortusoides var. Amoena, P. japonica, P. mollis, and P. floribunda. The first prize for a basket of Primroses arranged for effect fell to Mr. Jas. Douglas, who carried on his consistent successes still further by winning the first award for a group of Primulas and Auriculas arranged for effect, and not exceeding twelve superficial feet in area.

First-class Certificates were awarded to the Rev. F. D. Horner for his seedling self, Favourite, a magnificent regal purple with beautiful circular paste, and neat bright tube, the pips measuring 1½ in. in diameter, and perfectly flat. This grand acquisition to the self class was also awarded Mr. Martin R. Smith's special prize. Mr. C. Phillips also received similar awards for seedling Alpines Dreadnought, a very neat golden-centred variety shaded rich rosy red; and A. R. Brown, also a rich yellow centre, shaded with orange-red. The premier Auricula was Mr. Collier's George Lightbody.

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

SUTTON COURT NURSERY, CHISWICK.

This compact little nursery, which is situated within a few minutes' walk of the Royal Horticultural Society's garden at Chiswick and which has long been carried on by Messrs. William Fromow & Sons, is about two-and-half acres in extent, by far the greater portion of this area being occupied by glasshouses. The firm has also extensive nurseries at Hounslow and Bagshot where the propagation and rearing to suitable size of large quantities of hardy trees and shrubs is actively carried on. The glass houses at the Chiswick Nursery are throughout of a better class than is usually to be seen in the majority of nurseries and market gardens and an important and conspicuous addition has recently been made in the form of a large showhouse which has been erected during the past year at the Turnham Green corner of the nursery. The central portion of this house is especially fine and lofty and is ventilated by means of the approved lantern roof, a method which, whilst it admits the accommodation of larger plants than would otherwise be possible also allows of the giving of an abundance of air without the causing of undue draughts. A number of well-grown palms, principally Kentias, are here to be seen, whilst another compartment opening out of this is devoted to the staging of a variety of greenhouse flowering plants; a series of cellars beneath this house form convenient storage, and here it is that during the past few months a quantity of Lilacs have been forced into flower, the prevailing semi-darkness serving to bleach the flowers and thus render them more suitable for purposes of cut flower than they are when the colour is not so eliminated.

A large number of the houses are devoted to the growing of foliage plants and large quantities of bedding material; flowering subjects not receiving so much attention, as the dense fogs which so often hang over the city and its suburbs prove exceedingly harmful to plants in flower. Stove foliage plants were abundant in quantity and of excellent quality, Crotons being well represented; also Dracaenas, D. Lindeni and D. gracilis appearing to be special favourites, judging from the numbers grown. It is almost needless to say that Palms form a special feature in this department, large quantities of Kentia australis, K. Fosteriana, and Cocos Weddelliana being on view in all stages from young seedlings barely eighteen months old in thumb pots to nice little plants suitable for the filling of vases, etc., in 48's and 32's.

Amongst the subjects requiring a lower temperature a large batch of nice little examples of Araucaria excelsa in small pots are very noticeable. These will be grown on until they form beautiful little plants in large 48-size pots, and about 18 in. in height. At this stage they find a ready sale, a fact not to be wondered at when we consider how pretty they are and the ease with which their beauty may be preserved.

A noteworthy feature of the nursery is a small but meritorious collection of varieties of Acer polymorphum in pots. It is rather strange that one so seldom sees these beautiful plants grown in this way, for their finely cut and gorgeously coloured leaves produce a magnificent effect among a collection of greenhouse plants during the spring, summer, and autumn months, and thoroughly deserve to be extensively grown. The well-known foliage plant Eurya latifolia variegata is also grown at Sutton Court Nursery in quantities. This is an exceedingly useful subject, as it will put up with a far longer stay in draughty or cold corridors or staircases than will the majority of foliage plants. A large batch of Adiantums just throwing up their young fronds are giving promise of an abundance of material from which to cut presently. A. cuneatum is the one principally grown, as this is a splendid doer and stands well when cut, although here and there pieces of the pretty E. elegantissimum are to be seen. Liliums are to be seen in considerable numbers, and to judge from the vigour of their growth and the deep healthy green of their foliage great things may be expected from them presently in the way of flowers. L. longiflorum and L. Harrisi are evidently favourites with Messrs. Fromow.

Bedding stuff of all kinds, as has been previously intimated, receives special attention, and during the season large quantities are sent out from the nurseries to all parts. Zonal Pelargoniums look well and healthy, and a large batch of plants of the Ivy-leaved section is especially noticeable. Although several sorts are grown, Madame Crousse with its delicate pink flowers and its profuse blooming and free-growing qualities is the one which finds the readiest sale. During the past year great quantities of it were sold for the filling of window boxes in conjunction with the white-flowered Marguerite; the two together making both a brave and a constant display. Several frames full of strong healthy plants of Marguerites attest that the public will not need to call in vain for a supply of the showy plants which bedecked the windows of many a cottage and villa last season. Large supplies of Verbenas, Lobelias, and the usual run of tender herbaceous bedding material are also being got together in readiness for the rush which will come in with the warm weather, and the preparations now in progress in this department bespeak the anticipation of a lively trade in a few weeks' time. Altogether a visit to Messrs. Fromow & Sons' establishment is full of interest and instruction to those who wish to see the workings of a thriving general nursery business. It also demonstrates beyond a doubt which particular plants are favourites with the horticulturally inclined public, from the good qualities which they have been abundantly proved to possess by years of cultivation and trial.

SOME WAYSIDE THOUGHTS: MOSTLY FLORAL.

When I awoke on Easter morn I found myself in the secluded little village of Bourton, a quiet but well-appointed hamlet on the borders of Berks and Wilts. The sun was shining brilliantly, although it was yet early; the colour of the sky was of that clear cerulean tint which we love to style Italian, while the air was so sweet and crisp that to remain indoors would imply insensibility to the beautiful, and a callous disposition not to recognise the claims of nature. Who loves not change? and a change from the turmoil of town to the rusticity of the country is not only good in itself but brings with it so much refreshment to body and spirit, that our whole being is elevated and inspired by the mean and petty cares of everyday existence.

Those who love nature never can be dull; and although we cannot "remount the river of our years,"

> "'Tis Nature's privilege,
> Through all the years of this our life, to lead
> From joy to joy."

So, with these thoughts oscillating in my mind, I presented myself at the breakfast table, where the first bit of harmless superstition appeared with reference to the pale colour of the butter. "Oh!" exclaims my young hostess, "the cows have not yet been able to get any Buttercups." This, however, did not detract from the eggs and the cream. So, after the morning meal, I turned out to commune with nature, and to offer my orisons to Eastre, the pagan goddess of light and spring. The great festival of the Christian Church is derived from the same source, therefore the difference of worship is one merely of degree. But in connection with the etymology of Easter, I am inclined to think that the wind which we call north-easter has been entirely overlooked; for, although I presume there is no etymological affinity between them, yet at this season of the year the terms are often synonymous. Judging by the proverb about "man" and "beast," this wind is certainly unpopular, yet, withal, it exercises a beneficial influence on the saturated soil.

But, as we are among the fields, the trees and the flowers, let us turn our attention to those mysterious voices which are begotten of the fancy and the breeze; let us listen, then, to that indefinable something which is not ourselves, and if, perchance, we can see likewise, we shall be sure to note much more than is either audible or visible to ordinary ears and eyes. The dullest road, or the most matter-of-fact field, will afford much food for reflection to those who seek them; and, although Berks and Wilts are not floral paradises like some other counties I could name, they yet possess a goodly number of wild and wayside plants. Common they may be, but all things are common to those who have enough and to spare. If the golden rays of the morning sun are a glory in themselves, how much more so are the various forms and hues of the bank-bespangling flowers? for:—

> Some are white, and some are bright,
> And some in blue are robed.

The aspect of the month, however, rather resembles March than April, for the recent great wave of cold has done as much to retard the wild as the garden flowers. The trees and the hedges, too, are bare, with just a faint tinge here and there of that most refreshing of all colours, the vernal green. The warmth and light has, moreover, brought out the blundering bee, and the beauteous butterfly; while the birds of the air and the beasts of the earth, severally, seem conscious of the advent of spring.

Let us, then, turn down this gentle declivity, this bosky lane, this "occupation" road, which leads to nowhere in particular, but which is typical of many a rural right-of-way in these sequestered parts. On our right hand we have the park and grounds of the village squire, whose gardener is well known in the vicinity for his vegetable successes; while on the other the open fields and pastoral lands, where so much of our dairy produce comes from, stretch away towards the "everlasting" Downs which culminate in the White Horse Hill, at an elevation of 893 feet.

A little way down the lane a substantial cottage appears, where the Daphne Mezereum is gay with its dull red flowers. Passing round and beyond the bend we soon come upon great clumps of the Arum Lily (A. maculatum) with large, spotted, hastate-looking leaves, from between which, by-and-by, the "Lords and Ladies" of the country folk will reappear. Here, also, the coarser forms of wayside "weeds," such as the Cowparsley and Dandelion, assert themselves; but were the latter less common than it is the Alpine garden would be incomplete without its large bright yellow discs. The botanical name, Taraxacum officinale, implies its use or uses in the rural home, for not only its leaves but its roots are in demand for various purposes. As showing the value of technical terms upon the minds of the uninformed, I was much impressed about two years ago when a bed of these were cultivated at Kew. They made a grand show, and were, of course, befittingly styled on the label in the language of that great botanical establishment. They were much admired by those who knew not Latin; but when it leaked out that they were only Dandelions their admiration underwent a change, and the poor little flowers became subject to the most unmerited contempt. There would, therefore, appear to be something in a name after all. But as Dandelion is a corruption of *dent de lion* it would further appear that we English were unable to pronounce French; hence the curious conglomeration of the phrase "Tooth of the Lion," which has special reference to the serrated edges of the strap-shaped petals. Thus it would seem that the commonest of objects has a history which it is worth anyone's while to attempt to unravel.

But look, here is one of the sweetest of British wild flowers, the favourite Violet, whose name we need not dwell on, for it is of doubtful origin. Moreover, everyone is well acquainted with its "modesty" and sweetness. Every little child knows where to find it—its fragrance betrays it. On a sunny bank it opened its dark purplish-blue flowers in response to the warmth of Phoebus, while on the opposite side of the hedge the incipient blossoms were only in the bud condition. This was also the case with another nodding flower, namely, the Wood Wind-flower (Anemone nemorosa). Why it is said to be derived from *anemos*, wind, I am at a loss to conceive, because whether the six pretty white petals assume a drooping or spreading condition, they are mostly found in woods and thickets, where the wind can hardly have any effect upon so shy and lowly a plant.—*G. B. G., Acton.*

(*To be continued*).

GARDENING MISCELLANY.

FREESIA REFRACTA ALBA.

Plenty of beautiful sweet scented flowers can be had by the cultivation of this charming flower. In the matter of fragrance it excels the Stephanotis, and but for a trifling want of substance it would stand when well grown on equal terms with it. As the tubers can be brought in season at ridiculously low prices—from 1s. 6d. to 3s. 6d. per 100—no one need be without them, and if the following directions are followed failure will be out of the question. Procure your tubers early, and of a good flowering size, and place seven of them at equal distances apart in 7 in. pots, using a compost made up of three parts of loam

and one of sand. Crock well, but use no moss, and after potting plunge them in ashes out of doors for a month or six weeks, and subsequently bring them on as coolly as possible, so long as they are safe from frost. Green fly are very fond of Freesias, so that the time they begin to grow a watchful eye must be kept on them.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

BEGONIA FLORIBUNDA ROSEA.

Of the garden hybrids of Begonia that are useful for winter flowering, that under notice is one of the prettiest, most floriferous, and most lasting. The flowers are produced in cymes from the axils of the leaves as the shoots extend. The latter are slender, branch freely, and assume a spreading and drooping habit, which displays the profusion of bloom to advantage. The buds are of large size before expanding and of a deep rose, but when expanded the flowers are of a light rose and pleasing. The leaves are moderate in size, numerous obliquely heart-shaped and deep green. A batch of plants may be seen in the nursery of Messrs. J. Laing & Sons, Forest Hill, and which commenced flowering last autumn, but are even more floriferous now than they could have been all the winter. The plants are suspended from the roof of a house in pots—a position which gives them all the advantage of light, and at the same time displays their drooping habit to the best advantage, because it puts them on a level with the eye. Mixed with them are plants of B. f. alba, which differs only in having white flowers. Though scarcely so valuable from a decorative point of view as the rose variety, yet it acquires greater importance from association with it.

RHODODENDRON FOSTERIANUM.

The genus Rhododendron, including, of course, Azalea, contains many charming and valuable plants, many of which are known, others unknown, to the average gardener. None of them, however, are more worthy of recognition than R. Fosterianum, for in it we have a plant that well deserves all the praise that can be given it. The flowers are large, being between 4 in. and 5 in. in diameter, and pure white in colour with the exception of a slight tinge of yellow which is apparent at the base of the corolla tube. The flower possesses the additional charm of being deliciously fragrant, a sufficiently rare qualification to render the plant all the more noteworthy. A specimen of it which is planted out in one of the beds in the temperate house at Kew has been a profusion of bloom during the past week. R. Fosterianum is of garden origin, being the result of a cross between R. Veitchii and R. Edgeworthii, and is, if we may judge from the Kew specimen, a decided acquisition to the ranks of greenhouse flowering plants.

RHOPOLOBLASTE HEXANDRA.

In various stages of its growth this is a beautiful and useful Palm for decorative purposes, but is most useful for general work in most establishments in its early stages. A use can be found for the larger plants in warm conservatories and for particular occasions in rooms when large groups of flowering and foliage plants are set up. It is of comparatively recent introduction for commercial purposes, but plants of good size may be seen in the nursery of Messrs. J. Laing & Sons, Forest Hill. We noted a specimen with leaves 3 ft. to 6 ft. long, and pinnate with the linear lanceolate pinnae 12 in. to 15 in. long and very thickly arranged along the arching midrib. The latter is covered with a brown scurf which stands out in relief against the dark green of the leafy portion. Altogether it is a light and graceful Palm and in the younger stages is useful for table decoration, because, when well grown, it is compact, shapely and attractive.

RHODODENDRON GRIFFITHIANUM.

A specimen of this fine Rhododendron now flowering in the temperate house at Kew is well worthy of mention. A native of the Himalayas it is, like many other of the Rhododendrons hailing from thence, of robust growing habit, and when fully grown assumes the proportions of a small tree. The flowers are very large and pure white in colour, the limb of the corolla being spreading, and between 5 and 6 in. in diameter. Unlike R. Fosteriana, however, the flowers, although of good substance and noble and imposing in appearance, are not fragrant. Still R. Griffithianum is a fine plant, and one which is worthy the attention of any gardener who possesses the conveniences necessary for the accommodation of these large Rhododendrons. Although they may be successfully grown in pots or tubs they always do best when planted out in specially prepared borders, as those at Kew, for when treated thus their wants are but few, and any trouble entailed in supplying them is certainly amply compensated for by the magnificent appearance they present when in bloom.

RUDGEA MACROPHYLLA.

A small specimen of this plant is now flowering in the Palm house at Kew and is by no means lacking either in beauty or interest. The Rudgeas do not, as a rule, find a place among the majority of plant collections in private establishments, possibly because they have not a great deal that would recommend them to the average gardener as suitable occupants for his plant houses. R. macrophylla is, however, well worthy such a place. The sessile flowers are thick and fleshy in substance, creamy-white in colour, and produced in a densely clustered head borne upon a short peduncle. The leaves are rather large, coriaceous in texture, ovate-oblong in shape, subsessile, and dark green in colour. The plant was introduced from Brazil in 1867.

SOCIETIES.

Royal Horticultural, *April 23rd.*—The Drill Hall wore a gay aspect on Tuesday last, when the National Auricula Society held its show in conjunction with the ordinary meeting of the Royal Horticultural. Auriculas and various other Primulas made a brave display, but the Orchids again more than held their own against all comers. Daffodils were very beautiful, as well as hardy herbaceous and Alpine plants in general. Forced Roses, Ferns, and various other indoor plants were plentiful. A well-flowered group of Orchids was set up by Messrs. F. Sander & Co., St. Albans, including some fine pieces of Odontoglossum crispum, O. Edwardii, O. cirrhosum, Dendrobium thyrsiflorum, D. undulatum, and D. Augustae Victoriae. A Cultural Commendation was awarded for a large plant of the latter with stems 5 ft. to 6 ft. high, and bearing long racemes of flowers. A Silver Flora Medal was awarded for the group. A large group of Orchids was also exhibited by Messrs. J. Veitch & Sons, Chelsea. Amongst them were large and well-flowered pieces of Odontoglossum cirrhosum, O. hastilabium, Oncidium concolor, O. ampliatum majus, Cypripedium Haynaldianum, Masdevallia ignea, and various Cattleyas, Laelias, Cymbidiums, and Dendrobiums. The variety was great and the numerous colours were very well mixed and contrasted (Silver Flora Medal). Messrs. B. S. Williams & Son, Upper Holloway, also set up an extensive group of Orchids, amongst which Cymbidium Devonianum, Coelogyne Massangeana, Dendrobium superbum, Cypripedium Rothschildianum, C. grande, and many others. The range of variation was considerable, and Palms and Ferns stood amongst the plants set off the colours of the flowers (Silver Banksian Medal). A very varied group of Orchids was also staged by Messrs. W. L. Lewis & Co., Southgate. Laelia purpurata was fine, as were the various Odontoglossums, such as O. ramosissimum, O. luteo-purpureum, O. Andersonianum, and O. Pescatorei Lewisii with a strikingly rich blotch on the lip. The species and varieties were very numerous (Silver Flora Medal). A smaller group of Orchids was exhibited by Messrs. Hugh Low & Co., Clapton, including a fine piece of Cymbidium Lowianum, also Cattleya Schroderae, and several beautiful varieties of C. Mendelii, including a very light coloured one with a creamy-white crisped lip, having a purple blotch at the apex. In the centre of the group was a large box of the Bush Hill White Mignonette, fragrant and striking from the peculiar way in which a bunch of flowers grows out from the interior of the seed pod. (Silver Banksian Medal). A small, but pretty and interesting group was exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking. A Cultural Commendation was awarded for two remarkably well-flowered pieces of Masdevallia Arminii. He also had Polystachya Ottoniana like a pan of Snowdrops, Dendrobium cretaceum, and several others less showy but interesting. A small group was also shown by F. Hardy, Esq. (gardener, Mr. T. Stafford), including a fine Cypripedium named C. Gowerianum magnificum, Odontoglossum Ruckerianum Mrs. F. Hardy, and several others. Cypripedium caudatum, Dendrobium MacCarthiae, Odontoglossum Hallii, and several Cattleyas were shown by Walter C. Walker, Esq. (gardener, Mr. G. Cragg), Winchmore Hill. A Cultural Commendation was accorded to to Major Joicey (gardener, Mr. F. S. Thorne), Sunningdale Park, for a fine piece of Cypripedium Elliottianum with two scapes and seven flowers. He also had a well-flowered piece of Dendrobium atroviolaceum. A light coloured and pretty Cattleya named Princess of Wales was shown by Thos. Statter, Esq. (gardener, Mr. Johnson), Stand Hall, Manchester. A collection of cut flowers of Vanda tricolor, V. suavis, and others, showing rich, beautiful, and varied markings, was staged by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell (Silver Banksian Medal). A fine plant of Odontoglossum Mulus, Rosefield var., was shown by De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. A small group of Orchids, including Odontoglossum baphicanthum, O. Andersonianum Victoriae, Laelia cinnabarina, and Dendrobium Paxtoni superbum, was exhibited by Geo. Marshall, Esq. (gardener, Mr. Johnson), Claremont House, Grimsby. A group of Cattleya Schroderae and its varieties was shown by Messrs. Heath & Son, Cheltenham. C. S. magnifica was notable for the great size of its flowers, and C. S. alba was white with exception of the orange blotch in the centre (Silver Banksian Medal). Odontoglossum Andersonianum, Falkland Park var., O. triumphans, and several highly-coloured forms of O. luteo-purpureum, all with long spikes, were exhibited by Thos. McMeekin, Esq. (gardener, Mr. A. Wright), Falkland Park, South Norwood Hill, Epidendrum atropurpureum album, Cattleya Schilleriana, and several others were exhibited by W. M. Appleton, Esq., Weston-Super-Mare. Flowers of Dendrobium Bensoniae, and Laelia Digbyana-Mossiae, as well as a large and floriferous plant of Dendrobium Hildebrandii, were exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. Cypripedium Prince de Venose was exhibited by the Prince de Venose (gardener, Sig. Raggionieri), Rome. A fine group of Orchids was set up by H. T. Pitt, Esq. (gardener, Mr. R. Aldous), Stamford Hill, for which a Silver Flora Medal was awarded. Very prominent were the numerous spikes of Dendrobium thyrsiflorum, Cymbidium Lowianum, Phaius Wallichi, various Cattleyas, including C. citrina, and a grand variety of Odontoglossum excellens.

Mr. W. Rumsey, Joynings Nurseries, Waltham Cross, contributed some first-class examples of Roses in pots. The plants were a blaze of bloom, and comprised such well-known varieties as Beauty of Waltham, General Jacqueminot, Madame Hoste, and Souvenir d'un Ami in fine form. In front of the pot plants were staged some seven stands of cut blooms, each case containing two dozen, some fine blooms of Niphetos being especially conspicuous. The whole group was an exceedingly bright and attractive one, and received a Silver Gilt Flora Medal. Messrs. Paul & Son also had a number of pot Roses in good condition, as well as some neat examples of Cannas, as Mrs. Tasker, Cheshunt Yellow, Antoine Barton, and Comet (Silver Flora Medal). Messrs. B. S. Williams & Son staged a number of Hippeastrums (Amaryllis) in praiseworthy style; Colonel Kelly, Lothair, and Lord Valentia being some of their best varieties. Conspicuous in this group were some neat and well-flowered specimens of Boronia serrulata and the pretty blue Leschenaultia biloba major (Bronze Banksian Medal). Messrs. Geo. Jackson & Son, Woking Nursery, Surrey, were responsible for a fine display of Roses, Violas, Narcissi, N. poeticus ornatus, and N. telemonius flore pleno being the best varieties, Androsace floribunda, Primulas and Violas, staged in an effective and tasteful manner, for which a Bronze Banksian Medal was awarded.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, exhibited a splendid collection of exotic Ferns and foliage plants; two finely-bloomed samples of the beautiful Rose, Crimson Rambler, and a basket of Trapaeolum Coolgardie, occupying a conspicuous position. Amongst the Ferns some beautifully crested and furcated varieties of Pteris cretica and P. serrulata were deserving of all praise. The

examples here shown of Agapanthus umbellatus variegatus, and Cineraria maritima aurea variegata were also praiseworthy (Silver Flora Medal). Messrs. Barr & Son, King Street, Covent Garden, exhibited an exceedingly comprehensive collection of cut blooms of Narcissi, Tulips, and other spring-flowering bulbous subjects in superb style. Among the best Narcissi here shown were obvallaris, Grand Duchess, Exquisite, Autocrat, Glory of Leiden, C. J. Backhouse, M. Magdaline De Graaf, and Madge Mathew (Silver Flora Medal). An interesting and noteworthy exhibit of hybrid and seedling Narcissi which came from the Rev. G. H. Engleheart, Appleshaw, Andover, contained some very pretty varieties, and received a Silver Banksian Medal.

A magnificent collection of cut blooms of Daffodils which was sent by Rev. S. Eugene Bourne, Dunston Vicarage, Lincoln, was awarded a first prize. This was a very extensive exhibit and contained some excellent material, Glory of Leiden, Duchess of Westminster, Empress, Conspicuous, Emperor, John Bain, Santa Maria, Maximus, Beatrice, Gwyther, and Minnie Hume being some of the best among a collection in which all were good. The second prize fell to J. T. Bennett-Poë, Esq. (gardener, Mr. Downes), Holmewood, Cheshunt, who also had some very fine samples, although his collection was not nearly so large as that of the first prize-takers. The second and third prizes were appropriated by M. Cammell, Esq., Loxwood House, Billinghurst, and W. J. Grant, Esq., Bassaleg, Newport, respectively.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, N., showed a large collection of cut flowers in exceedingly fine style, for which a Silver Flora Medal was awarded. Narcissi entered very largely into the composition of the group, N. Barri conspicua, N. poeticus ornatus, Sir Watkin, and Leedsii Annie Baden, especially being well represented. Some nice spikes of bloom of the beautiful white Gladiolus, The Bride, were also noteworthy here, whilst the brilliantly scarlet flowers of Anemone fulgens were very noticeable and materially assisted in imparting a deal of brightness and colour to the group. Messrs. William Paul & Son had a number of nicely shaped hardy trees and shrubs in pots, containing amongst others such well-known subjects as Araucaria imbricata, Retinospora filifera, Picea Lowii, and Osmanthus illicifolius, in bright, clean condition. From J. C. Tasker, Esq. (gardener, Mr. P. Perry), Middleton Hall, Brentwood, came a group of Roses in pots, Adiantum cuneatum and Ghent Azaleas (Silver Banksian Medal).

A Silver-Gilt Banksian Medal was awarded by the Floral Committee to the Messrs. Rothschild (gardener, Mr. G. Reynolds), Gunnersbury Park, Acton, for a splendid group of Primula obconica. Although the plants carried such large quantities of bloom they were only grown in 48-sized pots, a fact which greatly enhances their value as decorative plants. Mr. J. Walker, nurseryman, Thame, Oxon, received a Silver Banksian Medal for a meritorious display of cut Roses. Mr. Walker's samples of Marechal Niel and Niphetos were really splendid. Mr. Frank Cant, Braiswick Nursery, Colchester, was successful in obtaining a Silver Flora Medal for three stands of two dozen blooms each of Roses. The blooms here shown were of superior quality and did great credit to Mr. Cant's ability as a cultivator of the queen of flowers. A like award was also made to Mr. George Mount, the Rose Nurseries, Canterbury, for a similar exhibit, which in point of excellence was all that could be desired; such varieties as Catharine Mermet, The Bride, and Gabriel Luizet, appearing to great advantage.

A group of Primulas and Alpine flowering plants which came from the Guildford Hardy Plant Nursery, Mill Mead, Guildford, obtained a Silver Flora Medal. This was a most interesting and tastefully arranged group, and reflected great credit upon those who were responsible for its arrangement. A collection of Polyanthuses and Primulas, contributed by Sir Trevor Lawrence (gardener, Mr. Bain), received a Bronze Banksian Medal. An interesting contribution came from Messrs. James Veitch & Sons, Chelsea, in the shape of some pans filled with well-flowered plants of varieties of blue Primroses, also some pans of Alyssum saxatile citrinum in fine condition. A number of small plants of Primulas were also sent from the Royal Gardens, Kew, together with some magnificent racemes of the lovely Amherstia nobilis. Messrs. H. Cannell & Sons also sent some well-bloomed examples of gold and silver-laced and primrose Polyanthus, which were also very noteworthy.

Vegetables, although not extensively exhibited, were still not entirely wanting from the exhibition tables. Messrs. Sutton & Sons, Reading, showed a number of different varieties of Kales, recommended by them for garnishing purposes, amongst which some finely curled, coloured, and variegated sorts were to be seen, their superior quality evidencing both careful and skilful cultivation. Another variety, Sutton's Improved Hearting Kale, intended for ordinary culinary purposes, for which an Award of Merit was given, was grandly represented, and should prove a decided acquisition to the ranks of winter and early spring vegetables. A quantity of Radishes, comprising both tap and turnip rooted varieties, contained some excellent material, the roots throughout being of nice size, fine shape, and good colour. This collection deservedly met with a verdict of "highly commended" from the Vegetable Committee. Messrs. B. S. Williams & Son had samples of their new Early Seedling Dwarf Kidney Bean, which, to judge from the samples shown, should prove a good and useful dwarf variety. Andrew Pears, Esq., Springrove House, Isleworth (gardener, Mr. W. Farr), contributed some first-class trusses of fruit of the new Tomato All the Year Round. Cultural Commendations were awarded to Earl Percy, Syon House, Brentford (gardener, Mr. G. Wythes), for meritorious examples of Seakale and Potato Sharpe's Victor.

The labours of the Fruit Committee were neither very extensive nor arduous, as but little fruit was shown. A. Henderson, Esq., Buscot Park, near Farringdon (gardener, Mr. W. Meads), had fine samples of Melon, The Countess, for which a Cultural Commendation was given. A like award was also made to Earl Percy for bunches of Foster's Seedling Grape.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

VINE LEAVES SHRIVELLED AND BROWN.—*A.B.C.*: At first sight we thought it was a case of attack by a mite, somewhat like red spider but very much smaller and white, and which sometimes proves very troublesome to vines in the spring, especially young ones, killing the leaves and shoots. Upon examination, however, we could find no trace of the mite whatever, and from what we can see it is a case of scalding. The sun, we suspect, had come out warm and bright, scalding the tender leaves while yet saturated with moisture. The injury might not be detected the first day while the leaves are yet green, but they gradually change colour, becoming brown, so that the extent of the injury would be quite evident next morning. If the injured rods are in the east end of the house, it will tend to confirm this view. The rods and shoots will outgrow the injury as the summer advances, if scalding is really the true nature of the evil. We do not think that a mole about the roots would have done it, especially seeing that you secured it so quickly.

BRITISH FLORA.—*O. R. O.*: Hooker's "Student's Flora of the British Islands," Macmillan & Co., price 10s.6d.

VINE BUNCHES GOING BROWN.—*J. J. G.*: As far as we can determine from the specimens sent the evil is due to some fault in cultural treatment. It may be that owing to the cold weather we have been having and the frequent changes, that the vines have been subjected to a very low temperature during the night or early morning, causing a heavy condensation of cold moisture upon the foliage, and thereby checking the tender growth which had been growing freely. The sun has frequently been warm during the day notwithstanding that the east winds outside have been very cold. We think that a great fluctuation of the temperature must have been brought about in this way, causing the bunches of flowers to assume the stunted and brown appearance. This may have occurred some little time ago, and you may be able to account for it if you recall the case, about a week ago or even less.

RED FLOWERS.—*Rubens*: We have never heard of any English name applied to Aubrietia or Kennedya. Verbenas might possibly be in flower in June if they have been brought well forward under glass, but Hollyhocks, Geum and Cornflower would hardly be in bloom by that time. Some of the more advanced Vetches might be in bloom by that time, including the wild Tare, but as a rule they are more common a month later. The Dahlia may have a few flowers in August, but September is really the month for this flower. The earliness or lateness of the season has much to do with what is in bloom in the way of red flowers during June.

CORNELIAN CHERRY &c.—*Plante*: The fruit is red, like that of a small red Cherry, that is, cornelian-coloured or more properly carnelian-coloured. It is a favourate with birds. The Scotch Plane or Sycamore (Acer Pseudo-Platanus) is not truly a native of this country but has become naturalized. It is more like the true Plane (Platanus) than anything else wild in this country. The Cuscuta has the habit you mention; but it is incorrect to speak of it as having aerial roots. The later are like suckers which penetrate the stems of its host plants. The Mistleto penetrates the bark of various trees but is believed to obtain its carbon from the atmosphere and not from the host plant. The Ivy fixes itself to trees but does not derive nourishment from them. Mosses and lichens grow upon trees, but do not derive their subsistence from the same. The Japan Ivy (Vitis tricuspidata) has suckers by which it attaches itself to trees, walls and other objects. The Vetches climb by tendrils upon other plants as does the Pea, Sweet Pea and many others. The Red Briony climbs in the same way but the Black Briony and the Bindweeds climb by twining like the Scarlet Runner. None of these derive their nourishment from the plants on which they climb.

COMMUNICATIONS RECEIVED.—C. N. W.—C. B. G.—H. J. J.—R. & W. W.—G.—A. H. K.—Rusticus.—W. & I.—H. J. H.—D. W.

LONDON SEED TRADE.

April 23rd, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a steady demand for Agricultural seeds. Lower grades of White Clover are slightly cheaper. Red Clover steady. Alsike dearer. French Italian Ryegrass in short supply. Prices advancing.

COVENT GARDEN MARKET.

April 24th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples.....per bnshel	3 0	9 0
Nova Scotla Apoles per harrel	12 0	21 0
Cob Nuts and Fll-berts, per 100 lbs.	18 0	
Grapes, per lb.	1 0	5 0
Pine-apples. —St. Mtohaet's each	2 6	6 0
Strawberries, Nobles, per lb.	1 6	2 0
Other varieties, per lb.	2 0	4 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
ArtlchokesGlobe doz.	3 0	6 0
Beans, French, perlb.	2 0	2 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Caullflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cncnmbers .....each	0 3	0 9
Endlve, French, doz.	2 6	3 0
Herbs .....per bnnch	0 2	0 6
Horse Radlsh, bnndle	2 0	4 0
Lettnces ...per dozen	3 0	0 0
Mushrooms, p. basket	1 0	1 6
Onlons.....per hnnoh	0 4	0 6
Parsley ... per bunch	0 6	
Radlshes... per dozen	1 6	
Seakale...per basket	1 6	2 0
Smallsaladlng, pnnnet	0 4	
Splnach .....per lb.	0 6	
Tomatos..... per lb.	1 0	2 0
Tnrnlps ..... per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidlstra, doz.....	18 0	36 0
" specimen plants	5 0	10 6
Azaleas, each	3 0	4 0
Cinerarias, per doz.	6 0	10 0
Cyclamen, per doz.	9 0	12 0
Dracaena, various, per doz.	12 0	30 0
Dracaena vlrldls, doz.	9 0	18 0
Erlca, various, doz....	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, lnvar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Follage Plants, var., each	2 0	10 0
Lycopodiums, doz.	3 0	4 0
Marguerite Daisy, per doz.	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in varlety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Primulas, doz.	4 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lllles, 12 blms.	3 0	4 0
Azalea, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0
Bouvardlas, per bun.	0 6	1 0
Carnatlons doz. hlms.	2 0	3 0
Double Daffodils, doz. bchs.	1 6	3 0
Single Daffodils, doz. bchs.	3 0	4 0
Euoharls ...per doz.	4 0	6 0
Gardenlas ...per doz.	3 0	4 0
Geranium, scarlet, doz. huuches	6 0	9 0
Lllac (French) per bch.	5 0	6 0
Lllinm longlflorum per doz.	4 0	6 0
Marguerltes. 12 bun.	1 6	3 0
Matlenhalr Fern, 12 hs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pelargonlums, 12 hun.	6 0	9 0
Prlmula, double, doz. sprays	0 6	1 0
Pyrethrum doz. hun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	1 0	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 3	2 0
Red Roses.....	3 0	6 0
Pink Roses	5 0	7 0
Roses (French), yellow, doz. blooms	1 6	2 0
Roses (French), red, doz. blooms. ...	2 0	2 6
Smilax, per bunch ...	4 0	6 0
Stephanotis, doz. sprays	4 0	6 0
Tuberoses, doz. blooms	0 4	0 6
Violets (English) doz. hun.	1 0	2 0
Violets (French) Parme, per bun.	2 6	3 6
Violets (French) Czar, per bun. ...	2 0	3 0
Violets (French) Victoria, doz. bun.	2 6	4 0

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FLOWER SHOW FIXTURES, 1895.

May.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

June.

3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

July.

3.—Southampton Spring Show.
2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

August.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show.
14.—Bishop Stortford Flower Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

September.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

October.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

November.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.

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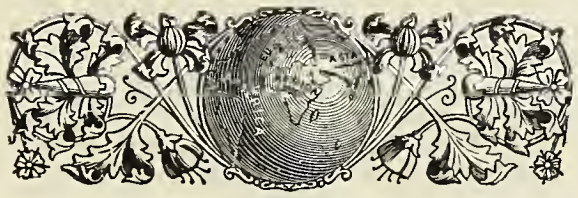

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The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MAY 4th, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, May 6th.—Plant Sale at Protheroe & Morris' Rooms.
TUESDAY, May 7th.—Orchid Sale at Protheroe & Morris' Rooms.
WEDNESDAY, May 8th.—Sale of Orchids at Holly Lawn, Beech Lane, Hagley Road, Birmingham (2 days).
Sale of Lilium auratum Bulbs at Protheroe & Morris' Rooms.
FRIDAY, May 10th.—Orchid Sale at Protheroe & Morris' Rooms.

SPRING TINTS OF LEAF AND FLOWER.—Whether enthusiasts in gardening or not, there are few probably who do not, to some extent, behold and appreciate the more prominent aspects of nature as they unfold in spring. To those who are fully alive to the beauties of vegetation, the bursting of the buds, and the unfolding of the flowers or foliage, constitute a continuous panorama from the time the earliest commence to open till the latest change their delicate tints of springtide for the fully developed leafage of summer. Of course, there are several exotic trees which can hardly be said to have reached this stage till far beyond midsummer. The large flower buds of the Elm swell up and expand into red blossom during February or March according to the weather, and this applies to the relative earliness or lateness of everything else. The yellow catkins of the Goat Willow have been an object of admiration to old and young for centuries in this country. The tree itself is seldom planted in the neighbourhood of mansions unless the latter are in the proximity of lakes, rivers, or ornamental water. It is different, however, with the Elm and Horse Chestnut which often come inconveniently close, considering the dense shade they produce in summer. The red flowers of the one and the rapid leafage of the other as well as its gorgeous display of bloom later on, have enabled those trees to approach the doors and windows of many a fine old mansion house. Amongst half a dozen Horse Chestnuts, perhaps half as many distinct seasons or periods of leafing may be observed, owing to the precocious nature of some individuals and the tardiness of others. This peculiarity seems to cling to them for life, and may be noted by the intelligent observer year after year.

The tints of colour and the particular effects are as varied as the trees themselves, and in some cases many individuals of a species differ from the type and from one another, as occurs amongst groups, avenues, or isolated trees of the Sycamore. The expanding foliage in some cases is dark and dull green, while other trees exhibit a greenish yellow or bronzy yellow tint, or a uniform but clear light yellow, as may be seen in the so-called Corstorphine Plane which is more common than is generally supposed. All this, of course, is quite independent of the variegated and purple leaved varieties. To these may be added the Red, the Norway and the Colchican Maples together with their bronzy-red and purple leaved varieties of never-ceasing interest and changing beauty in parks and pleasure grounds. How remarkably different from any of the above is the leafing of the London and other true Plane trees! Commencing at a relatively early period, the buds gradually swell up and burst, while the leaves come creeping forward as if exercising great caution and afraid to trust themselves to the exigencies of our fickle climate. The season is well advanced long before the first leaves attain full size.

The Willows and Poplars exhibit delicate and varied tints of colour, but the leaves of several of the latter, including the Balsam and Lombardy Poplar, are yellow at first, and the former more particularly exhales a balsamic fragrance that fills the air morning and evening although the source from whence it emanates may not always be decernible. The Black Poplar is even later, and the young unfolding leaves are bronzy yellow. In forest regions and plantations of wood, where those of a kind are often grouped together, the wondering rustic is charmed with the delicately tinted, slender, and light green leaves of the Larch, and thinks that nothing in the way of trees can surpass it in beauty; but when the Beeches are fairly well clothed with a wealth of delicate greenery a little later on, everything else is surpassed and put in the shade as it were by the overpowering effect of that common, but nevertheless gracefully drooping and handsome tree. Large isolated specimens alone can show off the natural beauty in symmetry of this native tree, which may thus be grown in proximity to the mansion, though at a convenient and respectable distance away to avoid the dense shade it throws, and permit of a free circulation of air.

A number of trees native and exotic, but particularly the latter, are decidedly late in coming into leaf, and almost belong to the domain of summer rather then spring, though from their point of view it must still be spring. The Oak and the Ash are the latest of our native deciduous trees to cast off their swaddling clothes and assume the summer costume. The Japan Sophora makes little display, and no ostentation for

a long time, owing to the slow rate of growth in the early stages. The False Acacia is almost equally tardy, but both are feathery and graceful when they do come. The Kentucky Coffee tree, the Catalpa, and the Tree of Heaven are amongst the latest to clothe their nakedness, but they are worthy of waiting for. The bronzy tint of the young shoots and leaves of the last named is conspicuous till far into the summer, in fact till July, before the feather leaves acquire their full shade of green. Evergreens, such as the Cedars, Pines, Spruces, and Silver Firs, although amply clothed with foliage all the year round, yet do not prevent an unvarying aspect, but assume a lighter and more gladsome hue like the rest from early summer onward. Mingling with, or contemporaneous with the leafing of the above, is the blossoming of the Almond, Pear, Plum, Cherry, Apple, Hawthorn, Horse Chestnut, and many others. Distinct effects might be obtained by planting the trees, which first expand their leaves in proximity to houses, and later ones in a graduated series farther and farther away. The early ones could be seen from the windows while the weather is yet cold but the impressions of spring warm; then, as the season advances, the beauty of the others would attract the owners and inmates of the houses farther afield. Flowering trees and shrubs might be treated in the same way as far as convenience might permit. Deciduous trees in the neighbourhood of the house are not only permissible but desirable, seeing that the fall of the leaf in autumn when the days are shortening and the light failing allow of more light to the windows and cheerfulness to the interior.

An exhibition of Asparagus will be held in the horticultural section of the Amsterdam Universal Exhibition on the 16th and 17th inst., when Gold, Silver, and Bronze Medals will be awarded according to merit. A supplementary programme has also been issued by the executive for the exhibition to be held at the end of July.

Lindley Library.—Mr. Arthur W. Sutton, of Reading, has presented to the Lindley Library a fine copy of L. Plukenet's *Opera Omnia*, six volumes in two. Plukenet's volumes have an historical interest, as they serve to fix the date of introduction of many garden plants. Plukenet was botanist to Mary, Queen of William III., was superintendent of the gardens at Hampton Court, and at one time had a botanic garden of his own not far from the present site of the offices of the Royal Horticultural Society.

Death of Mrs. A. H. Smee.—With sincere regret we have to record the death on the 24th ult. of the wife of Mr. A. H. Smee of The Grange (My Garden), Hackbridge. Mrs. Smee had undergone a long and painful illness, and her death is deeply deplored by the poor of the district in which she so long resided, and whom she was ever ready to help in time of need.

A Mammoth Nursery.—The nursery of Messrs. Storrs & Harrison is said to extend for more than a mile along the shore of Lake Erie, two miles east of Painesville, Ohio. Thirty-nine years ago the Painesville Nurseries consisted of a few acres cultivated for a local retail trade. Now they occupy over 1,200 acres, have twenty-nine large greenhouses and the largest storage and packing cellars in the country. Probably no nurseries in the United States are so well situated or have the variety of soil so admirably adapted to the production of hardy, healthy, well-rooted and well-developed specimens of such an immense variety of fruits and ornamental trees, shrubs, and plants.

Saintpaulia ionantha.—Dr. Masters showed flowers received from Mr. Ernst Benary, of Erfurt, showing a considerable range of variation in size and in colour. With reference to this matter, the proposal to refer this East African genus to the Chinese Petroxosmea was mentioned, and the opinion of Mr. C. B. Clarke, the monographer of the order, was cited to the effect that until the ripe fruit of Saintpaulia was examined, and the numerous new forms of this order lately introduced carefully investigated, it was considered better to retain for the present the genus Saintpaulia—though, in all probability, it would eventually have to be merged into some other genus.

Royal Gardeners' Orphan Fund.—At a meeting of the Executive Committee, held on the 26th ult., special votes of thanks were accorded to Mr. H. J. Veitch and others who contributed so greatly to the success of the recent annual festival. Mr. John Harrison, of Leicester, was elected a Vice-President of the Fund. A letter was read from Mr. N. N. Sherwood expressing his desire to at once take advantage of the new rule, which enables any one to place a child on the Fund on payment of £13 per annum. His kindly gift will be known as the "Emma Sherwood Presentation," for which a child will be selected from among those who failed at the last election. The special thanks of the Committee were accorded to Mr. Sherwood for his generous gift.

National Horticultural Society of France.—The International Horticultural Exhibition which will take place in Paris in the Gardens of the Tuileries, from the 22nd to the 28th inst., promises to be a great success. There are already numerous demands for admission from exhibitors, both French and foreigners, which gives no cause for astonishment, if we remember that the Jury will have at its disposition objects of art and medals to the value of more than 30,000 francs, offered by enthusiastic amateurs and by the National Horticultural Society of France, which is sparing no expense to secure for its decennial exhibition of 1895 the same success which obtained in 1885. A decree of the President of the Republic, of the date 3rd April, 1895, constitutes the site of the exhibition a real custom house, which for foreign products does away with all the formalities on the frontiers, and for national products—those of the octrois of Paris—the examination being done in the exhibition itself. The members of the Jury, selected by the Society, and belonging to all nationalities, accept their mission with enthusiasm, and offer to assist at the International Horticultural Congress as well as the exhibition. The Congress will be held in the Hotel of the Society during the continuance of the exhibition and promises to be most interesting.

Liverpool Horticultural Association.—At the last meeting of the present session, held on the 20th inst., Mr. Thomas White presiding, Mr. John Cowan, The Vineyard, Garston, read a paper on "How the usefulness of Horticultural Societies and Associations might be extended." In his opening remarks Mr. Cowan referred to the great strides that had been made in the education of gardeners. Exhibitions were considered especially valuable and one show each year generally sufficed in most places, but he thought that in such centres as Manchester, Liverpool, Edinburgh, Glasgow, Dublin, Belfast, etc., one or two should not be considered sufficient, their aims should be wider than at present and they should have power to deal with all horticultural matters in their district. The Royal Horticultural Society might still take the lead, but that Society like the provincial ones still stood in need of much improvement. Its Committees should possess the fullest confidence of the horticultural community and its managers should remember that England is greater than London, and not London and all its belongings so vastly superior to other parts of the country. In Liverpool they had plenty of good patrons of horticulture, and the membership of their Society should be large in proportion. The governing body of the Society should be composed of gentlemen amateurs, nurserymen and seedsmen, and gardeners, with no section preponderating over the others. The Society should be worthy of Liverpool in every sense and of sufficient importance to deal with new and rare plants, fruits, and flowers, in the way of granting certificates, so that there would be no need to send such things to London where they often received scant attention. The Society should also deal with the education and training of gardeners, and grant certificates for proficiency to their professional members. A discussion followed in which Messrs. R. G. Waterman, R. Pinnington, J. Stoney, Massey, T. Foster and the chairman took part, and a vote of thanks was accorded to Mr Cowan for his suggestive paper.

Royal Botanic Society.—At a meeting of this Society, held on Saturday, among the objects of interest exhibited were a number of growing plants of Sanseviera cylindrica, the Bowstring Hemp, obtained by dividing one of the stick-like leaves transversely into pieces and planting them, when young shoots appear at the base, although no signs of any node or budding point can be traced upon the leaf. The plant is remarkable as producing one of the strongest of known fibres.

PRICKING OFF SEEDLINGS.

This is a cultural detail which is, or soon will be in full swing in all gardens, and a little extra trouble taken in the way in which the operation is carried out will be amply compensated for in the strength and quality of the plants to be put out in their flowering quarters later on. A good start is half the battle,—that is the saying, and I am sure it is so with seedlings, as regards the way in which they are encouraged to make good plants; for if, on the other hand, they are only what I term half handled, what puny and miserable objects they are to plant for the decoration of beds and borders. If they are poor plants when put out and a dry season follows, they are a complete failure, and at once gain a damaging character.

I will call attention to Stocks, Asters, and Zinnias in particular. If these have been sown in shallow boxes, filled with nice light sandy soil, and placed in a pit or frame filled with litter and leaves on which was placed a good layer of sawdust, not only to keep down any rank vapour that might possibly arise, but also to prevent the depredations of slugs which are generally secreted among leaves—they will now require pricking off, as they must not be allowed to remain too long in the boxes drawing one another up, particularly if they have come up thickly. The plan I adopt is to choose a nice level spot with a hard ash bottom, on which are placed shallow wooden frames; a layer of good short rotten manure is put into them, firmly trod and beaten down evenly, so that it is about 3 in. thick all over the frame, the manure I cover with finely sifted soil to a depth of an inch or two, beating that down firmly with the back of a spade. Prick the seedlings out in rows 3 or 4 in. apart, give them a soaking of water, put on the lights, and keep them shaded from bright sunshine. When removing the shading in the afternoon give them a slight sprinkling with a fine rose water-pot to freshen them up; they will not be long before they make a start, when shading can be dispensed with—as too much would cause them to become weak and drawn; give a little ventilation on all favourable occasions.

As the season advances the lights can be drawn off altogether during the daytime, and nights as well, if there is no likelihood of frost. When planting time arrives the plants should be cut out down to the hard bottom with a sharp trowel, each plant will then have a ball attached like half a brick, and if they are conveyed carefully to their quarters, and immediately planted, receiving a good soaking of water afterwards, they will scarcely show that they have been removed. Those who have not frames at liberty should place planks on edge around such a bed as I have described; after the seedlings are pricked out they may be sheltered by hurdles and mats, if lights are not available. Should the weather be favourable they will soon get hold of the soil, although they cannot be expected to come on so rapidly as those having the protection of frames and lights. This latter plan I always adopt with Celery seedlings, as thus they make finer plants, dwarfer, and give infinitely less trouble than pricking them out in boxes, in which they draw each other up, and are too often almost worthless at planting time.—*Pathfinder.*

DAFFODILS AT LONG DITTON.

After all the cold winter and the backward late spring the Daffodils have now been in their prime for some weeks, the early ones assuming the lead and taking "the winds of March with beauty." The very early ones, mostly of the golden type, are now past their best, but others have taken their place, and the latest consisting of the double forms of the Poet's Narcissus will keep up a display till some time in

June. The recent rains have been to a great extent beneficial, giving the flowers great substance and durability, and only when very heavy do they become really injurious. Nowhere else in Britain can we find so extensive a collection as in the nursery of Messrs. Barr & Son, at Long Ditton, Surbiton, Surrey. The process of cross-fertilisation is just now being carried on for the purpose of obtaining new and improved varieties, for it is evident that Daffodils have not yet become played out nor lost their power to furnish surprises to the waiting and watching enthusiast.

Amongst the large varieties of Trumpet Daffodils that are still rare, Weardale Perfection, Glory of Leyden, Madame de Graaff, and Monarch, still take a leading place. The first-named has white segments and a better trumpet than Glory of Leyden, inasmuch as it is wide and plaited at the mouth. The delicate colouring of Madame de Graaff is very charming. Captain Nelson is also a large flower with a golden trumpet and pale yellow segments, while those of G. A. Dorrien Smith are sulphur-white. Mrs. Vincent is very like Madame deGraaff in its pale lemon trumpet, but it is smaller and dwarfer. Emperor, Empress, and Bicolor Horsfeldi are now well known and useful varieties that require no recommendation. Grandis is the latest and dwarfest of the Empress type,and in point of size and colour of the flowers in no way inferior; it is useful as a succession, being about a fortnight later than Empress. Another strong grower is P. R. Barr which differs from Emperor in the beautifully twisted inner segments. John Nelson, which is notable for the great length of its trumpet, would also come in this group and is equally as vigorous as Emperor. Golden Prince and M. J. Berkeley maybe placed together on account of their rich yellow colour and large open trumpet, but that of the former is more lobed and waved. Many of the truly golden kinds are past their best, being early, but a few may still be seen, including Gladstone, the bold and showy Maximus, Shirley Hibberd, dwarf, with a glorious trumpet, and Santa Marie, which is early and more uniformly rich golden-yellow than any of the rest. Her Majesty is very dwarf with sulphur segments and a wide crown, while Hudibras is similarly dwarf, but much darker in hue. The long trumpet, as well as the segments of H. J. Elwes, are dark lemon-yellow. The crown of St. Brigid is also of unusual length, while Sharman Crawford is a strong grower.

Queen of Spain is still a charming little Daffodil with its reflexing segments, and all of a bright lemon-yellow. The tips of the segments of Dick Sartoris are white, all the rest bein g golden-yellow and remarkably distinct. Much larger are the flowers of Dean Herbert and Muriel Dobel with sulphur-white segments and rich lemon-yellow trumpets. Michael Foster, in the matter of colour, lies between Emperor and Empress, to which type it would belong. On the contrary, J. B. M. Camm belongs to the same group as Madame de Graaff, but the soft lemon tube is a shade darker, and more frilled at the mouth. A number of pale and beautiful Daffodils belong to the N. moschatus type, and a collection would be incomplete without some of them such as Cernuus,C.W.Cowan, Lady Grosvenor, William Goldring, Mrs. F. W. Burbidge, and Matson all differing in habit, in size, and shades of colour, but always having white segments and a soft lemon trumpet, often fading almost white. Here also may be placed Mrs. J. B. M. Camm, but it is a large and beautiful flower of the M. de Graaff type.

The Peerless or Nonsuch Daffodils, varieties of Narcissus incomparabilis, are strongly represented, but we noted only the very best. Sir Watkin is still unrivalled for size, and Gloria Mundi is one of the best with a rich orange crown. The bell-shaped crown of Magog is notable for its size, and that of Hogarth is very wide and much crumpled. Princess Mary is, indeed, very beautiful with its broad white segments and short, wide cup like the old-fashioned crinolines. The golden crown of George Nicholson is also very wide, and the plant is dwarf. The white segments of Goliath measure 4 in. to $4\frac{1}{2}$ in. across, and the golden-yellow crown is very long. The golden crown of Mabel Cowan is edged with orange, which adds considerably to its beauty. On the contrary, Miltiades has a short, clear yellow crown, and the clear lemon-yellow segments with the golden crown are characteristic of Frank Miles. The flowers of Beauty have also good-sized and orange-edged crowns.

Narcissus bicolor Madame De Graaf.

Some of the varieties of Barrii are very choice either for bedding or in the cut state on account of their broad segments and massive looking flowers of pleasing colours. Chief amongst them we would place Barrii conspicuous with its broad, soft yellow segments and scarlet edge to the wide crown. B. General Murray is very dwarf with white segments. B. Maurice Vilmorin on the contrary is a larger flower with a long, bell-shaped crown. Very charming is B. Sensation with its pure white segments and golden crown with a scarlet edge. The varieties of Leedsii are always notable for the pale and delicate hue of their flowers, the type being white. Duchess of Westminster is suitable for bedding on account of the size of its flowers. The crown of Grand Duchess is bell-shaped and creamy-white. The broad white segments of Catherine Spill recall those of Narcissus poeticus. Minnie Hume is bold and handsome on account of its very long crown. M. Magdaline de Graaff also reminds one of the Poet's Narcissus in the purity of its broad segments, but the lemon-yellow crown is very wide. A dwarf one in this group is Palmerston, with a long, bell-shaped, deep lemon crown.

Very distinct in its way is Backhousei with its golden trumpet and sulphur-white segments, differing in form from any of the types above mentioned. The nodding flowers of Hume's Giant represent another type, with nodding flowers and a remarkably long tube at the base. The varieties of Nelsoni with their short and firm trumpets and white segments form a group of very choice Daffodils of chaste and pleasing appearance. Those of Nelsoni aurantiacus have a dark orange mouth to the corona, while that of Nelsoni Major is golden and of good substance. The white segments of Mrs. C. J. Backhouse are longer than the lemon-yellow tube. The varieties of N. Burbidgei are closely related to N. poeticus, and differ principally in having a slightly deeper cup or crown, with other minor distinctions. That named Lovely has a yellow cup with a gold edge, but Moder has purer white segments. The crown of Mary is lemon-yellow, but that of Falstaff is orange at the margin. Vanessa has a clear yellow crown and very pretty and compact round flowers.

Amongst doubles there are several types, but not represented in anything like the same quantity as the single sorts. The double form of N. odorus is as pretty as any. There are several distinct forms of the double N. incomparabilis, including Codlins and Cream or the Sulphur Phoenix. The numerous segments are white with a sulphur base, and are arranged round a single centre. Amongst the white segments of Orange Phoenix are much shorter orange ones. The segments of Butter and Eggs are sulphur-coloured but the nectary segments are orange. The earlier forms of the Poet's Narcissus have been flowering for some time,including N. poeticus ornatus, but N. p. grandiflorus is also in perfection with its large flowers and orange-scarlet edge to the cup. Somewhat similar to the last is N. p. poetarum, but the scarlet edge to the cup is much broader and very effective.

Besides the cultivation of any of the above upon grass, they are also becoming more and more utilised for bedding purposes in spring. Handsome and effective beds might also be made with Paeonies and Daffodils. A large number of the varieties of Paeonia albiflora have dark red stems and foliage, particularly at the time the Daffodils are in bloom, so that a bed of the above description would serve to show off the beauty of both classes of plants. The yellow or white flowers of Daffodils would make a pleasing and effective contrast with the dark red foliage of the Paeonies. This would constitute a permanent bed, requiring a minimum of attention, yet affording a bold and striking effect.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The Orchids described hereunder were exhibited at the meeting of the Royal Horticultural Society on the 23rd ult. and received awards according to merit,

Laelio-cattleya Epicasta. *Nov. hyb. bigen.*—This bigeneric hybrid was obtained from Laelia pumila hybridised with Cattleya Warscewiczii. The plant is relatively dwarf in habit and in every respect intermediate between the parents. The oblong sepals are of a uniform rose purple. The petals are ovate-

elliptic, broad, slightly crisped towards the apex, and if anything of a darker and uniform purple. The lip has a funnel-shaped purple tube, closely wrapped round the column; the lamina is rich purple tinted with crimson at the base reminding one of the colour of Cattleya Lawrenceana. The throat is white and the interior of the tube deep purple. Altogether it is the most distinct and beautiful hybrid of this class that has appeared for some time and was much admired by the visitors. First-class Certificate. Exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cattleya citrina.—The golden yellow, fleshly and waxy looking flowers of this Mexican species as well as their delicious fragrance are well known to all Orchid growers, and almost as many are familiar with the failures in growing the plant. A healthy bit on a block of wood bearing several flowers, was exhibited by H. Grinling, Esq. (gardener, Mr. W. Rapley), Harrow Weald House, Middlesex. First-class Certificate.

Dendrobium fimbriatum superbum. *Nov. var.*—The flowers of this variety are notable for the great breadth of their sepals and petals, the latter being oblong-obovate and finely fringed at the margin; all are orange-yellow. The deeply and finely fringed lip is golden-yellow, deepening to orange at the base. The flower as a whole is also very large. Award of Merit. Exhibited by Geo. Marshall, Esq. (gardener, Mr. Johnson), Claremont House, Grimsby.

Lycaste trifoliata.—The pseudo-bulbs of this species are quadrangular, 6 in. long and lose their leaves which appear again on the young shoots about the time the plant is in flower. The sepals are oblong, pale green and several inches long, but the lateral ones are falcate and approach one another. The much shorter petals are recurved above the middle and white. The lip has small, white, lateral lobes and a long claw reaching into the spur-like process; the middle lobe is ovate, revolute at the tip, deeply fringed and white; the crest is also ivory white. Award of Merit. Exhibited by Messrs W. L. Lewis & Co., Southgate.

Dendrobium Hillebrandii.—Before the flowers make their appearance, this species reminds one of D. nobile in the stems and leaves. The flowers are also similar in appearance but have twisted white sepals and petals. They are borne in clusters of two or three along the stems. The lip is deep greenish-yellow at the base and creamy-white towards the apex. A very large, and most floriferous specimen with stems 2 ft. to 3 ft. high was exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. Award of Merit.

Cypripedium Gowerianum magnificum. *Nov. var.*—The parents of the typical form were C. Lawrencianum and C. Curtisii, the latter being the pollen parent. The variety under notice has beautiful light green leaves tessellated thinly with darker markings recalling C. Lawrencianum. The upper sepal is large and dark purple with nearly black veins, and shades off to white at the apex. The spathulate petals are greenish with a rosy tip and spotted with blackish purple. The lip is of huge size and dark dull purple. Award of Merit. Exhibited by F. Hardy, Esq., (gardener, Mr. T. Stafford), Cheshire.

Habenaria Bonatea.—In this we have a South African species which is remarkable in structure, and interesting. The flowers are produced in a raceme on the top of a leafy stem. The sepals are green, the upper one being deeply hooded. The petals are white, deflected and projecting in front alongside of the curious stigmatic processes. The lip is deeply three-lobed and bright green. It is certainly a singular looking species. Botanical Certificate. Exhibited by Messrs. F. Sander & Co., St. Albans.

Masdevallia fragrans.—The oblong, stalked leaves of this species are leathery in character. The flowers are borne singly and have a wide tube of moderate length with three diverging segments ending in short yellow tails. The flowers themselves are of good size and pale yellow on both surfaces, but externally there are three lines of purple spots to each segment. Botanical Certificate. Exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

Polystachya Ottoniana.—The pseudo-bulbs of this species are ovoid, very small, and terminated by two small, lanceolate leaves. The flowers, two or three together, are borne on scapes only just surmounting the foliage. The sepals are white with a purple midrib externally, the petals pure white, and the lip white with an orange band down the centre. A well-flowered pan of it exhibited by Sir Trevor Lawrence, Bart., appeared like a clump of Snowdrops. Botanical Certificate.

Cirrhopetalum Cumingii.—This was originally introduced from the Philippine Islands and described by Lindley. The flowers swing gracefully in half umbels on short scapes. The two lateral sepals are joined together except at the base and apex, and are heavily suffused and mottled with rose on a white ground. The upper sepal, the petals and lips are very small. Botanical Certificate. Exhibited by the Right Hon. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring.

Lycaste gigantea.—The sepals of this species are 3 in. to 4 in. long and pale green. The petals are paler, and only half the length. The small lateral lobes of the lip are yellow, but the large terminal one is brown and fringed. Botanical Certificate. Exhibited by Walter C. Walker, Esq. (gardener, Mr. G. Cragg), Winchmore Hill.

The following Orchids were shown at the second spring show of the Royal Botanic Society on the 24th April:—

Laelio-cattleya Epicasta.—For description see above. Batanical Certificate. Exhibited by Messrs. J. Veitch & Sons.

Cattleya Mendelii La Vierge, *Nov. var.*—The sepals and petals of this Cattleya are of a soft blush. The lip is the most beautiful and prepossessing organ of the flower. The tube is white; the lamina is very much crisped and creamy-white, with a beautiful light purple and pencilled blotch at the apex, and partly hidden by the foldings or undulations there. The throat is light yellow, and the interior of the tube lined with purple. On the whole, it is a pretty light coloured flower of chaste and pleasing appearance. Botanical Certificate. Exhibited by Messrs. Hugh Low & Co., Clapton.

Dendrobium Wardianum giganteum, *Nov. var.*—The leading distinction of this variety is the size of the flowers, which measure about 5 in. across. All the segments are broad, and have deep purple tips. Botanical Certificate. Exhibited by Messrs. B. S. Williams & Son, Upper Holloway.

A. dimorphous Odontoglot.—A sub-variety of Odontoglossum Andersonianum, and coming very close to O. A. tenue, has been sent us by Mr. P. McArthur, The London Nursery, 4, Maida Vale. All of the flowers with the exception of two are creamy-white, and generally have two purple spots at the base of each petal, with occasionally one on the upper sepal and a few small red ones on the middle of the lip. This may be considered the normal form and description of the sub-variety, but on the same spike were two other flowers of smaller size and clear soft yellow, including even the column. The spots and markings were similar to those of the type. O. Andersonianum, normally, has either creamy-white flowers, or they may be of some shade of yellow, which is generally the most highly esteemed, but the flowers of each particular sub-variety are all of one and the same hue.

Orchids at Westmount, Glasgow.—This collection has been noted from time to time, and no wonder at it. I consider the Odontoglossums here second to none in the United Kingdom for health; they are grand varieties also. Just now some grand and varied forms of Odontoglossum (flowers will be sent), varieties of Andersonianum, and a form of Ruckerianum and gloriosum type bear three spikes on the plant, two from one bulb, with thirty flowers and twenty-two respectively. The single spike with twenty-nine blooms is very showy, good, and varied; forms of Alexandrae and Pescatorei are also nicely in flower. Odontoglossum triumphans, O. Rossii majus, many varieties, O. pulchellus, Ada aurantiaca, Maxillaria Sanderiana, Cymbidium eburneum, and many Cypripediums are also in grand condition. The following Dendrobiums, including many varied and fine forms of the good old D. nobile nobilius and D. Owenianus are choice and distinct. D. Ainsworthii, one of the first hybrids, is still one of the best. There are many grand forms of D. Wardianum, D. thyrsiflorum with its graceful spike, and D. chrysotoxum very bright and showy; the old D. fimbriatum occulatum must not be despised, for here its graceful racemes of bright yellow flowers are freely produced. These are only a few noted hurriedly when passing through the houses with Mr. David Wilson, the gardener, who is to be congratulated upon his success in Orchid culture, as well as the other departments. Stove and greenhouse plants are equally as well done. The Vineries also are showing a splendid crop of Grapes. The noble owner, Mr. Stevens, is proud of his place, and well he might be, for it is a credit to both him as well as his gardener.—*Rusticus.*

[A box of blooms as mentioned by our correspondent has been sent us by Mr. Wilson. The varieties of Dendrobium nobile displayed a considerable amount of variation both in the size and colour of the flowers, some being quite small and richly coloured, while others are equally above the average, and often handsomely coloured, particularly D. nobile nobilius. Some showed a tendency towards D. n. elegans, and in other cases the flowers were nearly white with exception of the blotch on the lip. The hybrid D. Owenianus is a pleasing light colonred flower with exception of the dark purple horse-shoe blotch on the lip. D. Wardianum was also in good form. The Odontoglossums were also particularly attractive, the flowers of O. crispum varying from white to lively rose tints. The blotches of the rosy-tinted O. Ruckerianum were rich and attractive, while those of O. Andersonianum lobatum were of a rich reddish-brown. Four varieties of O. Hallii accompanying the above were particularly notable for their rich and attractive colouring, and would be a credit to any collection. No. 1 was noticeable for its dark colouration and the rich velvety-brown markings on the white lip. No. 2 had one large blotch on each of the sepals and petals, and very numerous small ones distributed over a yellow ground. The sepals and petals of No. 3 were almost wholly of a rich chestnut-brown, while the lip was beautifully blotched. No. 4 was remarkable for the length and narrowness of all the segments with their long curled points and the numerous large chocolate blotches of the sepals and petals on a golden yellow ground. The upper half of the lip was rolled up and narrow, reminding one of the tongue of a humming bird.—Ed.]

Sale of the Selwood Collection.—The successful sale last week, by Messrs. Protheroe & Morris, of the collection of orchids formed with so much care and judgment by the late Mr. G. D. Owen, Selwood, Rotherham, will be welcome news to the holders of choice and rare plants, insomuch that the prices realised prove once more that while ordinary species and varieties have become a drug in the market, the value of really good things is still maintained. The total realised by the three days' sale was £3,804, and all the best-known buyers in the country were represented. Some of the best prices obtained were Cattleya Hardyana Selwood variety, 140 guineas; C. Hardyana (E. G. Wrigley's variety), 5 bulbs, 2 leads, 74 guineas; Odontoglossum Pescatorei Schroderæ, 18 guineas; Odontoglossum elegans, 22 guineas; Cattleya labiata Foleyana, 55 guineas; Cattleya Hardyana, 20 guineas; Cattleya Hardyana Lindenii, 18 guineas; Cattleya Hardyana, 42 guineas; Laelia elegans Turneri, 18 guineas; Odontoglossum Wattianum, £52 10s.; Cattleya Gaskelliana alba, 30 guineas; Cattleya Skinneri alba, 20 guineas; C. Reineckiana, £37 16s.; C. Massaiana, £32 11s.; Odontoglossum saphum Masereelianum, £25 4s.; O. crispum Stevensii, £35 12s.; Cattleya Hardyana var. Luciana, £39 18s.; Cymbidium eburneum and Lowianum, £21; Od. Pescatorei Lindeniae, £26 5s.; Cattleya labiata alba, £73 10; Od. crispum Owenianum, £21; Cattleya Loddigesii measuresiana, £21; Cattleya Mrs. Astor, £31 10s.; Laelia praestans alba, £38 17s.; Cattleya Wagneri, £42 2s.; C. Lord Rothschild, £33 12s.; C. Mossiae (white), £57 15s.; C. Mendelii Bluntii, £58 16s.; C. labiata Countess Fitzwilliam £50 8s.; C. Gaskelliana alba, £31 10s.; C. Aliciae, £33 12s.

Odontoglo sum excellens var.—This supposed natural hybrid exhibits a considerable amount of variation, and a superb variety has lately been in bloom in the collection of H. T. Pitt, Esq., Stoke Newington. The flowers are remarkably circular, owing to the breadth and bluntly pointed character of the segments. The sepals are oval, bright yellow, but paler towards the base, and have a large reddish-brown blotch above the middle, and a number of smaller ones towards the base. The petals are broader, with a few teeth about the middle but on

the edges. The lip is nearly similar in shape above the base, but is bifid at the dilated apex, yellow with a white edge, a large red-brown blotch in front of the crest, and some smaller ones by the side and base of it. The crest consists of radiating ridges, ending in very short teeth. The column has a crimson blotch on the back and some brown spots on the wings. Altogether it is a highly or richly coloured, beautiful, and valuable variety of the type, and Mr. Pitt, who has a keen eye for a good thing, is to be congratulated on its possession.

FRUIT UNDER GLASS.

Vines.—Houses in which the Vines are in full vigour of growth and the berries swelling apace must be watched very carefully for scorching. The disfigurement of the leaves thus caused is very great, and the check imparted to the Vines themselves correspondingly large. Where the roof of the house is glazed with cheap and bad glass scorching will often ensue under the most careful management, but it is more often the result of careless or negligent attention to ventilation. At nightfall perhaps the atmosphere of the house is surcharged with moisture, and the temperature being allowed to drop rather low during the night a great deal of this moisture becomes deposited upon the leaves. If following this comes a bright sunny morning, and air is not given soon enough or in sufficient quantities, the little globules of water upon the leaves act as miniature lenses, focussing the sun's rays upon the tender leaves, and causing the ugly brown spots which are so often to be seen. It will thus be seen that to prevent disfigurement of the leaves in this fashion serious falls of temperature during the night must be guarded against, and ventilation must be skilfully and carefully performed. As soon as the temperature of the house commences to rise in the morning air must be given in proportion. Indeed, as soon as the outside glass keeps up above 45° Fahr. through the night a chink of air must be always left upon the house, of course supposing this can be done without undue recourse to fire-heat. A night temperature of 60° to 70° Fahr. will now be necessary for all vineries which are in full growth.

Peaches and Nectarines.—As soon as the fruit in the earliest house commences to colour, all the sunlight possible should be admitted, in order to obtain well coloured and highly flavoured fruit. To this end any leaves that are shading the fruit from the sun's rays may be pushed aside. Any tying in of growths that has not yet been completed should also be seen to at once, as the weight of the fruit is considerable and may pull the branches down unless they are securely fastened. Syringing may be carried on here until the fruit commences to soften, when, of course, it must be discontinued, and a drier atmosphere allowed to prevail. In the succession house, where the fruit will just be commencing to stone, care must be taken that no check of any kind is received by the trees, either as the result of frequent fluctuations of temperature or of insufficient moisture at the root. A slightly higher temperature by night than that advocated in the last calendar, say about 58° Fahr., will suffice.

Orchard House.—If sturdy vigorous growth is expected to delight the eyes of the gardener free and ample ventilation must be the order of the day in this house. The hardy subjects, such as the Apple, Pear, Plum, and Cherry, do not need a much higher temperature under glass than that which they would naturally receive outside, and they always resent undue and ill-advised coddling by the production of weak unhealthy foliage, also by the dropping of any fruit they may have set. Where the "set" of fruit has been a good one thinning should be commenced early, as the usual idea in growing Apples and Pears in pots is to obtain a few extra fine fruit rather than for these under-glass subjects to vie with their brothers and sisters outdoors in the carrying of heavy crops of medium sized fruits. With Cherries it is not safe to thin much, however thick a crop of fruit the trees may appear to have set; for with marvellously few exceptions they thin themselves naturally at stoning time, the fruit in some cases dropping off the tress wholesale, until the gardener is inclined to wonder if, after all, he is going to get even a medium crop.

Melons and Cucumbers.—As soon as the fruit in the second early house has reached the size of cricket balls, preparations must be made to support them, or their weight will prove too heavy for their footstalks. This may be done either by means of small nets or by boards supported by strings at the four corners. In adjusting these latter, however, they should be tied in a slanting position so as to allow of the escape of the water, which will otherwise collect at the point of contact between the supporting board and the fruit, this invariably causing the latter to rot off. Care must be taken when watering all Melons that the water is not allowed to touch the collars of the plants, or these will also damp off, and good-bye to all hopes of success. Should signs of this appear the affected parts should be dusted now and again with a little lime, a careful and consistent use of which will often result in the securing of a crop from badly affected plants.—*A. S. G.*

THE FLOWER GARDEN.

Things are at last commencing to move apace after the long winter and late cold spring, thanks to the advent of more genial weather. The recent showers we have had, coupled with the warm sun, has indeed worked wonders in an exceedingly short space of time, and the general aspect of the flower garden has improved greatly. Beautiful as it all is, however, from the gardener's point of view it only means more work, and in fact the usual routine of operations characteristic of the flower garden during the summer and autumn months will have now to be gone through. Walks must be kept swept, rolled, and free from weeds; the grass edges must be kept neatly trimmed and the scythe and mowing machine will need to be regularly and consistently employed. In using the mowing machine, however, take care that the cutting knives are not set down too low, for the roots of the grass are extremely liable to be injured if due precautions are not exercised. It is far better not to cut too close at first, even if this does necessitate a little more frequent application of the machine, for the grass will stand the hot summer's sun much more easily when treated thus than it would were the roots weakened by too close cutting now. A well-kept lawn is always an ornament to any place, and any little trouble that is taken to obtain it is labour well expended.

Although we have had a deal of dull weather and some few showers, this more especially during the past week, it must not be taken for granted that because the surface of the soil is damp the lower strata are sufficiently moist also. In many places the want of sufficient rain is severely felt, and therefore a bright lookout must be kept to see that trees and shrubs, especially newly planted ones, are not allowed to get too dry. The rockery and hardy fernery, in establishments where such features are present, will also need attention in this respect; for from the fact that the plants occupying them are usually growing in well-drained positions or in places where the earth is very shallow it will readily be grasped that the drying searching winds which characterised the beginning and middle of April will have taken much of the moisture out of the soil.

Calceolarias.—In most districts in the South of England these may be planted out at the beginning of the present month without any great fear of danger, and some gardeners make a point of putting them out about the middle of April. Frosts in May are, however, of far too frequent occurrence to warrant planting out without taking some steps whereby covering may be easily and expeditiously given if occasion requires. An excellent plan is to bend some long stout stakes hoop fashion over the beds or borders, upon which mats may be spread if frost threatens. These stakes may remain in position until all danger of severe frost has passed.

Ornamental Vases.—In most places there are a few of these scattered about the terraces and flower garden, and very pretty they look when well furnished with suitable plants. Where these receptacles are fixtures it is usual to fill them with small plants of Conifers of various kinds or other subjects equally as hardy. In most instances, however, many of these vases are movable, and will thus have been taken in last autumn out of the way of the frost. These will have been washed and cleaned from all filth during the bad weather, and they may now be restored to their places as soon as desired. Those which have been standing outdoors all the winter should now be washed also, for it is desirable to get all this kind of work as forward as possible, as during the rush which invariably accompanies the bedding-out season such jobs as this will be almost sure to be neglected.

THE VEGETABLE GARDEN.

At last we are being blessed with something a little more like spring weather than that which we experienced during the greater part of the month of April, and late as things are generally it is really wonderful to see the amount of progress that has been made in so short a time. Just as the vegetables are feeling the beneficent effects of really growing weather the weeds also are having a right good time, fostered in their growth by the rains which were so much needed and which have at last put in an appearance. The warfare which the gardener has to wage with the encroaching weeds will, therefore, need to be renewed in all its intensity, and the Dutch hoe will have to be kept vigorously employed during favourable opportunities, hand picking being resorted to for the removal of the larger ones.

Cabbages and Caulifowers which have been raised from seed sown under glass will now be growing away well after the severe check which they have so long had placed upon them in the shape of dry cold winds. Indeed, so unfavourable have circumstances been that in many cases they appeared for a long time to be growing smaller instead of larger. Keep a sharp look-out for the attacks of slugs and caterpillars, which should be picked off by hand as soon as seen and destroyed.

Thinning of Crops.—This is an operation the importance of which cannot be too strongly emphasized. It is the essence of folly to leave the plants in the rows until they are spoiling each other for want of room before thinning is commenced. The weeding out of the smaller and weaker ones should be begun as soon as the seedlings are large enough to handle comfortably.

Short-horn or Early Nantes Carrots that have been sown on a warm south border to come in early will now need looking after for thinning, but care should be taken that plenty of plants are left, for these may be drawn when young, in which state they form a much sought after vegetable as well as highly prized material for flavouring soups, etc.

Onions.—Supposing the ground to now be in a state of thorough preparedness, Onions which have been raised under glass and pricked out in pans or boxes should be planted out. A warm dry day must be chosen for the operation when the ground will work well, and is not liable to be trodden into a pasty mess with the feet. The young plants should be removed from their present quarters with as good a ball as possible, a hole made with the trowel and the soil subsequently well firmed round the young plant. A good watering in afterwards will then put matters all square, and but little fear of a check need be entertained.

Potatos.—Early Potatos on a south border will now require to be earthed up, as it is not advisable to defer this operation until too late. Should they be at all dry at the root a thoroughly good watering must be given and the surface of the soil allowed to dry somewhat before the hoe is started to work. In drawing the earth up, however, take care that the young plants are not smothered, as it is far the better plan to have two or three turns at earthing up, and thus to get the soil around them gradually than to be too rash at the outset. As it is more than likely that we shall be plagued with a few May frosts, at least, if previous years are to be taken as a sample, and as it would be a thousand pities that these early Potatos should be cut down at the commencement of their career, a few boards should be kept in readiness. One of these may be run up on either side of the row, and thus an effective protection will be afforded with but very little trouble.

Tomatos.—While it will not be safe to plant these out-of-doors for a week or two yet preparations for their accommodation may be carried on. A sunny part of the garden must be selected, as sunlight is an all-important factor in the securing of a crop of Tomatos. If a few spare feet of wall to which the plants may be trained are vacant so much the better, for in a position like this the best results are obtained. The ground should be well manured and deeply trenched, for Tomatos are heavy feeders. The plants, meanwhile, may be hardened off gradually in readiness for putting out, and if a few fruits are set upon them before planting, so much the better.—*K. G.*

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens Price, 3s.; post free, 3s. 3d. Publisher, Gardening World 1, Clement's Inn, Strand, London, W.C.

HINTS FOR AMATEURS.

The Zonal Pelargonium.

What a good all round amateur's flower this is! and how well it adapts itself to circumstances which are not always of a favourable character, growing away vigorously and blooming freely wherever there is the slightest chance of its keeping alive. It is therefore not to be greatly wondered at that it has esconced itself so snugly in the affections of the lover of plants. Whether it be for growing in pots in the greenhouse, or the windows of the villa and the cottage, or whether it be for bedding out in masses in the flower garden it matters not, the Zonal Pelargonium is equal to all emergencies, and gives splendid satisfaction all round. Of late years florists have been paying a great deal of attention to the improvement of the flower, and as the result of their labours we have now an extensive collection of first-class varieties from which can be picked plants suitable for any purpose.

Plants for Bedding Purposes.

At this season of the year all who have a flower garden are debating as to how and with what particular subjects they shall fill it, and are consequently busily engaged in making their arrangements for the ensuing season. But no matter what form these plans may take, and whatever subjects may be included, it is safe to say that the Zonal Pelargonium finds a place in them to some extent or other. The time for planting out being now so close at hand the plants should be going through the hardening off process. Air must be given in increasing quantities each day, leaving it on later at night, until the plants will stand having the lights left off altogether. They should have reached this latter stage fully ten days before planting out is thought about. Any that show a tendency to become tall or leggy must have their tops pinched out at once as this will induce them to make dwarf and bushy plants.

Old plants which have been saved from last year should also be looked after. These will have been potted up in the early months of spring, and if proper attention has been paid them with regard to the cutting out of dead pieces, and the stopping of too rank growths, good strong plants will have resulted. These will come in splendidly for filling in the centre of the beds where a few larger plants are required. Besides, old plants of this kind are as a rule much more floriferous than the younger ones, and were it not for the difficulty sometimes experienced in keeping them through the winter we should advise the careful saving of all old plants at the approach of winter. With regard to varieties the following will be found a good selection: Henry Jacoby, perhaps the finest dark crimson flowered sort we have for bedding purposes; Lady Kirkland, dark rosy purple; Vesuvius, scarlet; Distinction, crimson flower and pretty foliage; Madame Vaucher, white; and Master Christine, rosy pink. The coloured and variegated sections also hold many beautiful plants amongst which Flower of Spring, Mrs. Henry Cox, Golden Harry Hiover, Marechal McMahon and Crystal Palace Gem may be recommended as being very suitable.

Pot Culture.

A few good plants of some of the finer varieties always come in useful no matter whether the season chance to be spring, summer or winter, and thus any cuttings which have been taken a few weeks ago will now need to be potted off singly into small pots. These will, if attended to during the summer and autumn, make fine plants for furnishing a display during the late autumn and winter months. A compost of two parts of good loam to one of leaf soil with a sprinkling of sand will suit admirably. The pinching out of the tops of the taller plants must be carefully looked after for it savours of bad management to allow the plants to get a foot in length before they are stopped; and to remove several inches of growth from a young plant of this kind cannot fail to have an injurious effect upon it.

Plants which flowered last autumn and which were cut back at the expiration of their blooming season and were potted up a couple of months ago should now be commencing to flower freely, and must be assisted by occasional doses of liquid manure. If farmyard manure cannot be obtained fresh, recourse may be had to some of the excellent artificial manures at the disposal of the gardener, such as Clay's Fertiliser or Peruvian Guano, as these have the merit of not being nearly so strong-smelling as liquid farmyard manure usually is.

As has already been intimated, there are such quantities of good varieties now in cultivation that it becomes a matter of some difficulty to furnish a list of plants which may be confidently recommended without doing an injustice to some others equally as good, but which have to be passed over owing to lack of sufficient space to grow them in. The undermentioned varieties will, however, be found well worthy a place in any collection of Zonal Pelargoniums for pot culture:—Dr. Andre, Guinevere, Queen of Whites (improved), Amy Amphlett, James Vick, F. V. Raspail, M. Gelein Lowagie, Madame Bourcharlat, and Rosy Morn.—*Rex.*

THE BATTLE OF FLOWERS AT EASTBOURNE.

Last week this pleasant little seaside town was exceptionally gay, for on the 24th ult. thousands of visitors, besides practically the whole of the inhabitants, made holiday on the occasion of the floral parade and battle of flowers. The whole affair was well conducted, and upon somewhat extensive lines. Between sixty and seventy vehicles of various descriptions took part in the competition, and some were exceptionally well decorated. Flowers, of course, covered the whole body and wheels of the equipages, also the horses, and in some cases the occupants also. Daffodils, Primroses, Arums, Spiraeas, Violets, forced Lilac, Pelargoniums, and Roses were the chief flowers, but there was much too great a preponderance of yellow. The town hall, the principal streets, and the whole of the parade on the sea front were elaborately decorated. Indeed, this alone was worth a journey to view. Over the road, along the sides, etc., were many pretty floral arches and festoons, as well as an immense number of Chinese and other coloured lanterns.

We do not propose to give elaborate descriptions of the carriages and dresses—these have been reported on fully by the general press of the country—but we may remark that no expense seemed to have been spared, and that so far as could be Eastbourne thoroughly deserved the grand success and patronage accorded this unique show. Not so unique, by the way, as many fondly imagined, seeing that for many years Cornwall has had a show of this description. Of course, Easthourne far surpassed any previous display of the kind in this country, which is not to be wondered at when the whole of the town, from highest to lowest, had evidently determined it should be a success. The Mayoress, Lady Duke, and the Hon. Mrs. Freeman-Thomas, acted as judges, and had some little difficulty in some of the classes. The premier prize went to Mr. and Mrs. Edgar Bruce, of London, for a pony trap. This was a work of art indeed, and if not most admired of all the competitors was certainly very popular. A coach and four, "Harkaway," was first in its class. This was a mass of flowers and ferns, while the bevy of young ladies on the top were most tastefully dressed in Old English costumes, and, of course, were the envied of all the fair sex on account of their pleasant position for viewing, to say nothing of participation in the fun of the day.

What pleased us the most was a goat chaise decorated to represent Titiana's car, and occupied by a dark haired little girl. The goat, a white one, was led by a boy in suitable costume; the little lady reclined upon a mass of flowers beneath a canopy of more, and upon which a couple of doves with outstretched wings held ribbons as reins. The whole turnout was in perfect harmony and well deserved the prize presented by the *Gentlewoman* for the best child's car or carriage. Throughout the whole affair we thought the children shone far above the adults. It was more in keeping with youth, and one could scarcely help feeling that the throwing of flowers and masquerading was somewhat childish.

The proceedings opened by a grand luncheon in the Town Hall. A parade through the principal streets followed and continued all along the front, after which the judges retired to consider their awards, which were followed by a sharp battle of flowers. Such a complete contrast as the front presented we have seldom seen. The houses were gaily decorated, flowers were superabundant all along the marine parade, but the beautiful Tamarisk, Euonymus, Laurustinus, Mahonias, and Sweet Bays, which have been a special feature of the sea front erstwhile were now black, in many cases dead, and had a very bare effect in contrast. In this respect the whole show was out of character, for even the trees, which are a feature of Eastbourne streets were utterly bare of leaf.

About 20,000 persons gathered on the front, and although a sharp shower of about three quarters of an hour's duration fell just as the fanfare of trumpets announced the commencement of the floral fusilade, the war was kept up with spirit until some time after fine weather returned. For a period we expected the "cease fire" to sound for the battle to be postponed until the next day. Allegorical cars were good, especially a party of haymakers and a bathing machine covered with moss and creepers in representation of an ideal caravan. On the following day much of the same programme was gone through, in addition to a cyclist parade and a battle of *confetti*.

It was decidedly a gay week and well kept up, but we could not help feeling that nine-tenths of it was sheer tomfoolery for any but juveniles. It certainly moved money, and did the cut flower trade a turn, but could we not do so without throwing our beautiful spring flowers at each other in such a reckless manner, and trampling some thousands upon thousands of them under foot?—*X.*

CUCUMBERS FOR MARKET.

As a market crop which, generally speaking, means profit, the Cucumber takes a good place. Unlike the Tomato the Cucumber does not mind a little absence of sunshine, providing that the top and bottom heat, moisture, &c., is kept up. Just a word as to varieties, of which there are many—good, bad, and indifferent, especially indifferent. In a general way the Telegraph type of Cucumber takes the lead for market purposes, but there are good and bad strains even of this grand old sort. Sutton's, Rochford's, and Veitch's strains can be well recommended, while for the gentleman's table or for show purposes Sutton's Progress, new, and of beautiful colour, should this year prove very successful. Lockie's Perfection and Blair's Prolific are also sorts that cannot be too highly spoken of.

A Cucumber house as regards heat should never fall much below 65°, rising to 75° or 80°, and some growers it is well known never give an atom of air, which means at times an even higher temperature still, besides involving constant watching to avoid scorching and frequent delugings of the houses with water. For early and quickly grown crops the system is all right, but plants grown without air never acquire sufficient strength and hardiness to carry them though a long season of production, and consequently two and even three fresh plantings have to be made.

To obtain a good steady crop sow about the end of February, and plant when about a foot or so in height. Up to this time all breaks and male blooms should be rubbed off. I like mine to start with three breaks, and to do this the plants will have to grow to the height of 18 in. Male blossoms and tendrils are always better removed. As to stopping I always pinch one joint above the fruit, and thin the fruit to one at a joint. This would not suit all growers, but I find that if I leave two or three at a joint none of them come to perfection. Fruits so obtained would possibly suit many markets, but would not sell here at all.

On bright days never be afraid to ventilate, but close up again about 3 o'clock or a little before, syringing well all over the house, and never leaving a dry place, but be careful not to syringe so freely when the heat is not so well up. Never syringe with cold water, and keep the old leaves systematically thinned out, a few at a time rather than many at once.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

PRIMULA FLORIBUNDA.

Amongst so many Primulas it is pleasing to note in the collections that come before the public that P. floribunda is not neglected. It is evidently more adapted for the adornment of greenhouses and other moderately warm or even hot structures than many of the Chinese species which have recently been discovered and introduced. From amongst the tufts of elliptic-lanceolate leaves rise the scapes of bright

yellow flowers produced in whorls, one above the other, after the manner of P. japonica, though the flowers are not so large nor the scapes so strong. The species is a native of the Himalayas and easy to grow, and though the plants at times may not be long lived they are easily raised from seed, which are not difficult to procure as a rule. Neither the foliage nor the plants, as a whole, are bulky, so that they may be grown in relatively small pots, and introduced in various groups and arrangements in the conservatory or other houses where a display is being kept up. The accompanying illustration will give an idea of the habit of the plant.

AMELANCHIER CANADENSIS.

In visiting the usual run of gentleman's establishments one cannot fail to notice that, as a rule, the varieties of trees and shrubs met with are about the same, and that, moreover, if a list were to be made of the subjects so found, it would neither be a long nor an exhaustive one. Why this should be the case, it is, to say the least of it, rather difficult to imagine, for amongst our hardy flowering trees and shrubs we have a host of plants that might easily be utilised for the decoration of the flower garden with the best possible results. We are, to a certain extent, puzzled to account for this lack of variety in the trees and shrubs which go to make up our shrubberies or which find a place as specimen trees upon the lawns or in the pleasure grounds of the majority of gardens, unless, perhaps, that want of knowledge exists among gardeners as to the merits of many of the hardy trees and shrubs which are to be obtained, but which as far as they are concerned might as well not exist, seeing that they know but little and apparently care less about them.

Amelanchier canadensis, a fine North-American subject, is an excellent example of a tree that receives surprisingly little attention in proportion to its undoubted merits. Its free-flowering qualities stamp it as one of the showiest of spring-flowering trees that will stand our climate, and the plants will commence to bloom whilst yet quite young—another good quality. A good instance of this may be seen at the present time in a shrubbery close to the Victoria Gate in Kew Gardens. A large tree at one corner is simply a dazzling sheet of white, so thickly are the rather short and compact racemes of flower produced; whilst some young trees, between 4 and 5 ft. in height, are apparently trying to vie with their older relative as to the quantity of bloom they shall produce. A. canadensis, or the June Berry, as it is popularly called, is well worthy a place of honour in every establishment where hardy flowering trees find favour, as it is not at all particular as to soil, thriving almost anywhere, besides being exceedingly hardy. During the autumn months, moreover, an effect scarcely inferior to that produced by the flowers in springtime is furnished by the rich golden-yellow hue which the foliage assumes and which serve to render the tree conspicuous even then amidst the full glory of autumn tints which cause the landscape to literally glow with colour.

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

EDUCATION OF GARDENERS.

Your leader on this subject on p. 531 touches a very important subject in the gardening profession. Some call it a menial occupation, and to a great extent it is much made use of as such, being a close attendant upon accumulated capital. Where taste abounds this may take respect of various kinds as regards culture and in their arrangement, or it may be to gratify on the other hand the satisfaction of having for use the choicest fruits that can be grown. A good deal of this work can be done by good practical training alone, without the higher accomplishments of knowing all the why's and wherefore's of each application in the progress of the work. I think a rudimentary knowledge of vegetable physiology every gardener worthy of the name ought to have. This is best obtained in the early years of the student. The County Councils are no doubt rendering good service to the community in various ways in technical education and horticulture in part, but to be of great benefit to the young man who goes in for gardening as an object in life it is very doubtful if they can be of much service.

In this county (Cheshire) a college or training school is also being formed for educating pupils in agriculture and horticulture. It will be a step in the right direction to train agricultural pupils in horticulture. In such a case horticulture is to be following up agriculture. Now those who have worked at the gardening business for a good many years will say that in it alone there is ample scope for any one's abilities to prosecute the work to perfection. Besides, horticulture is far more varied or complex in its subjects than agriculture is. If we begin in the kitchen garden there is a good field to master all the modes of culture of the different subjects, and the working of the soil in the best way. If we then take hot-house fruits, there is a work of years before anyone ere the subject is known by heart. If we take specimen plants each individual kind wants to be known something about, or no great result will be achieved. The gardening business takes a long time to learn.

I think it would be a very good plan if the County Councils would formulate some plan by which young gardeners could be tested or examined in their knowledge of their profession, each county taking it up. But the questions on which they were examined, whether written or verbal, should be well considered; if written they should be free from useless catches, the non-answering of which might be no test of a gardener's general knowledge.

Of equal if not of more importance than the accomplishment of a knowledge of the science of gardening, at any rate, to one in keeping his situation, is a good experience in the practical routine of the work. In this respect it is doubtful if the style of the last generation, or that recommended by the late J. C. Loudon, can be much improved upon for the training of young gardeners. After apprenticeship is over a change to a different part of the country is recommended for a year, then after that another change, and so on till the twenty-fifth year is reached. So great was the enthusiasm in the last generation with young gardeners that I have been told of their walking all the way on foot from Edinburgh to London in order to obtain knowledge in other branches and styles of gardening. As regards learning practical gardening now nothing could surpass the facilities offered in various private places, be it Orchids, rare plants, choice fruits, or even vegetables where they are grown well. A knowledge of horticultural chemistry would be a great advantage to a good practical gardener, and this is one of the best points that could be obtained in a training school.

In perusing a gardening paper recently, I was almost surprised to see so many advertising for situations. This, no doubt, would represent a considerable amount of suffering and anxiety in the struggle for existence, so that it would be a clear case that there was no occasion for increasing the number of gardeners in the country; and it is a subject worthy of consideration whether so many young men should be induced to begin the work, at any rate, as in other fields of labour competition may be even keener in the future.

I remember when, as a young man, I was in Kew Gardens one day visiting an old chief who had been so fortunate as to obtain one of the very best situations in the country as gardener. In the course of the chat he amusingly said that he would not have a young man from Kew. This was not very complimentary, still, I always look back upon going to Kew as one of the most interesting changes in my course. As you know, special cultivation is not carried out to such perfection there as regards many subjects as in good private places, excepting, it might be, rock and herbaceous plants, filmy Ferns, etc.; but a short time in these gardens I would recommend to any enterprising young gardener, and Kew gardens would do excellent further service if the authorities would take young men from private places for a time on the score of improving their education so that they could get back again better men, if they wished, to country places. It was pleasing to note recently in the papers that the gardening staff at Kew had their wages increased; this will enable those who wish to take advantage of seeing many of the different things going on in the metropolis and pay their way without getting into debt, for in my own case my wages did not keep me by a few pounds, going along in the most careful manner.—*M.*

Primula floribunda.

SOME WAYSIDE THOUGHTS: MOSTLY FLORAL.

(*Concluded from page* 555)

The Ground Ivy (Nepeta Glechoma), too, is here with its long creeping roots and stems, surmounted by suspicious-looking bluish flowers. The whole plant is aromatic, and used to be in request for herbal wants. The common Polypody, amongst Ferns, affected the higher parts of the banks, and still held out against the lapse of time. Its fronds, however, confessed the battle and the breeze, although they still maintained the perpendicular; while its congeners, the Male and Shield Ferns, wrapt themselves entirely in their withered wings.

While thus pondering we come upon the water meadows, through which meanders a tributary of the river Cole. Let us explore its banks, There is a good volume of water which a little lower down divides the counties of Berks and Wilts; thence on and on until it loses itself at Lechlade in the Thames or Isis. Ah! here is the flower which Wordsworth has immortalised. It covereth the meadows, it is of a bright shining yellow, and hath smooth, heart-shaped leaves. What is it?—

"Long as there are Violets,
They will have a place in story;
There's a flower that shall be mine,
'Tis the little Celandine."

Yea, even the Celandine. It is, however, more commonly called Pilewort or Figwort. Perhaps the former explains itself; the latter is not so evident unless we examine the roots, when we shall find that the oblong tuberous roots resemble—fancifully, of course—Figs. But it is also dubbed "Buttercup." The untrained rustic mind associates all the yellow species of Ranunculus—ay, and other genera besides—with the ubiquitous Buttercup. Murray, the lexicographer, thinks the word is a combination of old English "butter" and "cup," because it resembles, not gives colour to, butter. Other authorities incline to the belief that it is, like the Dandelion, of French extraction. Anyhow, the French equivalent is *bouton d'or*, or *bouton cop*, that is, button of gold, or button head. It is, however, commonly believed that Buttercups do impart that rich yellow which is characteristic of good butter, although the great Linneus, over a hundred years ago, observed that not only cows, but horses and swine refused to eat them.

Now we are on the butter question, mention may be made of the Butter-bur (Petasites vulgaris) which grows on the banks of the stream. It has dense panicles of pale purplish flowers. The leaves are very large and downy underneath, and the conjecture is that the plant was so-called because the leaves were used for wrapping butter in. The generic name *petasis* suggests a covering—in fact, a little umbrella. Of course the Coltsfoot's golden blossoms are in evidence. Where will they not be found? By road or river on rubbish heap or crudest clay, they give the rambler welcome news of advent spring. This plant, like the last, possesses, later on, large downy leaves, which are bitter and mucilaginous; hence they were formerly used for coughs and colds. The generic name Tussilago implies this, and was used by Pliny in this sense nearly two thousand years ago.

In the water meadows one expects to find the umbels of the drooping Cowslip, but it is not yet time; we must wait for:—

"The flowery May, who from her green lap throws
The yellow Cowslip and the pale Primrose."

The plants are here, but the buds have not yet responded to the call of Nature; they look pensive and sad. Ah! here is one which has outstripped its fellows. Welcome, little blossom! thou art a reminder of youthful days when, as children, we gathered you by the score for mother to make a pleasant and soporific wine.

In those early days we were satisfied with the simple name of Cowslip; it conveyed enough to childish minds. But as one grows more mature, and as wisdom increases, one is not so easily satisfied: and one looks about for an explanation of the why and wherefore. But as the origin of most things is veiled in obscurity, so it seems that even the names of many of our favourite flowers are beyond recall. I cannot think that this particular name has much to do with "cow" or "lip," and yet Murray, an etymological authority, derives it from old English *cú*, a cow, and *slyppe* or *sloppe*, a wet place; thence it goes through various forms, such as Cuslyppe, Cowslippe, Couslip, down to our present spelling. It is Primula veris of botanists, and allied very closely to the Primrose (Primula vulgaris). Indeed, by some, the two species are considered to be only modifications of one ancient Primulaceous plant. There is no doubt that Nature abhors classification, and that the old ideas concerning rigidity of species are fast dying out. The difference between species and varieties is one of degree only, and Sir Joseph Hooker says that "variations accumulated through successive generations will become specific, and these again by a like process generic."

But to the Primrose, which is perhaps the best known of all our wildlings, because "Primrose Day," which occurs in April, has caused such a popularisation of the flower that cockney as well as countryman is well acquainted with it. To rustic Peter Bell:—

"A Primrose by a river's brim
A yellow Primrose was to him,
And it was nothing more."

If I might paraphrase this I would say that to political Peter Bell:—

"A Primrose in a buttonhole
Suggests a party to his soul,
And nothing more."

Primrose literally means the "first Rose," and is said to be derived from Latin *primus*, first, through the French *prime rose*, because it is one of the earliest plants to bloom. The old English word is *primerole*. But if this plant is the first "Rose" of spring, what about the last Rose of summer? Truly the ways of etymologists are hard to discover. The Creeping Jenny or Moneywort, which does not bloom till June, must also be a Rose, for it is a cousin of the Primrose, and belongs to the same order; so that while some plants have well-marked characteristics and cannot be denied, there are some like the Creeping Jenny that are not so obvious; hence the value of botany.

But the sun has passed the meridian; we must give up our banks and braes, our streamlets and our water-meadows. We must awake from our *dolce far niente* phase of existence and travel back to sights and sounds less fair. It is, however, good sometimes—and I hope my readers will thinks so—to get away from the aristocratic Flora of the gardens, and to coquette for a time with her sweeter, because more natural, sister of the wilds and woods.—*C. B. G., Acton, W.*

PLANTS RECENTLY CERTIFICATED.

Amaryllis Lady Powis.—The scapes of this variety stand about 2 ft. high, and bear about three flowers of large size, with scarcely any tube, and widely expanded, brilliant, crimson-scarlet segments. The star is short and pale green. This forms a decided advance upon the bulk of the varieties of Amaryllis in cultivation. Floricultural Certificate, Royal Botanic Society, April 24th, to Messrs. B. S. Williams & Son, Upper Holloway.

Begonia Mrs. Arthur Pitts.—In this case the blooms are large, and perfectly double, with the numerous wavy petals arranged round a single centre like a Hollyhock. The petals are of a dark and rich shade of rose, but the central ones are more or less tinted with white at the base in their younger stages. The foliage is dark green. Floricultural Certificate, Royal Botanic Society, April 24th, to Mr. T. S. Ware, Tottenham.

Begonia Miss Dora Richards.—Like the previous one, this also belongs to the tuberous race. The large, double flowers are of a delicate flesh colour, with a rosy edge to the wavy petals which are arranged round a single centre. In their earlier stages they are white or nearly so, but become tinted in the manner described as they reach perfection. Floricultural Certificate, Royal Botanic Society, April 24th, to Mr. T. S. Ware.

Begonia Prince Adolphus of Teck.—Here again the flowers are double and of beautiful Camellia-like form. The flat petals are neatly arranged round a common centre, and are of an intensely brilliant scarlet. The moderate sized leaves are deep green. Floricultural Certificate, Royal Botanic Society, April 24th, to Messrs. J. Laing & Sons.

Begonia Princess Adolphus of Teck.—This double variety flowered for the first time about three years ago, and has pure white flowers of moderate size, with broad petals. The smaller blooms are not unlike those of a Gardenia. Floricultural Certificate, Royal Botanic Society, April 24th, to Messrs. J. Laing & Sons.

Begonia Samuel Pope.—The flowers of this tuberous variety are large, and beautifully double, although they consist of a moderate number of petals. The latter are very broad with wide undulations of the Hollyhock type, and are of a black colour with dark rose edges. The variety partakes therefore of the character of the Hollyhock and the Picotee, and is remarkably pretty and attractive. Floricultural Certificate, Royal Botanic Society, April 24th, to Mr. T. S. Ware.

Bertolonia Madame Auguste Van Geert.—The leaves of this fine variety are large, and have seven to nine nerves of a silvery-grey in the younger stages, but as they become fully developed they assume a beautiful rosy tint. These nerves are connected by shorter transverse ones, and, like the spots distributed over the whole leaf, they take the same colours as the principal veins. Botanical Certificate, Royal Botanic Society, April 24th, to Messrs. J. Laing & Sons.

Bougainvillea speciosa superba.—This beautiful variety was raised from cuttings sent from Egypt. The floral bracts, which alone give beauty to this handsome climber, are of a dark and rich rosy-purple, difficult to describe, but they make the ordinary form appear pale and poor by comparison. Award of Merit, R.H.S., April 23rd, to Mr. G. Stanton, Park Place, Henley-on-Thames.

Caladium Puvis de Chavannes.—The leaves of this variety when in their best condition are broadly shield-shaped and of a uniform soft red all over with the principal veins crimson. With plenty of subdued sunshine this would make a bold and handsome variety for decorative purposes. Botanical Certificate, Royal Botanic Society, April 24th, to Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road.

Caladium Triomphe de Comte.—The leaves of this new variety are large, shield-shaped and of a dark crimson-red with bronzy-green markings towards the edges, and of great decorative value. Botanical Certificate, Royal Botanic Society, April 24th, to Messrs. J. Laing & Son.

Canna Cheshunt Yellow.—The three large segments of this variety are clear golden yellow, but two of the small and revolute segments are crimson. Floricultural Certificate, Royal Botanic Society, April 24th, to Messrs. Paul & Son.

Epiphyllum Russellianum Makoyanum.—The joints of this cactaceous plant are narrowly obovate, and longer than those of E. Gaertneri. The flowers consist of numerous sepals and petals of a deep scarlet externally, and tinted with orange internally. They are openly funnel-shaped, like those of a Cereus, and produce one to three together at the apex of the joints. The variety is handsome for conservatory decoration. Floricultural Certificate, Royal Botanic Society, April 24th, to Messrs. J. Veitch & Sons, Chelsea.

Polyanthus Hermand.—The blue colour originally developed in the hardy Primroses of that hue has now been communicated to some varieties of Polyanthus, of which that under notice has deep violet-blue flowers. Award of Merit, R.H.S., April 23rd, to G. F. Wilson, Esq., F.R.S., Weybridge.

Pieris formosa.—The leaves of this greenhouse species are large, very leathery, and of a dark green colour, showing off the large white clusters of flowers to the best advantage. Not being quite hardy, a greenhouse is necessary to enable this species to flower to perfection. Award of Merit, R.H.S., April 23rd, to Mrs. Ramsden, Guildford.

Pteris cretica Wimsettii.—The leaves of this bold and striking variety are bipinnate, as in the type, but what gives them their peculiar and characteristic appearance is that the pinnae are irregularly developed here and there into segments of varying lengths, serrate on the margins, or sometimes again slightly lobed, or these secondary lobes may be reduced to mere teeth. The plant forms a bold and bushy specimen with the pinnae and pinnules spreading widely. Award of Merit, R.H.S., April 23rd, Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton.

Rhododendron Fosterianum.—The leaves of this greenhouse Rhododendron are elliptic, leathery, and dark green. The flowers, which measure 4 in. across, have slightly wavy segments, and are pure white, with exception of a pale yellow blotch at the

base of the upper lobes. They are produced in clusters of one to three at the tips of the shoots, are handsome, bold, most effective, and somewhat fragrant. Botanical Certificate, Royal Botanic Society, April 24th, to Messrs. J. Veitch & Sons.

ROSE BRIDESMAID.—In this we have a Tea Rose of beautiful form and soft pleasing colour. The outer petals are spreading, but the inner are more erect, forming a compact, sub-conical mass of a soft rosy-pink. The foliage is of a rich dark green. Award of Merit, R.H.S., April 23rd; Floricultural Certificate, Royal Botanic Society, April 24th, to Messrs. Paul & Son.

ROSE MARCHIONESS OF LONDONDERRY.—The flower of this hybrid perpetual variety are of large size and milk white. The outer petals of a flower at its best are spreading and strongly revolute at the edges. All the others forming the more compact centre are also rolled back at the edges, though to a smaller extent. Award of Merit, R.H.S., April 23rd, to Messrs. Paul & Son.

SAINTPAULIA IONANTHE.—The roundly heart-shaped hairy leaves of this pretty stove plant are produced in neat rosettes covering the soil in which the plants are grown. The scapes rise only a few inches above the leaves, bearing deep blue flowers not unlike those of a Violet Botanical Certificate, Royal Botanic Society, April 24th, to Messrs. J. Laing & Sons, Forest Hill.

TROPAEOLUM COOLGARDIE.—The stems of this variety are erect and throw out side branches very freely till they form dense bushy specimens that require a single stake as they increase in size when grown in pots. The leaves are small, dark green, and the flowers are large and of a uniform golden-yellow, as the name of one of the celebrated gold-fields of Australia (Coolgardie) given to it is meant to imply. It will prove very useful for decorative work. Award of Merit, R.H.S., April 23rd, to Mr. H. B. May.

FRUIT AND VEGETABLES.

TOMATO ALL THE YEAR ROUND.—The fruits of this new variety are shortly oblong in the style of King Humbert, but shorter, nearly globular, smooth, and of a deep crimson-red. It appears to be very prolific, and must prove useful, since ripe fruit may be had in quantity at this season of the year. First-class Certificate, R.H.S., April 23rd, to Mr. Farr, gardener, Spring Grove House, Isleworth.

SUTTON'S EARLIEST FRAME RADISH.—The roots of this variety are oblong, suddenly narrowed to the slender radicle, of a rich bright red, and 1½ in. to 3 in. long. It is very tender and crisp, rapidly attaining perfection, and a welcome change from the globular or turnip-rooted sorts, which are generally used for forcing purposes. Award of Merit, R.H.S., April 23rd, to Messrs. Sutton & Sons.

SUTTON'S IMPROVED HEARTING KALE.—This is one of the curled Kales, but it also combines that with the character of a Cabbage. The outer leaves are very much curled, so as to appear of great depth, and the smaller ones in the centre are compacted, forming a small heart of tender eating, and delicate agreeable flavour. The fact that it survived the severity of the past winter and is now in excellent condition and fit for the table, speaks plainly enough of its hardiness and value at this season of the year. Award of Merit, R.H.S., April 23rd, to Messrs. Sutton & Sons.

BALMEDIE, ABERDEEN.

THE collection of Orchids, formed by W. H. Lumsden, Esq., at Balmedie, is one of the best in Scotland, not only in point of size, but in variety and high class cultivation. Mr. Lumsden is a thorough enthusiast, and he spends a considerable amount of time amongst his plants, watching and studying their development, along with his able and intelligent gardener, Mr. Hutchinson, who is an Orchidist of high repute and not unknown to fame as a very powerful exhibitor in the north.

After entering the stove I looked towards the roof and saw such a sight as I shall not forget in a hurry, for here were Dendrobium Phalaenopsis Schroderianum suspended from the roof by the dozen, with young growths much longer and thicker than the imported bulbs had ever been. On the side and middle stages were the numerous occupants of the stove. In the centre bed were two splendid plants of Musa Cavendishii in prime health.

From the stove I passed into the Cattleya house, which presented a very gay appearance with some fine forms of Cattleya Schroderae, C. Mendelii, C. Trianaei, C. Lawrenceana, and a fine healthy plant of C. Skinneri alba; interspersed were numerous fine forms of Dendrobes all flowering with exceptional freedom. I also noted some fine Cymbidium eburneum and C. Lowianum with enormous spikes arranged in a commanding position, which gave a pleasing effect to the whole; intermixed were some fine Cypripediums, whose foliage and flowers blended in harmony with the gorgeous Cattleyas and Dendrobes.

Passing through the Cypripedium house, I felt that I must make a note of some of the occupants. C. Rothschildianum was growing and flowering with great freedom, likewise were C. Niobe, C. grande, C. Morganiae, C. miniatum, C. Schroderae, &c., &c., all in the pink of health. In the cool house I noticed several fine forms of Odontoglossum Alexandrae, O. Pescatorei, O. triumphans, and an extraordinary fine form of Ada Aurantiaca. Not only are the orchids well done, but everything else is on a par with them. The Vines are carrying enormous crops, so are the Peach and Nectarine trees; and early and late forcing is carried on at all seasons of the year with great success. —*J. McNab.*

THE BEDDING AT KEW.

WHILE it may be said in a general sense that to the lover of flowers all, even the most lowly and insignificant, are beautiful and interesting, it is also certain that some plants lend themselves much more readily than do others to the providing of grand floral effects that at once appeal to the taste and captivate the eyes of those who are able to understand true floral beauty, and are capable of appreciating the efforts of the skilled master-hand who manipulates and turns to the best advantage the several qualities possessed by each flower, both as to the habit of growth, season of blooming, colour of flower, etc.; the result being a magnificent combination of colours that would cause anyone whether interested or not in the planting of flowers for effect to pause and say, "this is beautiful." The interest, however, attaching to a fine floral picture, which in its skilful and careful working out betrays a grasp of detail and a faculty for taking note of small things or comparative trifles in the minds of those who conceived it, (for, in the words of Michael Angelo, "trifles make perfection") is very much greater to those who possess a knowledge, even though it may be rudimentary, of the trouble and pains which are necessary to produce such an effect, than it is to the careless passer-by, who is, however, forced to pause and admire.

Such a picture is at present spread out immediately in front of the Palm House at Kew, a sight that is well worth travelling a hundred miles to see, and which, were it necessary for the general public to pay an admittance fee before they were permitted to feast their eyes upon it, would doubtless draw crowds of sightseers. Tulips and Narcissi, the latter in comparatively small quantities, are responsible for this grand display. Much has been written, and a great deal more said about the loveliness of spring flowers, but it is very seldom that we see them used to such an extent as they are at Kew. There is, however, nothing of the striving "to blush unseen" qualification about our friend the Tulip. It delights to hold its head erect, to gaze upon the sun, and to flaunt its brilliant colours in the face of the passer-by. No undue modesty is here; but instead a self-consciousness of beauty, and a desire to exhibit that beauty to the eyes of all beholders who desire to gaze upon it.

Numerous are the varieties of Tulips employed, from deepest crimson to purest white and richest yellow, not forgetting the wonderfully striped and many hued flowers. Some of the smaller beds are filled with one variety only; others contain two; the different colours in each being judiciously blended or agreeably contrasted, the one with the other and with the occupants of the beds immediately surrounding them; the whole presenting a superb panorama of dazzling colour that needless to say calls forth sundry and various tributes of admiration from all sorts and conditions of men, women, and children. Thus, even during the few minutes in which I was feasting my eyes upon the gay scene, I overheard many expressions of appreciation from delighted onlookers, from the "ain't so dusty, Charlie," of the member of the coster persuasion, to the "transcendently beautiful" of a "Johnny" who evidently wished to make an impression upon the susceptible mind of the fair companion who journeyed by his side as to his sesquipedalian abilities.

In the circular bed at the end of the Broad Walk a fine display will also soon be forthcoming, and even now the Tulips which stand out here and there and thus help to relieve the flatness of the dwarfer material are now in full flower. Aubrietias, Auriculas, and the pretty and valuable little Phlox amoena are here employed with exceedingly satisfactory results. In the beds that are to be seen on either side of the Broad Walk throughout its whole length Narcissi of various sorts are to be seen, a blaze of gold. Such well known varieties as Empress, Emperor, Sir Watkin, incomparabilis, Stella, and Barri Conspicuus are well represented, and indeed are at the present time the admiration of all beholders.

Hyacinths are not present in very great force. A number of beds opposite the Turkey Oak are, however, filled with them, blues predominating; but whether they suffer from contrast with the gorgeous Tulip and the rich Narcissus or no, they do not appear particularly attractive. It would, indeed, be a hard-headed and highly unimpressionable individual who, after a visit to Kew, would not admit the usefulness and suitability of Tulips and Narcissi as bedding subjects for planting in bold and conspicuous masses for the decoration of the flower garden during the spring months, their glowing colour being thrown into such effective relief by the rich green of the freshly growing grass, coupled with the softer tints of the young verdure of the earlier trees and shrubs.

AN EAST LONDON FLOWER SHOW.

RECENTLY I was invited to act as judge at a Children's Flower Show at Whitechapel. It was the occasion of the spring show of the St. Mary's Floricultural Society, in connection with St. Mary's Church, in the Whitechapel Road, the very praiseworthy object of this society being "To encourage and promote interest in the care and growth of plants among the boys and girls attending the Day and Sunday Schools." I have an old map of London and its environs, published in 1806, and at that time the road from Aldgate down to Mile End Corner had streets and houses running out at right angles, but beyond Mile End Corner and right away to Stratford it must have been open country with green fields, flowering hedgerows, singing birds and all other evidences of country life. To-day there are miles upon miles of houses thickly set down on either side of narrow streets. It is the centre of a huge industrial population; gardens are few, very circumscribed and unfitted for the culture of plants, and what is done in the way of growing plants must be in the windows of living rooms, and with difficulty, but it is being done, thanks to the St. Mary's and other societies. Some sweetness and light is thereby brought into homes which would perhaps not otherwise appear there.

In the summer of last year I was invited to an exhibition of plants and flowers held in the churchyard of St. Mary's, now a pleasant little breathing place; and the show taking place in the open, it was well the evening was fine. Many plants were staged for competition—Fuchsias, Geraniums, Ferns, Lobelias, Creeping Jennies, Begonias, Petunias, and others—the condition of the plants testifying to the great care bestowed upon them. It was a very interesting exhibition, and what pleased me was a table whereon could be seen flower pots of different sizes; different soils, such as loam, leaf mould, manures, Cocoa-nut fibre, sand, broken charcoal, &c.; and object lessons were being given showing the children how to mix soils, and their proportions to suit certain plants; how to crock and pot, and such like. I gave a short address on the management of various plants, making my points as clear as possible, and in the simplest language. In the autumn I paid the society another visit, and found various bulbs on sale in one of the school-rooms—Hyacinths, Tulips, Narcissi, Crocus, Scilla, Lily, &c.; also pots and soil, and a further lesson in how to pot bulbs. Then I talked to the little people about the management of these bulbs in pots of soil

and glasses of water, using a blackboard in order to make all technical terms as plain and easily understood as possible. It was a very interesting gathering, and the order and attention shown by the children reflected great credit upon the masters in the schools. Later on, certain questions—eleven in number—based upon my address and one given by the secretary of the society, were set down on paper and the children invited to reply to them. About forty of these papers were filled up and sent in, and they were forwarded to Ealing to me, so that I might go through them and award them marks, which I did; and I think the replies on the whole showed that the children had paid great attention to the instruction they had received.

The spring exhibition took place at the Davenant Schools, just off the Whitechapel Road, on the 18th inst., but the date was too late, as many of the Hyacinths, Narcissi, and Tulips had gone out of bloom; Crocus and Scilla wholly so; but there was evidence that many of them had been well grown; and I had seen the bulk of those which had flowered at the People's Palace Horticultural Society, Mile End Road, at the end of March, when several prizes were awarded to them.

I attended the spring show as judge, it being held in the evening, and again talked to the youngsters, taking as my subject the replies given on the papers alluded to above; and they were very attentive and well-behaved. On a table in the centre of the room were a number of plants for sale to the children for exhibition in July, and I was afterwards informed by the excellent and energetic Hon. Secretary, Mr. F. A. Peaty, of 26, Clarke Street, Stepney, that he sold 155 at one penny each, many of them being worth sixpence and more. These plants will be duly sealed and registered for exhibition in July. Each child who competes pays an entrance fee of twopence, and this covers all the expense to which an exhibitor is put at the time of competing. Each competitor has to hand in a signed declaration that the plant has been honestly grown by him or her. I was sorry to learn that this most useful society has to suffer for want of subscriptions. More is the pity, for it is doing good work and should have ample encouragement.—*R. D.*

THE GREAT FROST OF 1895.

"The Frost of January and February, 1895, over the British Isles," was the subject of a recent lecture before the members of the Royal Meteorological Society, at 12, Great George Street, Westminster, by Messrs. F. Campbell Bayard and William Marriott. Mr. Marriott, who read the paper, said the cold period which commenced on December 30th, and terminated on March 5th, was broken by a week's mild weather from January 14th to 21st, otherwise there would have been continuous frost for sixty-six days. Temperature below 10° Fahr., and in some cases below zero, were recorded in parts of England and Scotland, between January 8th and 13th, while from the 26th to the 31st, and from February 5th to 20th, temperatures below 10° occurred on every day in some parts of the British Isles. The coldest days were February 8th to 10th. The lowest temperatures recorded were 17° at Braemar, and 11° at Buxton and Drumlanrig. The mean temperature of the British Isles for January was about 7°, and for February from 11° to 14° below the average, while the mean temperature for the period from January 26th to February 19th was from 14° to 20° below the average. The distribution of atmospheric pressure was almost entirely the reverse of the normal, the barometer being highest in the north, and lowest in the south, the result being a continuance of strong northerly and easterly winds. The effect of the cold on the public health was very great, especially on young children and old people. The number of deaths in London due to diseases of the respiratory organs rapidly increased from February 2nd to March 2nd, when the weekly number was 1,448, or 945 above the average. Rivers and lakes were frozen, the ice being more than 10 in. thick. The frost would long be remembered for its effect on the water-pipes all over the country, in many cases householders being without water for more than nine weeks. As the result of inquiries the authors found that mains had frozen which had been laid as low as 3ft. 6in from the surface of the ground to the top of the pipe. It appeared, however, with the depth to which the frost penetrated than the intensity of the frost itself. From a comparison of previous records the authors were of opinion that the recent frost was more severe than any since 1814.

ALPINE FLOWERS UNDER GLASS.

It does not fall to the lot of every lover of Alpine flowers to possess conveniences whereby he may grow them in a miniature of their natural surroundings; for a rockery capable of containing many plants calls for a lot of room if it is to be erected properly, and even when it is made the number of plants it is capable of containing is after all not very great in comparison to the space it occupies. Consequently the culture of Alpine plants in pots is a method of procedure that has much to recommend it to the favourable notice of those with whom space is of the limited order of things. Within the space enclosed by one or two cold frames may be accommodated a host of subjects which, as they come into flower, may be removed to the show-house. A word of caution with regard to the arrangement of Alpine plants in such a house is, however, very necessary, for in many instances we come across plants which have had their appearance well-nigh spoiled by the way in which they have been arranged, or rather mis-arranged. In no case should the formal bank-like form of staging be attempted; but each plant must be given full room to show itself off properly, whilst a certain irregularity of outline is a desirable feature. Just as in their native wilds these simple flowers appeal so strongly to the taste of lovers of the beautiful, and as if conscious that to grow in tufts or clumps is their only chance of having their beauties recognised, so when growing them in pots they should always be grouped together in batches, for if staged as isolated specimens with undesirable regularity much of the effect that is obtained by the adoption of the more natural method is lost.

To those who are interested in the culture of Alpines in pots a visit to the Alpine house at Kew is both instructive and profitable, for here, within a few feet of area, are gathered together quite a host of floral gems. At the present time an especially comprehensive collection of plants are in flower, in which the Muscaris or Grape Hyacinths are occupying a conspicuous position. In addition to the well-known M. botryoides, M. grandiflorum is in fine condition, the lower flowers of the spike being so very much darker and deeper blue than the higher ones as to render the plant extremely noticeable. M. atlanticum, M. Hedreichii, M. conicum, and M. neglectum are all well represented, and although the flowers are rather stiff and formal in appearance this defect is amply compensated for by the brilliant blue of their flowers. Whether grown out-of-doors in the rockery or under glass in pots the Grape Hyacinths are exceedingly useful and showy plants.

Primulas are well to the fore, and comprise such plants as P. alpina, P. rosea, P. Clusiana, and P. ciliata purpurea, the last mentioned having rich purple flowers of large size produced in huge umbels, this mass of colour contrasting well with the dark green, thick and succulent leaves. P. marginata is also both pretty and distinct, and whether in flower or out of flower is very attractive, as the leaves are dusted over with a light golden-yellow powder, this more especially in the younger stages, whilst the margins have also a yellow line running round them that adds much to the charm of the plant.

Rather more curious than pretty is the little Fritillaria dasyphylla with its small dull yellow flowers, tinted brown on the outside of the segments. The popular Gentiana verna with its wonderful blue flowers is also not without its representatives. What other plant have we exhibiting such an intense and vivid blue? Several Tulips deserve special mention. T. cuspidata, with its rich crimson-scarlet flowers, is worthy of all praise, likewise T. Leichtlinii, in which the segments are creamy-yellow in colour, a bronzy-salmon tint being very apparent on the outsides. Triteleia (Brodiaea) uniflora at the time of my visit was responsible for a fine display. The segments of the perianth are white, tinted blue at the tips, a line of similar hue running down each segment. This plant is a native of Buenos Ayres, and to those who are on the look-out for easily grown and showy subjects it is worthy a little attention. A desirable little variety of our common Wood Anemone, A. nemorosa Robinsoniana, is a distinct departure from its type, and its pretty light blue flowers contrast very favourably with the pure white ones of our British wildling, batches of which were peeping like stars at the passers-by from amongst the stumps and stones in the hardy fernery.

A very pretty member of its genus is Saxifraga geranioides, a native of the Pyrenees, although it is of rather loosely-growing habit. Other Saxifrages which call for a note of admiration were S. marginata, with its pretty white flowers barely 4 in in height; S. acanthifolia, which grows about a foot in height, also bearing white flowers; and the yellow flowered S. iratina. Such plants as the tiny Alyssum podolicum, A. pyrenaicum, Androsace carnea, A. obtusifolia, Noccaea alpina, Scilla italica, Soldanella montana, Ranunculus pyrenaeus, R. amplexicaulis, Polemonium pulchellum var. humile, Aubrietia tauricola, Myosotis caespitosa Rehrsteineri, and the lovely little Armeria caespitosa, a native of Portugal, with its exceedingly dwarf habit and delicate pink flowers, all combined to augment the charm attaching to a collection sufficiently beautiful to keep the lover of Alpine plants busy, interested, and happy for some considerable time in observing and noting the varied charms they display so ungrudgingly.—*G.*

GARDENING MISCELLANY.

CARNATIONS.

We are commencing another season in the cultivation of this charming genus, and I opine that taking into consideration the vast number of professionals and amateurs engaged in the raising of novelties that this year will prove to be a very prolific one in the production of grand and choice examples, surpassing all that may have been seen before. I am speaking more particularly of pot and border Carnations, which have far more attractive qualifications to please the general public than the purely florist's varieties, more especially those varieties which possess the seductive property of exquisite fragrance, which is at all times one of the most acceptable charms of this popular flower. Plants sown last year are now beginning to flower, and I send a bloom of one of my first. It is the result of a cross on a crimson Malmaison with pollen from seedling yellows. I have a variety of colours, and some of the flowers (if spared) I may produce subsequently.—*George Fry, Lewisham.*

AMHERSTIA NOBILIS.

This magnificent tropical tree is at the present time in full flower in the Aroid House at Kew, and is indeed both a glorious and an interesting spectacle, and one that no one interested in plants from tropical climes should suffer to pass without seeing. From the tropics at various times come glowing reports of the magnificent sight that the tree presents when in bloom—a picture which it is said surpasses all efforts of the tongue or pen to describe. A peep at the Kew specimen, which itself carries a goodly quantity of the long pendulous racemes of the vermilion coloured flowers, will, however, help to convey to the minds of those less favoured individuals to whom it is denied to see the tree in all its full grandeur in its native habitats some little idea of the grand appearance it must present during its flowering period. Although the flowers are so showy they are of an exceedingly ephemeral character. The plant revels in a high temperature with plenty of moisture both at the root and in the atmosphere.

DOUBLE AURICULAS.

Semi-double forms of the Chinese Primula are already raised in large numbers from seed, but double Auriculas are very much more rare and not at all known to the general public. Mr. C. B. Green, of Acton, in the small amount of space at command and in a thickly populated district has raised a batch of seedlings showing a considerable variety of colour from a soft lilac or pink to dark brown and umber. The lighter colours are the most pleasing though not always the most fully double, for there are all degrees of it as might be expected. To get particular shades of colour and fulness of flower, the work of seed raising must be continued and the best selected named and propagated by division as in the case of the ordinary exhibition varieties. Besides the doubles, Mr. Green has also raised a considerable quantity of show and Alpine kinds which are very variable in colour and also profuse in the quantity of bloom as plants so raised usually are. They can be utilized for conservatory work or planted out in the garden; but the neighbourhood of a thickly populated district seems unfavourable to outdoor culture, and many losses occur in winter. Under glass this can to a great extent be avoided, with more satisfactory results generally.

SOCIETIES.

Royal Botanic, 24*th April*.—The second spring exhibition of this Society witnessed the gathering together of a large quantity of all the popular spring flowers; and the day being fine there was a crowded attendance of people during the afternoon. The first award for a group of Pelargoniums went to Mr. C. Turner, Slough, who had a large collection of semi-globular plants with numerous smaller ones showing large flowers of their kind though not all expanded. Mr. T. S. Ware, Hale Farm Nursery, Tottenham, was equally successful with a large and beautiful collection of tuberous Begonias, several of which were now showing considerable improvements upon older types. They were much admired by the general public. He was also awarded the first prize for hardy herbaceous plants including Lilies, Dielytras, Saxifragas and Orchis fusca. Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, took the first award for a group of Auriculas which were well-grown. Mr. C. Turner was a good second. Mr. Douglas also took the leading awards for hardy and half hardy Primulas, and for Cinerarias. Messrs. Paul & Sons, Cheshunt, had the best Amaryllis, Mr. Douglas being second. Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park was awarded the first prize for a group of Imantophyllums, which were well grown but had small, unimproved flowers. He also had the first prize for Spiraeas, and the second for greenhouse Azaleas. The collections of Roses in pots were large, and the first prize was taken by Messrs. Paul & Son; Mr. William Rumsey, Joynings Nurseries, Waltham Cross took the second place with smaller plants.

Miscellaneous exhibits were both numerous and varied. A large group of Daffodils, including the best varieties in cultivation, also Anemone fulgens, Tulips, Muscari, Scilla, and the smaller Narcissi, was exhibited by Messrs. Barr & Son, King Street, Covent Garden. Mr. W. Burrell, gardener to Mrs. Thornton, The Hoo, Sydenham Hill, exhibited a group of Mignonette in large, pyramidal, well-flowered specimens that had been sown in May or June last year (Certificate recommended). Messrs. J. Veitch & Sons, Chelsea, exhibited a collection of new or interesting plants of a varied description, including several varieties of blue Primroses, Epiphyllum Gaertneri, E. Russellianum makoyanum, Rhododendron Fosterianum, Alyssum saxatile citrinum, Glonera jasminiflora, and others. Messrs. Hugh Low & Co., Clapton, staged a group of New Holland plants, presenting a great range and variety of engaging and attractive colours. Amongst them we noted Boronia heterophylla, Acacia cordata, A. Drummondi, Chorozema Lowii, Genista elegans, Pimelea spectabilis, P. Neippergiana, and others. The firm also showed Cannas, Orchids, and Bush Hill White Mignonette (Silver Medal). Mr. T. S. Ware had a large collection of Daffodils in groups of a colour, Spanish Iris, Gladiolus The Bride, and others (Large Bronze Medal). Messrs. B. S. Williams & Son, Upper Holloway, exhibited a large group of Amaryllis, Orchids, Ataccia cristata, and an Early Seedling Kidney Bean with smooth and well-shaped pods of good quality (small Silver Medal). A Certificate of Merit for superior cultivation was awarded to A. Anderson, Esq., Buscot Park, Farringdon, for two fruits of The Countess Melon. Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, exhibited Palms, Clivias, Dracaenas, Caladiums, Crotons, &c. (Bronze Medal). Mr. P. Perry, gardener to J. C. Tasker, Esq., Middleton Hall, Brentwood, staged a group of Roses and well-flowered Azalea Mollis (Bronze Medal). Mr. R. Scott staged a group of Dicentra spectabilis, Asparagus plumosus, &c. (Bronze Medal). Messrs. J. Laing & Sons, Forest Hill, exhibited an extensive group of Palms, Dracaenas, Crotons, foliage and flowering Begonias, Clivias, Heaths, Nicotiana colossea variegata, Carnation Madame C. Schmidt, and many other subjects (Large Silver Medal). Mr. F. Cant, Braiswick, Colchester, exhibited four boxes of Tea and hybrid perpetual Roses in fresh condition and of large size (small Silver Medal). Mr. George Mount, Canterbury, exhibited a similar collection, including large quantities of Marechal Niel, Niphetos, and Catherine Mermet (small Silver Medal). Mr. J. Walker, Thame, Oxon, exhibited two boxes of Marechal Niel, one of Niphetos, and some mixed Roses, all of which were very attractive and fine (small Silver Medal). Mr. William Rumsey also had a collection of Roses in great variety (small Silver Medal). Mr. J. Douglas exhibited a large basket of Polyanthus. Messrs. Paul & Son showed a group of Cannas in baskets.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Seedling Orchid.—*Constant Reader*: Is not the assumption that your plant is a seedling an error? We cannot distinguish the flower from Dendrobium superbum, commonly called in gardens D. macrophyllum, and easily recognised by its strong odour of Turkey Rhubarb.

Bedding.—*One in a fix*: You might draw out five small diamond-shaped beds inside the large one; or, as we think would be better, mark out a circle in the centre and a diamond in each angle of the large one. Thus there would be five small beds altogether inside the large one. Fit them in so as to be as large as possible, yet clear of the edges of the large bed and clear of the centre. Fill the central circle with Iresine Wallsi, and the four small diamonds with Mesembryanthemun cordifolium variegatum. All the four may be edged with small plants of Echeveria secunda glauca, and the central one with Golden Feather. Fill in the ground work with Mentha and edge the whole bed with large plants of Echeveria secunda glauca, with an edging of Golden Feather inside it if the space will allow of it. The diamonds at the longer ends of the beds may be slightly larger than the other two to fill the space. The above should be sufficiently complicated for the size of the bed. You would possibly get the Echeveria and Gasteria from Messrs. H. Cannell & Sons, Swanley, who have a large collection of these things.

Bramble.—*Ronce*: Most of what you state would apply to the common Bramble (Rubus fruticosus) or several of its multitudinous varieties which certain botanists raise to the rank of species. Several of them produce more fruit and ripen it better than others, but that does not alter the general facts of the case. We are not aware, however, that cattle are ever fed on the leaves unless goats browse upon them. Young trees may be protected against sheep either by the use of Brambles, Black or White Thorns or Gorse. The latter in same districts is crushed by means of a stone like a large millstone and given to cattle and horses which relish the same after the thorns have been crushed and broken in the manner described.

Communications Received.—S.—S. J.—A. P.—J. C. & Co.—H. C.—T. J. S.—W. G. C.—P. & M.—S.—G. W.—H. Thomas.—Mancunian.

TRADE CATALOGUES RECEIVED.

T. S. Ware, Hale Farm Nurseries, Tottenham.—Dahlias, Begonias, and other plants for spring planting.

LONDON SEED TRADE.

April 30th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a brisk demand for Clover and Grass seeds at unchanged rates. Rape seed dearer. Mustard dull.

COVENT GARDEN MARKET.

May 1st, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples.....per busbel	3 0	9 0
Nova Scotia Apples per barrel	12 0	21 0
Coh Nuts and Filberts, per 100 lbs.	18 0	
Grapes, per lb.	1 0	5 0
Pine-apples. —St. Michael's each	2 6	6 0
Strawberries, Nobles, per lb.	1 6	2 0
Other varieties, per lb.	2 0	4 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.
ArticbokesGlobe doz.	3 0	6 0
Beans, Frencb, perlh.	2 0	2 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per huncb	0 6	
Caulifloweres.....doz.	3 0	6 0
Celery.....per hundle	1 6	2 0
Cucumbers .....each	0 3	0 9
Endive, Frencb, doz.	2 6	3 0
Herbs .....per huncb	0 2	0 6
Horse Radisb, hundle	2 0	4 0
Lettuces ...per dozen	3 0	0 0
Musbrooms, p. basket	1 0	1 6
Onions.....per hunob	0 4	0 6
Parsley ... per huncb	0 6	
Radishes... per dozen	1 6	
Seakale...per basket	1 6	2 0
Smallsalading,punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	1 0	2 0
Turnips ..... per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	4 0
Azalea, doz. sprays	0 6	1 0
Asparagus Fern, hun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz.blms.	2 0	3 0
Double Daffodils, doz. bchs.	1 6	3 0
Single Daffodils, doz. bchs.	3 0	4 0
Eucharis ...per doz.	4 0	6 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	6 0	9 0
Lilac (French) per hcb.	5 0	6 0
Lilium longiflorum per doz.	4 0	6 0
Marguerites. 12 bun.	1 6	3 0
MaidenhairFern,12bs.	4 0	6 0
Orcbids, doz. blooms	1 6	12 0
Pelargoniums,12 bun.	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. hun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea,white, doz.	1 0	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (Englisb), doz. ...	1 3	2 0
Red Roses.....	3 0	6 0
Pink Roses	5 0	7 0
Roses (Frencb), yellow, doz. blooms ...	1 6	2 0
Roses (French), red, doz. blooms. ...	2 0	2 6
Smilax, per buncb ...	4 0	6 0
Stephanotis, doz. sprays ...	4 0	6 0
Tuberoses, doz. blooms ...	0 4	0 6
Violets (Englisb) doz. bun. ...	1 0	2 0
Violets (French) Parme, per bun.	2 6	3 6
Violets (French) Czar, per bun. ...	2 0	3 0
Violets (Frencb) Victoria,doz. bun.	2 6	4 0

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
" specimen plants	5 0	10 6
Azaleas, each	3 0	4 0
Cinerarias, per doz.	6 0	10 0
Cyclamen, per doz.	9 0	12 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis,doz.	9 0	18 0
Erica, various, doz....	9 0	18 0
Euonymus, var. doz.	0 0	18 0
Evergreens,Invar.doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Lycopodiums, doz.	3 0	4 0
Marguerite Daisy, per doz.	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety,each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Primulas, doz.	4 0	6 0

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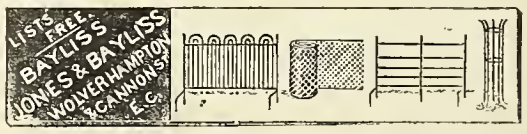

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FLOWER SHOW FIXTURES, 1895.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Southampton Spring Show.
2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show.
14.—Bishop Stortford Flower Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.

(*Continued on next column.*)

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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JACK FROST

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The earliest variety in cultivation and very prolific, solid fruit, good flavour, high perfume.

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Having purchased the whole of the stock of this grand new early Strawberry from the raiser, we have pleasure in offering it as follows:—

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For Index to Contents see page 589.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MAY 11th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 14th.—Royal Horticultural Society: meeting of Committees at 12 o'clock.
Orchid Sale at Protheroe & Morris' Rooms.
WEDNESDAY, May 15th.—Royal Botanic Society's Summer Show.
Plant Sale at Protheroe & Morris' Rooms.
FRIDAY, May 17th.—Orchid Sale at Protheroe & Morris' Rooms.

TOMATOS ALL THE YEAR ROUND.—Fifteen years ago or more there was a desire on the part of cultivators, if not actually a demand on the part of consumers, for a supply of Tomatos all the year round. In private establishments the supply is limited by the conveniences of the place as to house-room, the command of heating arrangements, the skill of the cultivator, and the capabilities of the particular variety of Tomato obtainable for cultivation at the more critical periods of the year—to wit, in autumn, winter and spring. About the above mentioned time, a great, or the chief complaint seemed to be the difficulty of obtaining a reliable variety that could be depended upon to fruit in winter. Several sorts were recommended by the seedsmen as suitable for that purpose, but after a considerable lapse of time many of the plants turned out to be what were vulgarly termed mongrels. Whether the seeds were actually mixed, or the varieties were of unfixed or bad strains it would now be difficult to say, although we readily grant that varieties tend to degenerate unless annually selected with great care as to type and desirable qualities. There are even those who affirm that the life of a variety hardly extends beyond ten years. However all this may be, we are decidedly of opinion that it is greatly a matter of cultivation as to whether the best varieties already in existence will bear well or ill, and that successful cultivators have solved the problem from time to time, and we must look forward to further and more widely disseminated progress in this direction.

Since the time of which we speak numerous improvements have been accomplished in the raising of the varieties valuable for some purpose or other, yet the necessity for a home supply of Tomatos in winter is as hypothetical as ever. Not even in a tithe of the private establishments of the country is any attempt made to produce a a supply of Tomatos for the household in winter, far less a supply for the general community. Amongst recent varieties that have been put forward as good ones for winter fruiting are Lady Bird and All the Year Round, the latter, as far as shape goes, being much in the style of King Humbert, Vick's Criterion and Chiswick Red. Colour and quality may be entirely different, but evidently the greatest recommendation that either of the above sorts possess is that they set freely, and when cultural treatment is good the stems are short-jointed and the bunches close together. There are, however, several older varieties that set freely, but it frequently happens that the merits of an old sort are entirely overlooked or ignored. Concurrently with the question of free setting is that of quality. Under no circumstances, as far as present appliances are concerned, can Tomatos ripened in comparatively sunless winters be expected to equal in quality those produced in summer. There may be something in store for us in the future, however, if the electric light can be pressed into the service of the cultivator. Even in this respect we are already behind the Americans in the making of experiments, the introduction of the improvements and making of innovations; if we proceed slowly and cautiously, truly our movements are tardy. Should electric lighting supply the defects of sunlight in our northern latitudes, even so far as to bring fruit, including Tomatos, up to the summer standard of quality, a great point would be gained, and another record of human achievement accomplished.

Notwithstanding the improvements in appliances that have been made and placed at the command of modern cultivators, we still pay a large sum for Tomatos of foreign production. Overlooking all other producers for the moment, except the growers in the Channel Islands (whom we do not actually look upon as foreigners), let us consider the lessons which they teach us. A large number of them are not professionals at all, or were not, but simply commenced as amateurs, making blunders and failures in cultivation such as amateurs here might be expected to do, yet their energy and perseverance has enabled them to surmount many difficulties, to build fresh houses and to supply the markets of our principal towns with yearly increasing quantities of Tomatos as well as other produce. If well-lighted houses of simple construction enable those islanders to accomplish so much, why may it not be done here, notwithstanding the slightly different conditions of climate? Tomatos are brought from much greater distances, and everyone, at all conversant with the subject knows that soft fruit intended for long journeys must be gathered before it is properly matured greatly at the expense of quality. In many cases the supply is brought from such distances, and the time that must elapse before it is placed before the consuming public so great, that Tomatos constitute sorry eating even after they have been subjected to the process of cooking.

Surely all this can be remedied or to a great extent modified; and, where ordinary methods of practical cultivation fall short of the desired end, there may be a prospect of aid from scientific sources to help in the march of progress. But it is unnecessary to dwell on the prospects and possibilities of scientific discoveries and accomplishments in the strictest sense of the term when it is well known that a wide diffusion of the knowledge of good practical gardening would stand many a cultivator in good stead and enable him to place high quality produce on the market. It is true

that size, shape and colour are often placed before quality in the public estimation; but even here, good cultivation is absolutely necessary. In private establishments it often happens that the gardener is called upon to grow Tomatos under very adverse conditions, and he cannot be blamed for many of the failures that result. Tomatos, to do well, must have a house to themselves however small, with a suitable exposure. Then even here, as in the larger cultures, technical instruction, and a wide diffusion of the elementary principles underlying the growth of plants would greatly aid the growers to place upon the market an article of such quality as would break the back of foreign produce. True, there are side issues to be considered, such as railway rates and other matters, but the growers must combine to send their produce in quantity to reduce carriage expenses, and to keep up the supply regularly, not intermittently, so as to secure the confidence and custom, and meet the demands of the best markets.

Coventry Chrysanthemum Show.—The first exhibition of the recently-formed Coventry Chrysanthemum Society is fixed to be held on November 6th and 7th.

Mr. Alexander Crichton, gardener to Mrs. Croall, Southfield, Liberton, Midlothian, has been engaged as gardener and bailiff to Miss Cox, Clement Park, Dundee.

Mr. Alexander Urquhart, late gardener to Mrs. Fox Tarratt, Ellary, Argyleshire, succeeds Mr. Crichton, as gardener to Mrs. Croall, Southfield, Liberton.

Viola and Pansy Conference.—A conference of Viola and Pansy growers will be held on the 29th inst. in connection with the show of these flowers to be held in the Botanical Gardens, Edgbaston, Birmingham, on that date.

Horticultural Implement Exhibition at Manchester.—A special exhibition of horticultural implements and appliances will be held for a week in connection with the Great Whitsuntide Exhibition, which opens in the Botanical Gardens, at Old Trafford, on May 31st.

Gardening as an occupation for deaf mutes.—The directors of the New York Institution for the Instruction of the Deaf and Dumb have in contemplation the education of the inmates in horticulture. The experiment will be watched with great interest.

The Royal National Tulip Society will hold an exhibition in the Inner Temple Gardens, in connection with the great Temple Show of the Royal Horticultural Society, on Tuesday, May 21st.

Mr. George McLean, who was for upwards of twenty years gardener to the Earl of Lichfield at Shugborough Hall, Stafford, has taken the Wollaton Hall Gardens, near Nottingham.

The People's Palace.—The Winter Garden at the People's Palace in the Mile End Road, E., has recently been enriched by a collection of some 300 Palms, Camellias, Azaleas, etc., the gift of Messrs. B. S. Williams & Son, of Holloway.

Hybrid Cypripediums.—The list of hybrid Cypripediums compiled by Mr. Chapman, gardener to R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, S.E., which was noticed in our issue for December 15th last, has been reprinted and can now be obtained from the author for 2s.

Torquay Horticultural Society.—At a meeting held in Torquay on the 2nd inst. it was decided to wind up the local horticultural society, and to give any balance that may be left after settling all accounts to the Torquay Gardeners' Relief Fund.

Mr. Isaac Sprague, the American botanist and artist, died at Wellesley Hills, Mass., recently, aged eighty-three. He had a wide reputation as an illustrator of botanical works and was a collaborator with Prof. Goodale, the late Prof. Asa Gray and other well-known scientists. He drew the plates for Gray's "Manual of the Botany of the Northern United States," and Goodale's "Wild Flowers of America."

The Flower Season at the Scilly Isles is now over and a local report states that although prices at the beginning of the season ruled high, the returns to the islands will fall considerably below the average. The early Narcissus crop, the Soleil d'Or, was a failure throughout the islands, and the total quantity sent for the year will be about 100 tons short of last year.

Gift of a Park to Liverpool.—At a recent meeting of the Liverpool City Council a letter was read from the local solicitor stating that he had been instructed to offer to the city a plot of land covering 108 acres, which had been laid out as a recreation ground. He was not at liberty to mention the name of the donor. There were some buildings on the land, the rents from which would nearly pay for the maintenance, leaving only a small charge on the city. It was decided to accept the gift.

Primula obconica.—According to the *English Mechanic*, Dr. Richl, of the Vienna University, has been experimenting with the poison of the Primula obconica, one of the most beautiful of the Primrose family. Experiments were made, and it was found that the tiny hairs on the leaf and stalks irritated the skin, and gave rise to swellings and inflammation. Dr. Richl succeeded in extracting the poison, and, by means of injections with it, claims to have healed more than one obstinate skin disease! His experiments are not yet completed, but they are stated to promise good results.

A New Carnation and Picotee Society.—We understand that an effort is being made to establish a new Society in the West of England under the title of the West Gloucestershire and District Carnation, Picotee, and Pansy Society, which will be under the presidency of Mr. Alfred Deedes, J.P., C.C., of Frenchay Manor, and the first exhibition of which is to be held at Fishponds on July 27th. The committee, we learn, has already received promises of extensive exhibits, and there are included in the schedule an unusual number of amateur classes. The subscription has been fixed at five shillings, which entitles the subscriber to two admissions to the exhibitions. Mr. J. Loveder, of Fishponds, is the treasurer, and Mr. L. Brimble, Oldbury Court Road, Fishponds, the hon. secretary.

A large Dendrobium Wardianum.—On the occasion of the funeral of the late Mr. W. S. Kimball, of Rochester, N.Y., the church was richly decorated with Orchids from his famous collection, and amongst them was a notable specimen of Dendrobium Wardianum. The plant had a spread of nearly four feet across without any tying apart or sticks of any kind. The stout canes were flowered to the very base of the pot which is an 8-in. These canes all measured over three feet in length, and were arching over in a natural graceful way; the effect was magnificent. The flowers on this splendid specimen are larger and broader than we usually see them, it being an extra good variety, probably the so-called giganteum.

A Handy Water Spreader.—Mr. W. E. Tidy, of the Brockhampton Nursery, Havant, has favoured us with a sample of a strong, neatly made spreader that he has devised and is now putting on the market. It is made of brass, and is of the form of a round spoon, the size of a penny, with, in place of the usual handle, three strips of brass, one to pass inside the spout of the water-can, and the other two clasping the outside. Where there is much "damping down" to do, or watering in the case of other than pot stuff, every grower knows the value of a spreader, and many are the home-made contrivances that have been made for this purpose; but Mr. Tidy's certainly beats all that we have seen or used. It is cheap, and will fit any sized can, and as it can be carried in the vest pocket is not likely to be either easily lost or mislaid. Mr. Tidy should find a big sale for his very simple and useful contrivance.

Rhododendron Falconeri.—Mr. Leo. Grindon mentions in the *Manchester City News* the interesting fact that a plant of this Sikkim species which has been in the botanical gardens at Old Trafford for over twenty years is now flowering there for the first time. "The warmth of the two last summers probably 'ripened the wood,' as the gardeners express it. Unprecedented as a curiosity and not likely to be seen again, the Council of the Horticultural Society liberally allow any person to view it up till May 11th simply on presentation of address card at the gate. The particular species is that one which commemorates, in the specific appellation, the celebrated Dr. Hugh Falconer, originally a surgeon in the service of the East India Company, afterwards director of the Calcutta Botanic Garden, and so noted for the services he rendered not only to botany, but to sub-tropical palæontology. It is one of the score of wonderful forms of Rhododendron discovered by Dr. Hooker, in the Sikkim Himalaya, and brought to this country in or about 1850. There need be no difficulty in finding the plant. It stands just inside the greenhouse door, upon the left, a show in itself of roseate bloom, the undersurfaces of the great leathery leaves covered with brown wool."

Open Spaces.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., it was agreed to open to the public towards the end of May the disused burial grounds of St. Peter's, Walworth, and St. Mary's, Woolwich, lately laid out by the Association. It was announced that seats had been placed on the Main Drainage Embankment, E., and by the river at Chiswick, W. It was decided to grant additional seats for Hackney Churchyard, and to offer some for Hammersmith Churchyard, St. Peter's Churchyard, Cornhill, and a garden in Stockwell Road. Attention was drawn to cases of building operations on disused burial grounds in apparent contravention to the Disused Burial Grounds Act, 1884; and it was decided to take steps to ensure a full inquiry into each case, in order to secure a due observance of the law. The completion of the tree-planting in Whitechapel Road, and the laying out of Allhallows' Churchyard, London Wall, were announced, and it was agreed to endeavour to obtain, as public open spaces, a vacant site in Mile End Road, the Brixton Oval, the Copperas, Bromley, E., Walcott and St. Mary's Squares, S.E., a plot of land in Hornsey, an enclosure in Upper Street, Islington, and one of the Jewish disused burial grounds. Letters were read respecting a site to be laid out by the Association in Canning Town and vacant sites in Deptford and Walworth; It was decided to prepare plans for the laying out of Bromley Churchyard, E., and St. Stephen's school ground, Bow, E.

BOUVARDIA CULTURE.

This splendid subject when once grown well very soon gets the good opinion of master and servant, salesman and buyer. As a cut flower of a beautiful, light, waxy appearance, and in many shades of colour it is equal to most others things, and excelled by very few. It may be had in bloom from August to March without anything more than a very moderately heated greenhouse, providing it has plenty of light.

As the present time suggests itself as suitable for commencing their culture a few lines on the subject will not be out of place. By a great many gardeners and amateurs Bouvardias are thought to be difficult things to manage, but for myself I never found this to be the case. In the first place I can liken them to nothing better than a Fuschia in the cutting stage as both these subjects decidedly prefer either a tight case or box or covered with glass in which to make their start, and the way I treat mine is as follows: My cuttings were taken a month ago, and are now ready for 60-sized pots. They are in three boxes 9 in. deep and 12 in. by 18 in. These are filled with a good compost of loam and sand and a very little leaf soil to within 2½ in. of the top of the box. The cuttings are then prepared and dibbled in. Out of 3 boxes with at least one hundred in a box I have not seen one miss. I may say that the said boxes are placed on hot water pipes, and seem to like that position immensely. As a test, should anyone require to know when they are rooted, leave the covering off some morning for an hour or so in full sunshine; if they are not rooted they will soon show it, and must be covered again.

After the first shift into 60's they should be kept in the place they were struck in, and when from 6 in. to 8 in. in height the point should be taken out to encourage a branching habit. When, after being stopped, they have made good headway they will be ready for 5 in. pots, the size I flower mine in, and which is quite large enough for all purposes. When

they have got well hold of the compost in this size stop them again. This will be about the middle of July. Gradually harden them off in a light frame, and give plenty of water and air.

The last and most important point to be observed in the whole course of their treatment is not to starve them, as if this is once done before housing them their blooming propensities for that season will be greatly checked. Worms in the pots are also very destructive to these plants. For cutting purposes I find President Garfield, Alfred Neuner, Vreelandii, Mrs. R. Green, Dazzler, and Pink Christine are all to be relied upon.—*J. G. Pettinger, Strawberry Dale Nurseries, Harrogate.*

FLOWERS IN WATER-COLOUR AND OIL PAINTING.

THE fortieth exhibition of the Society of Lady Artists is being held in the Drawing-room Gallery of the Egyptian Hall, Piccadilly. Being more interested in the pictures representing flowers we paid most attention to that aspect of the exhibition, and we must say that a considerable amount of interest is taken in flowers by the lady artists, judging from the number of pictures devoted solely to their illustration. This may result to some extent from the extensive use that is made of flowers in the education of the beginners; but it must also depend largely upon individual taste and the facility or convenience of the artists in getting access to flowers. Those represented on any fairly large scale are mostly garden flowers, though a stray picture here and there deals with our native flowers, and we confess that we should have liked to see more of them. Native flowers, even of the commonest kinds, must appeal to the imagination as well as the taste of the educated when they are naturally and truthfully represented with or without natural surroundings. There is no more beautiful nor interesting picture than a bit of real wild Nature to suspend on the walls of dwelling houses, even if the area embraced by the picture is limited, so long as the individuality of the flowers constituting the principal feature of the picture can be recognised without the aid of a catalogue.

Amongst the water-colour paintings we should mention "Japanese Anemones" as a very natural, graceful, and truthfully represented picture. There are several others, no doubt as well executed, but owing to the shortness of the flower stalks a large bunch of them is liable to make a lumpy picture. Amongst these we should include Christmas Roses, here erroneously changed to "Winter Roses," and "Daffodils that come before the swallow dares," represented by the wild Daffodil of English meadows. Winter Cherries and Irises (the latter consisting of the bulbous and so-called English Irises) are also notable little pictures. Wood Anemones and Crocuses constitute a pleasing and appropriate little picture to recall pleasant memories of springtide. We must also contrast Red Poppies and Shirley Poppies in a Venetian glass; both are suggestive, and though both belong to the same species, the former recalls the cornfields and the latter the garden. The Red Poppies are mixed with a few panicles of oats, but the flowers are drooping in a way that represents a bunch flagging by the heat of the hand after having been culled and carried for some time. The delicate tints of the Shirley Poppies afford some scope for the artist's brush, but the picture has been painted while the flowers were fresh and sprightly, and this we consider should have been the case with the Red Poppies, which, under natural conditions, are as well adapted for artistic representation as their garden rivals. "Spring" is illustrated by Apple and Pear blossom, and so far conveys a pleasant impression, but we hope that artists in the future will refrain from painting a bird's nest torn from the position where its proper owners built it, and barbarously laid alongside of cut flowers. Why not contrive to paint the bird's nest under its normal conditions with natural surroundings? It would not then be so suggestive of vandalism, even although there probably was none in this case.

In another picture spring flowers are represented by double Peerless or Nonsuch Daffodils, which are rather heavy. Garden flowers in another instance are represented by Sunflowers, Roses, China Asters, etc., tumbled out of a basket and fairly attractive. A basket of wild flowers, though rather lumpy, is not altogether a bad picture, and shows Scabious, Honeysuckle, Harebells, Clover and Brambles in fruit. "Devon Roses," represented by La France and other hybrid perpetuals as well as Teas, is a bold picture in its way, and another picture simply named "Roses" is also good. As a picture of a bit of wild Nature we were highly pleased with that named "A Pool on Sleights Moor"; the pool is a small one and too near the vanishing point of perspective, but the purple heather is much in evidence and the most effective feature of the picture. That named "Le Gros Chandron" (the large kettle) is a luxurious picture (with exception of the frame) of fruit heaped up in a rather promiscuous way, consisting of ripe Currants, Plums, etc., ready for boiling, as the title would suggest; but the mixture did not impress us with what would actually happen in the preparation of fruits for preserving.

All of the above are water-colour paintings, but there are several good oil paintings of flowers, including Gaillardias forming a bunch in an earthenware jug. The picture of Fritillaries represents the British Frillaria Meleagris, but though well done the background is rather dark, especially by comparison with Gaillardias. "Red Chrysanthemums" in a tall vase constitute a pleasing picture of common flowers artistically represented. The picture of Clivias, here termed "Lilies," is also fairly well represented, though not so attractively as the Chrysanthemums. The painting of Dahlias, though probably fairly well executed, shows no actual taste in their arrangement, which would have done much to lighten the picture. Why not cut those heavy flowers with long stems and place them in a vase to show their natural habit on the plant as near as possible? A picture labelled "Raspberries" is admirable; Peaches also form a component part of the picture, but the Raspberries are certainly the masterpiece of the same, inasmuch as one can almost imagine them real at a short distance. The little drupels or component parts of the fruits appear subtransparent and lucid with coloured juice.

THE VIOLET AND ITS RELATIONS.*

IT is a well-known fact that few pursuits in which the mind can engage are purer, or have more tendency to afford innocent and happy thoughts than the cultivation of flowers. The rich may possess gardens and hot-houses, well filled with choice specimens of the brilliant-hued natives of other climates, but these can never bring one half the pleasure which the cultivation of native English flowers afford to adorn our cottage gardens. The former are the privileges of the wealthy; the latter are open to the poorest in the land; they are—

"A blessing given
E'en to the poorest little one
That wanders 'neath the vault of heaven."

The Sweet Violet (Viola odorata):—The flower of the Violet contains the same parts (but differently arranged and not less beautiful) as the symmetrical Primrose. The five divisions of the Violet blossom are distinct from one another, and differ in shape the one from the other, the lower one presenting what is called in botany a spur. This spur-like appendage is found in the flowers of the Columbine and Larkspur. On the flower stem of the Violet we have an example of what are called bracts. The slender stalk and drooping head suggest the well-known lines:—

"Down in a green and shady bed
A modest Violet grew,
Its stalk was bent, it hung its head,
As if to hide from view."

The leaves of the Violet are broad and green. The flower blossoms are larger than the sepals, which are long and narrow, and are aids to protect the Violet from the intrusion of the small flies, which creep up her low stem to find honey. The Violet stores her treasure to attract those insect visitors who can bring an exchange of pollen from other flowers. The coloured petals, two upper ones, two wings, and one lower one, which forms a pouch. The stamens are orange-coloured (five). At the end of the spurs at the bottom of the pouch are the honey-glands. The attractive purple and scent of the flower are called the "honey guides." The stigma of the Violet is like a small knob; and though there are about eight species of British Violets, none are sweet-scented but the Viola odorata. These sweet companions of the Primrose, "gleaming like amethysts in the dewy moss," are the most welcome flowers of an English spring. They are hardy, and may be found as early in the year as February, in sheltered spots. In March and April they are scattered in lavish profusion, not only gleaming blue, but in many places white.

The Sweet Violet is honoured with a place in our list of medicinal native plants. We find from the blossom a syrup is made which partakes of the odour and colour of the petals. This syrup may be used as a simple domestic remedy for children's coughs. The root of the Violet possesses emetic properties; and infusion of the syrup of Violets is also a useful chemical test; the violet, or purple colour, can be changed red by acids, and green by alkalies.

The Dog Violet (Viola canina) which in our hedgerows rapidly succeeds the sweet-scented Violet, is perhaps a more handsome flower; it is larger, lighter blue, and more transparent looking. These little flowers are very effective in a small rockery, mixed with a few varieties of British Ferns, and some stone crop. The soil should be of a rich loam, the situation shady, and rather damp.

The Pansy, or Heartsease (Viola tricolor).—The little wild flower, which may be found almost the whole year round in waste corn-fields, is the origin of our garden Pansies. Pansy-growing a few years ago was regarded as a mystery. It may be observed that in many a well-kept and highly successful garden, the Pansy does not appear to thrive, whilst in other spots it will flourish abundantly. This is no doubt to be accounted for by the soil, drainage, and situation. In the Chillerton School-house garden they spring up like weeds from year to year, and try their very best to crowd out all other plants. They insist in blooming nearly the whole year round; large and splendid Pansies have been picked in this garden at Christmas. But there appears to be a rivalry between birds and slugs to spoil the blossom; these hungry pensioners of Nature's bounty having acquired a taste for this dainty winter salad. The Pansy is a hardy perennial. The seed should be sown in the open garden about June, in moist, well-drained, and rich loamy soil. Should the seed be sown in March or April, it must be sown thinly in pots. The forward plants may afterwards be transferred to some cool corner of prepared soil, with a dressing of cow dung; the place selected must not be dry or hot. When the plants are sufficiently advanced they can be removed to a bed, or border, with balls of earth attached to their roots. The soil must not be allowed to become set by rain or watering: slightly stir the soil. Should this be the case it will benefit the plants. The first flowers of seeds sown in the open garden are not always the best; the plants should not be cast aside because of these premature blossoms. Better results may be looked for in the spring following, when they will produce a mass of blossoms. Pansies intended for bedding out should be set quite 6 in. apart.

Diseases:—In the spring and autumn Violets are subject to fungoid diseases. The autumn complaint is caused by a brown Puccinia, a relation of the P. graminis, which attacks Corn, and the P. malvacearum of Hollyhocks. Violets are also badly affected in spring and early autumn by the fungus Aecidium Violae, which attacks leaves, stems, and sepals. It can be best seen on the leaves. The Dog Violet is much troubled with the disease, and this pest is liable to starve and destroy the plant. Another autumn disease of Violets is caused by a fungus named Urocystis Violae. This causes gouty swellings to form on the stalks and veins, which afterwards burst and discharge sooty spores. No cure can be found, therefore it is best to burn infected leaves or plants. I will finish my paper with a few lines from Keble's "Christian Year" and Crabbe:—

"But vernal airs should sorrow heal,
Spring should be gay and glad;
Yet as along this Violet bank I rove,
The languid sweetness seems to choke my breath,
I sit me down beside the hazel grove
And sigh, and half could wish my weariness were death."

"Lo! when the buds expand, the leaves are green,
Then the first opening of the flower is seen;
Then come the humid breath, and rosy smile,
That with their sweets the willing sense beguile;
But as we look, and love, and taste, and praise,
And the fruit grows, the charming flower decays,
Till all is gathered, and the wintry blast
Mourns o'er the place of love, and pleasure past."

* A paper by Mrs. Mole, of Chillerton, read at a recent meeting of the Isle of Wight Horticultural Improvement Society.

PTERIS NOBILIS VARIEGATA.

This must not be confounded with Pteris cretica nobilis, now so well known in gardens and extensively cultivated for decorative purposes. The plant under notice belongs to the section Doryopteris, and the fronds pass through various stages of development. An early stage is arrow-shaped, like the fully developed fronds of P. sagittifolia; then the next series develops short lateral lobes, becoming hastate, and the fronds of the ultimate or adult form are five lobed. They are bright green in the ordinary form of the Fern, leathery in texture, and shining, but the variegated variety under notice has a broad creamy-white band running along the centre of each segment, so that there would be from one to five of these creamy bands, according to the stage of development. Well grown plants are distinct in character, handsome, and well worthy of a place in a collection to brighten up and give variety to the ordinary green foliaged kinds. There is a large batch of seedlings in the nursery of Messrs. J. Veitch & Sons, Chelsea.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Cypripedium Lawrenceanum. Recently a very vigorous plant of this species belonging to Professor Redwood, Ballard's Lane, Church End, Finchley, came under our notice. The flower scape was 20 in. high and in other respects showed evidence of good cultural treatment. The dorsal sepal was orbicular, rich purple with nearly black veins and white at the apex, and measured 2¾ in. in diameter. The petals though less richly tinted, measured 5½ in. across and were prominently marked with black spots along the central portions and along both edges. The lip was of great size and dark purple. The foliage of this species is always attractive, independently of the flowers, and when pots or pans are well filled with healthy crowns the space which the plants fill is always worthily occupied whether in flower or not.

Dendrobium Wardianum.—The interest in this beautiful spring flowering species is not only kept up amongst cultivators but seems to be increasing. This must be owing to a real liking for it and its utility for decorative purposes in various ways. Some flowers as well as a photograph of D. Wardianum, and D. crassinode, have been sent us by Mr. Francis H. Moore, superintendent of the Royal Infirmary, Liverpool. Three stems of the species under notice bore an aggregate of thirty-nine flowers, and the photograph showed that the stems produced in this country were far superior to the imported ones in size. The stems of D. crassinode also testified to the greater vigour of the growths developed under glass, and showed that the cultural treatment accorded to them was in agreement with their likings. In the near future the cultivation of this magnificent Burmese species will be more generally understood; then we may expect to see it as common and as well flowered as D. nobile now so useful for cut flowers and other decorative work.

Cymbidium eburneo-Lowianum.—The name of this fine hybrid indicates its parentage and is a sort of guarantee of the value of the progeny. As might have been expected the colour of the latter is a compromise between those of the parents, so that the flowers are not pure white, nor possess the greenness of C. Lowianum. The sepals and petals are pale creamy-yellow tinted with pink externally. The lip is similar except that it possesses the dark zone at the tip characteristic of C. Lowianum. The flowers on the raceme are more numerous than those of C. eburneum yet the scape never as far as we have seen attains the length of that of the other parent. The plant is vigorous in growth and flowers regularly and well during the winter and spring months. It was raised in the establishment of Messrs. J. Veitch & Son, Chelsea, where it might have been seen for months together in bloom; it has also appeared in public frequently and on every occasion found many admirers.

Laelia flava.—The pseudo-bulbs of this species are subulate and taper much to the apex like a long narrow-necked bottle bearing one oblong, leathery bronze leaf at the apex. The flower stem is about 18 in. high or more and bears a short raceme of flowers at the top. The sepals and petals are narrow but golden-yellow with a darker lip much crisped at the edges of the terminal lobe; the tube is somewhat paler. It is a native of two or more of the mountain ranges of Minas Geraes, a province of Brazil to the northward of Rio de Janeiro, and is always found at a considerable elevation. Specifically, L. flava is closely allied to L. cinnabarina but may be distinguished at once by its short, relatively stouter, and usually deep purple pseudo-bulbs. The treatment required for the last named would also suit L. flava. It may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea.

THE PLANT HOUSES.

The Stove.

The burst of genial spring weather with which we are now being favoured is a most welcome change from the dull sunless days and raw cold winds which insisted on staying with us for so long. In the stove the ordinary routine of summer treatment must now be gone through. The watering of course must receive the first consideration, as it is most important that plants which are in full vigour of growth should not be allowed to suffer from lack of moisture. The plants should, therefore, be looked over early in the morning, the syringe then being plied vigorously about them. The paths and stages must be damped down several times during the day, in fact, never allowing them to get dry. Shade from the direct rays of the sun is of course an absolute necessity during the forenoon and early part of the afternoon of bright days. Watering should again be seen to between two and three o'clock in the afternoon, another liberal application of the syringe given, the the blinds drawn up, and the house closed, thus imprisoning a portion of sun heat with a view to avoiding the driving of the fires as far as possible. Ventilation must also receive the strictest attention. During this early part of the season it is not advisable to give too much air, for it follows that the more air there is put on the more difficult will it be to maintain the moist-growing atmosphere that stove plants love, and which is indeed a necessity for their well-being. The temperature ought therefore to be regulated by means of judicious shading rather than by giving a lot of air.

Gardenias.—These beautiful and useful plants are always sure of a place in any and every fairly representative collection of stove subjects. The wax-like appearance of the flowers, coupled with their delicious fragrance and the ease with which the plants themselves may be grown, have combined to make them favourites with all. Plants which are opening their flowers must be treated liberally with regard to water, and frequent supplies of liquid manure will be necessary. Although in many establishments it is the custom to save the old plants and grow them on year after year, a great number of cultivators prefer to strike cuttings each season, and thus obtain a stock of medium sized plants that are almost sure to bloom profusely if properly treated. Cuttings which were inserted in the early spring will by this time have rooted sufficiently to warrant potting off. Small 60-pots will be found a convenient size to use, and a compost of equal parts of peat and loam with the addition of some sharp sand and a few nodules of charcoal will answer admirably. The young plants should be grown on in a temperature of about 75° Fahr., shading them pretty closely, and keeping the syringe at work amongst them twice or thrice a day, for Gardenias revel in plenty of heat and an abundance of moisture. Red spider, green fly, mealy bug, and scale are all very fond of attacking the plants, and thus an ever careful watch must be kept to see that they do not obtain a foothold.

Crotons and Dracaenas.—Young plants of these which were obtained from cuttings a couple of months ago will now need to be potted on according to their size. A compost of two-thirds of good fibrous loam and one of peat, to which must be added a good sprinkling of silver sand, should be employed; potting firmly but on no account filling the pots too full of soil. If possible young plants of this kind should be grown in a heated frame or pit where they can be kept close to the glass for some weeks subsequent to their potting, after which they may be removed to the stove as occasion requires.

Greenhouse and Cool Conservatory.—In most cases the ordinary run of winter and spring flowering plants will now have had their day, and many of the more tender subjects which stand a greenhouse temperature during the summer will be waiting to take their places. If time can be spared before these latter are brought in, the house should receive a good cleaning, at least as far as it is possible to do so. Any glass and woodwork that may be dirty should be washed, and the climbers on the roof looked after, both for tying in, where this is necessary, and to see that green fly or mealy bug has not effected a lodgment. The shingle on the stages must also be washed, and the whole house left clean and tidy in readiness for the plants that are waiting to be brought in.

Richardias.—After these have been turned out of the greenhouse they may be stood out-of-doors in an out of the way corner without fear of their sustaining damage. Here they may remain until time can be found to plant them out or to pot them up as the case may be. Although they will need less water now than they did when they were in the heydey of their beauty, they should on no account be suffered to become dust-dry at the root, a condition which cannot fail to be fraught with considerable injury to them.

Plants for Edging.—In arranging the plants upon the shelves it is necessary to have some of dwarf and pendant habit to hide in a measure the pots of the other subjects, and to form a suitable finish to the whole. For this purpose the pretty little Isolepis gracilis is almost indispensable, whilst those gems of Campanulas, C. isophylla and C. i. alba, have few to equal and certainly none to surpass them in beauty and effectiveness. The Ivy-leaved Pelargonium Madame Croussé when grown in pots and allowed to hang down over the edge of the stage is also of great value as a suitable subject for edging. Pots of Musk and of blue Lobelia will also afford a bright and pleasing effect, and a quantity should be always in stock during the summer months.

PITS AND FRAMES.

Most of the cold pits and frames will up to the present have been filled to overflowing with bedding plants of all kinds and in all stages of growth. The room taken up by this class of plants is often sadly bewailed by the gardener who finds himself cramped for want of space. The time has now arrived, however, when zonal Pelargoniums and the plants obtained from the earlier struck cuttings of Verbenas, Heliotropes, etc., may be stood out of doors and a portion of under glass space thus set at liberty. Any plants that are turned out in this manner, however, must be placed in a sheltered corner, if such is obtainable. A temporary framework should also be erected over them, so that in case of the visitation of a few late frosts, protection may be easily and quickly given by means of Russian mats or tiffany.

As the pits and frames have usually to cater for the wants of the stove and greenhouse, attention must be paid to the potting off of such subjects as require it. Thus, the later batches of Fuchsias will need attention in this respect. Coleuses too are splendid plants for standing in the conservatory or in vases in the mansion during the summer months; and their bright and highly coloured foliage is both gay and handsome when the plants are suitably arranged amongst other subjects. Batches of cuttings should therefore be put in at intervals so as to keep up a continual supply of dwarf plants for furnishing purposes in the show houses; the older ones which evince a tendency to become leggy as they advance in age being thrown away to make room for the younger ones.

The following varieties of Coleuses will be found very suitable for all ordinary purposes: Mrs. Sanders, The Queen, Miss Rosina, Miss Simpson, Illuminator, Lord Rosebery, and Mr. G. Simpson.

Shading.—A word of caution here may be necessary. All plants which have been potted will for a few days after need to have special care bestowed upon them in this respect. Instead of deluging them with water immediately after shifting, it is far better to syringe them lightly several times a day and to shade them closely until they recover in a measure the check which is sure to result from potting in a greater or less degree, no matter how carefully the operation is performed. Other plants which have thin or delicate foliage will also need to be shielded from the direct rays of the sun. The giving of shade is, however, one of those operations in which, like many another that could be mentioned, practical experience is the best teacher.—*A.S.G.*

THE VEGETABLE GARDEN.

THE warm sun, combined with the rather chilly drying winds that it has fallen to our lot to experience during the past few days, are exercising a very parching effect upon vegetation generally, and on light soils particularly the want of rain is beginning to be severely felt. But this time of partial drought is not without its advantages, for there will be no excuse this season for the presence of the large quantities of weeds which a wet springtime invariably calls into existence. By the frequent use of the Dutch hoe they may be destroyed as soon as seen, for in the presence of the bright sun they will have but a short shrift once they are cut through at the root.

CELERY.—The making of the trenches for the earlier crop must be put in hand as soon as possible now. They should be marked out before a spit of earth is turned, so that the workmen may see at a glance what is required. A distance of at least 3½ ft. must be allowed between the trenches, which themselves should be 18 in. in width and 1 ft. in depth. The soil taken out must be neatly stacked in the intervening spaces. A good dressing of well-rotted manure must then be spread in the trench and this dug in, thoroughly incorporating it with the soil. It is very necessary that a dry time should be chosen for the making of these trenches, more particularly on heavy soils, for during wet weather the necessary trampling will cause the soil to become worked almost into mud. Every advantage, therefore, should be taken of the present favourable opportunity for forwarding work of this class. On the mounds of soil between the trenches may be planted rows of Lettuces, early Cauliflowers, or any crop that will be off the ground by the time that the soil is wanted for the earthing up of the Celery.

RUNNER BEANS.—The time has now arrived when the first sowing of these must be made. With a view to their accommodation a piece of vacant land will have been well manured and trenched during the past autumn, the surface soil being left in rough ridges through the winter. These, if not already done, should be levelled done and the seed sown in rows. The distance between these rows will vary according to the ideas of the cultivator. Some gardeners prefer to allow plenty of room, and to crop the intervening spaces with other vegetables. At any rate 6 ft. should be allowed between the rows.

BEETROOT.—In most establishments this useful vegetable is in more or less request, and steps must now be taken to sow the seed. Although the best will grow almost anywhere, a light open position unshaded by trees, and a free rich soil will always produce the best roots. The usual method is to sow the seed in drills about one foot apart, afterwards thinning out the seedlings as required; and for ordinary purposes this plan answers very well indeed. If extra fine roots are required instead of sowing in this way holes may be made with the crowbar as for Carrots and Parsnips, filled up with light rich soil with which a small quantity of wood-ashes has been mixed. On the top of these holes several seeds may be sown, and all the seedlings but one resulting, subsequently removed as soon as it can be decided which is the best to leave.

SPINACH.—As the earlier sown rows of the round or summer Spinach becomes sufficiently advanced to pick from, the plantation of the winter Spinach which will have done such good service should be dug in. The spade should be well plied and the plants thoroughly chopped up before they are dug in, for when treated thus they form a valuable manure. Successional sowings of summer Spinach must be made at intervals according to the demand, as it does not remain long in condition but soon commences to run to seed.

HERBS.—These are always in request, and attention must now be paid in order that the supply of none of them falls short. Parsley is among the most important of them all, and sowings of this should be made without delay along the edges of the paths, or indeed anywhere that a little room can be found for it. Chervil although not much sought after is sometimes called for. A little of it should therefore be kept in stock and a few pinches of seed sown now will furnish a sufficiency of plants from which to pick the required leaves. Sage may be propagated by means of cuttings which strike readily enough at this season of the year. Young plants of Sweet Marjoram and Sweet Basil which have been raised from seed sown in under glass may now be planted out on prepared borders, watering them well in and shading if required.—*K. G.*

THE ORCHID HOUSES.

ODONTOGLOSSUM CRISPUM.—The cool houses are becoming gay with this the finest of all the Odontoglossums, and I might say the Queen of Orchids. When we consider the ease with which they can be grown and the variability of the species, for it is very rare that we get two alike, makes it very interesting to watch them opening their flowers for the first time in this country. We have, at present, numerous spikes in various stages on plants which have not flowered over here before. Again, what a large quantity can be put into a comparatively small house as compared with most other Orchids, to say nothing of the small cost of the fuel required to keep the temperature up during the winter months.

THE PRINCIPAL WORK IN THIS DEPARTMENT now will be to keep the plants well supplied with moisture. This may be done by a free use of the syringe; we syringe our plants overhead in the morning and again in the afternoon on bright days, and this treatment with plenty of air on at top and bottom is just what they like, for without air no Orchids will keep in good health for any length of time. Yellow and sickly-looking foliage denotes too much heat and not enough air, but with heat, moisture, air, and shade nicely balanced, the plants and moss will grow and do well year after year.

PLANTS IN FLOWER should be arranged at one end if possible so that when the syringing is done it will not extend to them or the flowers will become spotted. Just enough warmth should be maintained in the pipes at night to keep the temperature from falling lower than 50°, for although the sun is powerful in the daytime the nights are still cold, and with a little warmth in the pipes the bottom ventilators can be left open. The foliage will then again become dry by the morning, which is, I think, an advantage, though contrary to what they are used to in their native homes. But then circumstances alter cases.

INSECTS.—Yellow thrips are partial to Odontoglossums, and if left to themselves will soon do a lot of damage, not only to the foliage but to the spikes as well by crippling the flowers. But there is no excuse now, I think, for their presence, with such an excellent preventative as the XL All Vaporising Fumigator available. Since using this we have not been troubled with either green fly or thrips of any kind.

SLUGS.—These are now our worst enemies. There seems this year to be a plague of them, so numerous are they. The only thing to do is to keep a constant watch for them. A piece of cotton-wool placed round the base of the spike retards their progress somewhat, and enables one to perhaps catch them before they get to the spikes.—*C.*

HARDY FRUIT GARDEN.

APRICOTS ON WALLS.—The thinning of the fruit must be commenced as soon as it has reached the size of small marbles, but it is very necessary that too many should not be removed until a later period, for, like Peaches, the fruits may drop wholesale as they approach the stoning stage. It is imperative that the coverings should be removed as far as possible, for growth has now so far advanced that to keep branches of evergreen on now would be to seriously affect the health of the foliage and thus of the tree.

STRAWBERRIES.—Plantations of these should now receive a thorough watering if they are at all inclined to become dry. If a supply of liquid farmyard manure is available so much the better, as a liberal application of this in a weak state will be of the utmost service to the plants. If the beds have not been attended to for mulching they must be looked after at once, in order that the fruit may not come in direct contact with the soil when they are extremely liable to be spoilt by rain washing the earth over them. Clean straw is, of course, the best material to use, but where this cannot be had in sufficient quantities long stable litter may be made to serve the same purpose.

Gleanings from the World of Science.

Prolification of the Flowers of Mignonette.—A very curious case of prolification occurs in the flowers of a variety of Reseda odorata, named the Bush Hill White Mignonette. The growth and habit of the plant appears quite normal, and the development of the flowers appears to be so up to a certain stage. They expand in succession all along the main stem as well as upon lateral branches; the small petals drop, and the young capsules appear as if they intended to ripen a crop of seeds. Instead of this the capsule is carried beyond the calyx a little way by the lengthening of the internodes there, and the axis from the centre of the open capsule elongates and actually forms a short branch bearing a fresh crop of flowers, and making the plant more floriferous and of greater decorative value than it was at first. The primary flowers may be seen still opening on the top of the leading stems, while the older ones have developed into the flowering fruits just mentioned. Both sets of flowers are contemporaneous upon the same plants and the same stems, so that the flowering period of this variety of Mignonette is very much extended. Owing to this peculiar behaviour the Bush Hill White Mignonette is perfectly barren and has to be propagated from cuttings.

Phyllody of the calyx of Trifolium pratense.—This frequently occurs in the White Clover (T. repens), and instances of it may be detected in different localities by interested observers. It is a case of abnormal growth or development of the calyx whereby the sepals come to resemble the true leaves of the plant in form, texture and colour, though it may be and usually is on a smaller scale. Hitherto I have frequently met with T. repens in this condition, but had not observed T. pratense behaving in this erratic way till September last. It did not occur as an isolated specimen, but in vigorous plants here and there all over a cultivated field near Beachy Head and at a considerable altitude above sea level. The sepals formed leaflets of some considerable size, and collectively made the flower heads conspicuous, though quite green. The corollas were poorly developed and conspicuous. The question arises whether this Clover field was the product of a particular strain of seed having this tendency, or whether the soil was responsible for this particular behaviour of the plants. The elevation could hardly be accountable for it seeing that Clover and Clover fields may be seen at higher altitudes inland without anything abnormal being observable.

A Sacred Bean in the Thames.—While some writers entertain very grave doubt whether the Sacred Bean or Egyptian Bean ever grew wild or was indigenous to the Nile, and others deny that there is any evidence of it whatever, it may be some consolation to us to know that a species of Nelumbium once grew in the Thames, under conditions that prelude any idea of their having ever been planted there by man. It has long been known that many tropical and other fruits have been unearthed from the London clay at the mouth of the Thames, to wit, in the island of Sheppy. Several Palms, or the fruit of them, have been discovered in the same locality, under conditions, apparently, that argue that the fruits have been conveyed by water and deposited there unknown ages ago. The Thames a that time was in all probability a tributary, and Britain itself formed a part of the continent. The fruits in question are not impressions and casts, such as occur for instance in the earliest of geological times, like the mythical eozoon which modern researches reduce to mere crystallisations. They are the actual fruits, blackened, of course, but which have retained their natural shape, somewhat shrunk it may be. Nevertheless, the Sacred Bean in question has been named Nelumbium microcarpum, which signifies a small fruited species. The fruit might measure from ½ in. to 1 in. across the top and the holes in the receptacle for the carpels or real fruits are very small. Specimens in spirits or preservative fluid may be seen in the room of the New Natural History Museum, South Kensington, where the fossil plants are arranged. The Nelumbium constitutes part of Dr. Bowerbank's collection.—*F.*

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HINTS FOR AMATEURS.

THE TOMATO.

No matter what the reason may be that has caused the name of Love Apple to be applied to the Tomato it would seem to be a singularly appropriate appellation when we take into consideration the high esteem in which it is held by all classes of the social community. Rich and poor alike are apparently of the same mind with regard to its value, and its popularity is such that no collection of vegetables could possibly be either a complete or even a fairly representative one without the presence of a quantity of Tomatos. Despite the fact that immense quantities are grown year by year the demand always seems to be in excess of the supply, at least with regard to English grown fruit. The Tomato being such a sun-loving subject it is not always that a crop can be obtained from plants in the open air, absolute failure to do so sometimes resulting during wet seasons, a fact that was amply demonstrated during the recent cold wet summer and autumn of 1894. But where a few square feet of glass are available it is seldom indeed but what a crop can be obtained from plants grown under its shelter, of course supposing that they are looked after properly. Indeed the Tomato is one of the most remunerative crops that can be grown, a fact that should appeal to the careful consideration of the amateur who naturally wishes to turn his small glass house or houses to the best possible account. One or two plants in pots do not take up a deal of room and during an ordinary season will well repay any trouble that may be taken with them. That Tomatos require huge unwieldy pots to accommodate them is a fallacy, as has been sufficiently proved times without number. Many of the complaints which reach our ears from time to time as to the unsatisfactory behaviour of pot plants are due in a great measure to the mistake made in according them too much root room. With very few exceptions the plaint of unsuccessful cultivators takes the form of "My Tomatos grow strongly enough but they do not fruit." Naturally the Tomato is a gross growing subject, especially where it can indulge in its deep feeding propensities. The production of such rank growth is, moreover, usually at the expense of the fruiting abilities of the plant. Experienced cultivators know full well that if satisfactory crops of fruit are expected the too vigorous vegetative growth of the plants must be kept within due bounds, both by the restriction of the root room as well as by the judicious removal of unnecessary foliage.

To those who intend to grow a few Tomatos under glass in pots during the ensuing season, this word of caution may be given: "By no means use too large or clumsy pots." Where the culture of the Tomato is to be attempted in the manner suggested, the present is a most suitable time for making the necessary preparations. Plants which have been raised from seed sown in February or the beginning of March, and which have been subsequently potted on into 32-sized pots, are just the sort of material necessary. If, therefore, a few of these can be obtained, either by purchasing them from the nearest market gardener, or by utilising the generosity of any friends who possess a supply, well and good. A 10 in. pot will be amply large enough for all purposes. The compost should consist of two parts of good loam to one of dried manure, a sprinkling of coarse river sand being added. The pots must be well drained and should not be filled too full of soil, room being left for a top dressing presently. Above all, make the soil firm about the roots of the plants, as this is an absolute necessity if short-jointed sturdy growth is required. For a day or two after potting the plants must be kept rather close and shaded from the sun's rays, or flagging will result. Once they get established, however, shade must on no account be given, as they will need all the sun they can get. The subsequent needs of plants are not very great and little trouble need be experienced in supplying them.

TRAINING AND PINCHING.—This will need a good deal of care and attention, although no complications need arise in its execution that would perplex even the veriest tyro in Tomato culture. The plants should be trained up to a wire or rafter with a single stem, a method that is accepted by cultivators generally as being the best system to pursue, finer fruit being thus obtained than when several stems are allowed to each plant. The certainty of the crop is, moreover, greatly increased. Lateral growths will be produced along the whole length of the stem. These, however, must be consistently removed, also any large coarse leaves may have their upper half removed. The main stem must be stopped as soon as it has filled its allotted space and thus the whole vigour of the plant will be directed towards the maturing of the fruit, which, if all goes well, should be produced in clusters all along the main stem. As the fruit begins to colour a great deal of the foliage may be removed with advantage, leaving only sufficient to carry on the work of the plant and thus throwing all the light possible upon the fruit whereby its colour and flavour will be greatly improved.

WATERING AND MANURING.—It is imperatively necessary if success is to be obtained in Tomato culture that the plants are not allowed to suffer for lack of water, more particularly when the pots become filled with roots. The application of liquid manure will need a deal of discretion, especially at the commencement. It is a great mistake to feed the plants too heavily, for there can be no doubt that this is the cause of much of the disease that does so much damage to the Tomato crop. If fresh farmyard manure cannot be obtained the novice will find "Thompson's Vine and Plant Manure" a very safe stimulant to use, although, like other artificial manures, a modicum of care must be exercised in its application.

TEMPERATURE.—In this respect a wide range may be allowed, although, perhaps, a warm greenhouse temperature is the most suitable. Where Tomatos are being grown in a house filled with a heterogeneous collection of subjects they, as a rule, have to accommodate themselves to circumstances and suit themselves to the conditions which may be considered necessary to the welfare of the more particular occupants. A free and buoyant atmosphere should, however, be maintained wherever it is possible to do so, air being given regularly and well. As to the variety or varieties which it is proposed to grow, this is an important matter, and requires some amount of thought. Year by year new sorts are placed upon the market, and landed to the skies as being superior to all that have gone before. Some of these after trials in various parts of the country turn out to be good, others bad, and very many indifferent. Now the amateur can ill afford to speculate with new varieties. By far the better plan is to grow one or two sorts that have stood the test for one or two years, and thus to make sure that they will give the satisfaction to him that they have already afforded to other and more extensive cultivators. The following will be found to be a good selection: Hathaway's Excelsior, Ham Green Favourite, Hackwood Park Prolific, and Perfection.

OUTDOOR CULTURE.

As has previously been intimated Tomatos are not always a certain crop when grown out of doors. Still, if a warm sunny corner is available, and a few spare feet of wall having a south or south-west aspect to which the plants may be trained obtainable, splendid results may sometimes be forthcoming. The ground which the plants are to occupy may now be well manured and dug over in readiness to receive them as soon as the season is far enough advanced to admit of their being put out. The plants which should be nice, sturdy little specimens in 32-sized pots should be hardened off meanwhile, planting out being performed about the middle of the present month. It will be found advisable to plant rather thickly, and to train them up with a single stem, consistently pinching out all laterals as recommended in the case of the pot plants. If will be necessary to keep a little covering material of some kind in readiness for a while after the plants are put out, in case of the mercury falling below freezing point.—*Rex.*

DOVER HOUSE, ROEHAMPTON.

A VISITOR to this establishment leaving the train at Barnes station, from which it is some twenty-five minutes' walk distant, finds it hard to believe that he is yet within view of the great metropolis which stretches its suburbs, like the arms of a huge octopus, over so much of the land. The surroundings are all so sweetly rural, and the air so fresh and pure that one would fain imagine they were suddenly removed to a secluded country spot. Whether or no the human mind is better able to appreciate the beauties of nature in the earlier months of the year than it is able to do when the season advances we know not, but whether this be the case or no it has seldom fallen to our lot to view a more pleasing and beautiful country than that immediately surrounding Dover House, the residence of J. P. Morgan, Esq.

The grounds belonging to the estate are not very extensive containing only some hundred acres or thereabouts, although the gardens are among the best in the country. Indeed, during a look through them in which our footsteps were guided by the kindness of Mr. McLeod, the gardener, to whose undeniable ability and indefatigable exertions the place owes much of its attractions, we had forcibly impressed upon us at every step the thoroughness with which everything was attended to. Not only in the glass houses, and the kitchen, fruit, and flower gardens, does a notable air of cleanliness and good order prevail, but the same evidences of careful and capable management were apparent in the dairy and the usual run of offices pertaining to the farm. The number and size of the glass houses is considerable, and within their limits are accommodated large numbers of flowering and foliage plants whose general excellence of health and vigour of growth betrays the fact that not only are their wants understood, but that they are promptly and carefully attended to.

One roomy stove contains a general collection of stove foliage plants, amongst which some large and well coloured Crotons are particularly conspicuous. Mr. McLeod pays special attention to the cultivation of Crotons and has gathered together a collection of about eighty of the best known and finest varieties. Caladiums, too, are another special feature of the establishment, over one hundred varieties being grown; a collection to which all the leading nurserymen have contributed. Amongst the other stove subjects a magnificent specimen of Dracaena Doucetti is deserving of all praise, and is by far the best example of it that we have yet come across. A batch of Gardenias in magnificent health and full of flower or flower-buds was very noteworthy. Like many other good growers Mr. McLeod believes in the plan of growing the plants for one year only, and that he is quite justified in his opinion is evident from the results obtained. Another large house was filled with fine little plants of Carnations, principally of the Malmaison type, although the ordinary tree section were also well represented by good examples of such varieties as Winter Cheer, Miss Joliffe Improved, Uriah Pike, etc. Seldom is it that we see so large a collection of plants in such perfect health as the Dover House specimens. Orchids are only grown in sufficient quantities to furnish a little cut flower when required. Bouvardias and Tuberous Begonias are, however, exceedingly well represented in quantity as well as of first class quality and bear testimony by their beauty to the excellence of the treatment they receive.

The fruit houses occupy a large area, Peaches and Nectarines being accorded special attention to judge from the quantities grown. Although the past winter has been such an exceptionally severe and trying one the crops of Peaches do not appear to have suffered in the least, with one exception, that of the earliest house, where the fruit was just setting when the frost was exulting in its full rigour. Some three or four roomy vineries with their occupants in various stages attest the fact that Grapes are well looked after. The lean-to fruit houses were rendered more attractive by the utilisation of the back walls for the growing of decorative plants of various kinds. Thus in one Peach house some large specimens of Heliotrope loaded the air with the delicious fragrance of their flowers. In another case the wall was well covered with strong healthy growths of the popular Asparagus plumosus nanus, whilst in yet another instance some young specimens of Myrsiphyllum asparagoides had been planted out, and have already begun to clasp the wires in their upward journey. These in the course of the season will run right to the top of the house, and will then form a most beautiful picture.

Melons at the present time are promising well, the plants being healthy, not too gross-growing, and free from disease. Counting the number of fruits borne upon eight plants we found it to be twenty-eight—not at all a bad crop. Another fact which impressed itself very forcibly upon our notice was that while each plant had sufficient room to develop itself properly not a foot of space was wasted, but all turned to good account. Large quantities of

Tomatos are grown under glass. The earliest ones, a batch of Sutton's Earliest of All, are just now ripening their fruit. The plants are grown two in a 10-in. pot, and from the quantity of fruit they carry it is very evident that it is not necessary to give Tomatos very large pots to do them well. Needless to say the plants are treated liberally with regard to supplies of liquid manure, "Thompson's Vine and Plant Manure" being Mr. McLeod's favourite, as it is so much safer to use than many others now upon the market. Vast numbers of Strawberries are forced year by year, over 4,000 plants being thus treated. La Grosse Sucrée and Laxton's Noble are the two varieties which find most favour for forcing purposes at Dover House.

In the kitchen and fruit gardens everything appeared to be full of promise for the future. Apples, Pears, and Cherries are here, as in many other places, carrying great quantities of bloom. Each year the wall trees are unloosed from their ties and the walls white-washed. It may easily be imagined to what great advantage the delicate green of the foliage appears against the white surface of the wall. Strawberries are showing well for bloom, although it will not be possible to gather fruit from the open ground on May 15th of this year, as Mr. McLeod informed us was done two seasons ago. The plants are grown for two years only. The fruit for dessert purposes is obtained from plants of one year's growth, the plants being saved for the production of fruit the following year to be used for preserving purposes. In planting, three are placed together, instead of one as usually seen.

The hedges of Sweet Peas which run along the edges of the walks in many parts of the fruit and vegetable gardens is a feature that is but seldom seen in gardens. The plants are neatly staked, the stakes being about 4 ft. in height and are allowed to grow to within about 8 or 10 ins. of the top when they are stopped, this causing them to throw out strong laterals, and to flower freely right from the bottom. In the kitchen garden things are well forward for the late season. Peas on a south border are just commencing to flower, while Asparagus is throwing up well. A patch of spring Cabbage, Ellam's Early, that has stood the winter apparently unharmed, is deserving of mention as being by far the best that we have seen this year, when almost everything has been cut down. To keep the flower garden in order it is evident that a vast amount of labour and trouble is necessary, for almost every shrubbery has a margin, some 3 ft. or thereabouts in width, which has to be filled with bedding plants. Signs of the damage done by the frost are apparent on all hands, although, curiously enough, it seems that the older shrubs have suffered most, the younger ones with very few exceptions appearing to have escaped scot-free.

Mr. McLeod's horticultural enthusiasm has not only borne fruit in the way of the successful culture of flowers, fruit and vegetables, but it has also been turned to excellent account in increasing the comfort of the young men under his direction. The bothy in which they are lodged is indeed a model of cleanliness, one of its special features being a bath-room fitted with hot and cold water taps in the most approved style. Needless to say this is a luxury to which it is given to but very few young gardeners to enjoy, and the presence of such a convenience in a bothy becomes all the more remarkable on account of its rarity. We trust the example set at Dover House of studying the comforts of the young men employed in the garden will before long find many followers, for that an improvement in this direction is urgently needed it is impossible to deny.

CATTLEYA HARDYANA.

The recent sale of the late Mr. Owen's Orchids at Selwood, Rotherham, shows the high estimation in which this supposed natural hybrid and its varieties is held by the public. The great size of the flowers and their extraordinary beauty is no doubt responsible for this evidence of public favour, but the comparative scarcity of this type must also be taken into consideration. The accompanying illustration shows the typical form or original importation that was made, but within the past few years a number of others equally, if not more, beautiful than the type have been imported and favoured with special names. Twelve plants, including several varieties, were sold at the sale, and in the aggregate fetched £519 17s., or an average of £43 6s. 5d. each. The rich crimson-purple of the lamina and the large white eye spots or blotches are telling features. The parents are supposed to be C. labiata Dowiana aurea and C. l. Warscewiczii, otherwise better known as C. gigas, and amongst those which have been recently imported some of them show the golden or orange colour of C. l. Dowiana aurea in a marked degree, and in fact more extensively than the parent, thus reducing the crimson-purple area considerably. C. Hardyana and its varieties are evidently much hardier and more easy to cultivate than C. l. Dowiana or its golden variety.

Cattleya Hardyana.

CANADIAN WILD FLOWERS.

I LIKE Manitoba now that I have got somewhat settled down in the country. There is no difficulty in making a good living, but, although high wages are obtainable in summer, a man cannot earn much during the winter unless he exposes himself to elements which are, to say the least, very unpleasant. We have had a much better winter here this year than last, only about 18 in. of snow on the level as against 4 ft. this time last year, although we have had a cold snap just lately, with the temperature down to 54° below zero, and steadily between 30° and 40° below for the last three weeks. The weather has now taken a turn for the better; yesterday the thermometer stood just above zero, and it feels quite warm! I am studying Gray's "Manual of Botany," and intend to make a collection of plants as well as a lot of observations during the coming season. Last fall I had a rather unpleasant experience with the Poison Oak, Rhus toxicodendron. Somehow or other I came into contact with a plant which has the skin-irritating propensities of Primula obconica, only more so. Pimples broke out all over my arms, and finally turned into small boils. The irritation was dreadful, but after a time I got rid of it with the aid of the old-fashioned remedy of brimstone and treacle.

Soon after I arrived here I tried to procure a "Flora," but found there was none to be obtained except Gray's "Manual," which I was unable to get for some time. The first plant I saw in flower (and I think it is the first to bloom here) was a rather pretty Anemone, which grows in the prairie turf in hundreds, and the flowers of which resemble a crown superficially. The sepals are of a pale pink hue, and at the time the flower first expands are enclosed in a much laciniated involucre. The internode between the insertion of the sepals and involucral bracts, however, lengthens considerably after the flower expands, until at the time the seed approaches maturity it is fully 3 in. or 4 in. in length. Several other species of Anemone appear later in the season, but none of them are at all conspicuous in the flower. A yellow Ranunculaceous plant (Adonis vernalis, I think) forms a very pretty feature on marshy ground in early spring. It belongs to the Hellebroral section, having numerous seeds borne in a head of several follicles. A little gem which attracted my attention and claimed my admiration was a miniature Primula with a flower much of the colour and form of P. denticulata, proceeding from a tiny rosette of leaves scarcely 1½ in. in diameter. It also grows in a damp situation, but I only saw it in one spot where buffaloes in the days of yore had made deep holes all over it with their feet. These holes were full of water, and on the little intervening knolls the Primula grew an inch or two above the water. A large species of Petasites also grows in these damp situations in spring, but what may be found there later in the season I am unable to say with the exception of mosquitos, which are there by the million. They are bad enough on the high and dry ground at times, but in low marshy situations are too much for even the most enthusiastic of botantists. I thought I had made a great find when I saw a solitary flower of a beautiful yellow Cypripedium, but soon afterwards they appeared by hundreds. Squaw's Cup is the common name of the plant here. Two or three other Orchids are to be seen in the season, but all have greenish inconspicuous flowers.

The natural order Compositae is very largely represented. Among the more conspicuous are a rather showy Gaillardia, Rudbeckia hirta, very little inferior to R. Newmanni, four or five species of Helianthus or allied genera, and one or two Solidagos; also a rather pretty Centaurea bearing several compact heads on a stiff, erect stem. A curious thing about the latter is that the stigma is petaloid, but I failed to observe whether it matured seed or not. As for the more weedy Compositae their name is legion, and they include Cnicus, Gnaphaliums, Pulicaria, Artemesia, and many others entirely strange to me. Liliaceae is represented by two species of Convallaria much after the style of Polygonatum, and a beautiful miniature Lilium growing only about a foot high, bearing one, sometimes two, large crimson flowers spotted with black. It is commonly called the Orange Lily here, but I do not know its specific name. I will send bulbs in spring if I can get them. Paris quadrifolia I also found, and a very pretty Polygala like P. vulgaris is low growing and has purplish-violet flowers with the characteristic fringed lower lobe. A pretty blue Scrophulariaceous plant grows in the hay meadows. I believe it is a Mimulus.

Manitoba was not quite forgotten when the Iridaceous plants were apportioned. I have noticed two plants, both very tiny, after the style of a miniature Sparaxis, the one having blue and the other yellow flowers. Viola canina is among the early spring flowers, and three other Violas flower later, having more robust and branching habits, and yielding blue, yellow, and white flowers respectively. Whether the difference is specific or only varietal I am unable to say, but I am inclined to think that the white and blue are of the same species. Potentilla anserina grows as at home, close beside the hard beaten road, as also does Polygonum aviculare. A pretty Rosaceous plant allied to the Geums and Potentillas grows on the open prairie. It is of dwarf habit with leaves lying nearly flat on the ground and bearing several pendant flowers on a short erect stem, whose chief attraction are the red sepals, which almost enclose the pink petals. Convolvulus sepium or "Morning Glory," as it is here called, is as great a nuisance on cultivated ground as at home. Nuphar luteum and Typha latifolia are at home in the water.

Of weeds in the fields we have an abundance. Foremost among them stands Chenopodium album. It is a most remarkable thing that although this plant is never seen on the unbroken prairie, nor, in fact, does it grow wild anywhere in the country so far as I have been able to observe, yet no sooner is a farm broken up from the prairie sod than it makes its appearance, and if prompt measures are not taken for its extermination it soon monopolises the farm. The same remark applies to the wild Buckwheat, Polygonum Convolvulus. Another nauseous weed is an Amaranthus (green-flowered). This plant is not difficult to eradicate, but its peculiar habit constitutes in this prairie region a special danger. It grows more or less in the form of a globe, and, gaining a certain amount of rigidity as it dies in the fall, it then breaks off at the collar and starts with the wind on a voyage of exploration, hence it is known as the Tumble-weed.

The prairie fires are sometimes very bad here in the fall, and, as they would play the deuce with a farmers' stock and implements if they reached them; they are guarded against by ploughing a strip around the farm, or around the buildings. This strip is called a fire-guard, and is efficient until the Tumble-weed gets on fire and rolls across the cleared strip, and hence the danger.

During the first year or two that ground is cultivated the Prairie Rose grows freely. In habit it resembles R. spinossisima, but bears a larger flower, almost as large as R. canina, and varying in colour from white to deep pink. Other Rosaceous plants are the Raspberry which grows very plentifully in some places, and has a splendid flavour; and the Strawberry, of which I cannot say so much. The Grass of Parnassus also favours us, as well as several species of Vicia and other leguminous plants; and close by the hay meadows I saw acres covered with Helianthi and Vicia. These hay meadows grow enormous crops of hay, 4 ft. or 5 ft. long. I do not know what the genera or species are, but they are commonly known as "Red Top" and "Blue Joint," with a smaller admixture of other grasses. They are situated at the foot of the Riding Mountains, 25 to 40 miles from here, and cover an enormous area, broken only by patches of Willow here and there.

Just around here the trees are mostly Poplars, of two species, black and white, and Willows, of how many species I should be afraid to say, but some of them are very striking when in flower. The Oak grows plentifully but rather scrubby on the mountain slope, and right in the bush are found Elm, Maple, Ash, Birch, Spruce, and Tamarac (a Conifer of which I do not know the name), Alder, and some others, all, however, different to those at home. Among the more shrubby ligneous vegetation are a Cornus, bearing bunches of white berries, called here the Bearberry, owing to bruin's fondness for them; a species of Spiraea with dirty white flowers, a Lonicera, very stiff and bushy, which flowered very sparsely last year; a Cistus or Helianthemum, I don't know which, with numerous small yellow flowers, which, however, open successively, and for that reason is not very showy; a species of Betula growing 5 ft. to 6 ft. in height; two species of Cherries with very small although numerous fruits, one bearing its flowers in a long raceme, the other in a corymb. A very robust and formidable Crataegus grows somewhat sparingly in this locality. It bears a good large fruit of not at all a bad flavour. I should think it would make a practically impassable fence. The fences here, by the way, are all of barbed wire, and I was told the other day that a legal fence should be "horse high, bull strong, and pig tight." Two species of Currants are found, but the flavour of neither is very palatable.—*Ernest Pentney, Neepawa, Manitoba.*

MELONS AND CUCUMBERS.*

THE first thing to be considered in connection with the cultivation of the Melon is the position of the Melon ground. The Melon being in every sense of the word a sun-loving plant should have the best position possible assigned to it. What I consider a good position is a place with a good shelter from the north and north-east winds, and, all things considered, I think there are nothing better than substantially built brick frames with well glazed sashes, and the larger the panes of glass the better. It is the cultivator's aim, or should be, to have Melons as early and as late as possible, but earliness should be the principal aim, as when the late Apples and Pears are finished and there are, perhaps, no ripe Grapes or early Peaches ready, a ripe Melon would be then more appreciated.

Gardeners with every possible means at their command no doubt supply Melons from early in May to late in November, but I think the hot-bed cultivator need not grumble if he cuts by the first of June. The first week in February is a good time to start. First of all prepare a seed bed, or perhaps there is one available; if not, collect your material together and turn it over to get it well blended. A suitable material for making a permanent hot-bed is, without doubt, good stable manure from stables where the horses have been fed with plenty of corn. Good cow manure and the driest leaves obtainable are good materials. It is not necessary to mix the leaves with the materials until the bed is being made. Supposing all things to be ready, commence by putting a little of the most strawy manure in the bottom. I always do this, as I think it useless to put the best heat-giving material in the very bottom as it would soon become cold and rotten, and, in consequence, would be no help whatever to the hot-bed. After putting the strawy substance in, continue to make up the bed, not forgetting to add plenty of leaves, as they steady the heat and make it more lasting. Tread it lightly until the frame is filled to within a few inches of the top. When this is completed shut down the sashes close for a day or so, then open an inch at the back to let out the rank vapour. It is generally the custom to thrust a test-stick in the bed to test the temperature, which I would advise. When it is found that the manure has thrown off its most violent heat, which will in all probability be about seven or eight days, tread the bed gently and put a little short material to stand the seed pots on.

SOWING THE MELON SEEDS.

First procure as many pots as are required, which should be quite clean, particularly inside; 3 in. pots I use. Place one crock in each and a little moss or rough material, such as half-decayed leaves, then fill them to their rims with good sandy loam and leaf soil, place one seed in each and gently press it in the soil with the fingers and cover the soil as before; give a gentle watering with a fine rose and place them on the seed bed. Some plunge the pots up to their rims, but great care should be exercised as to the temperature of the bed, for it is not too late when you feel more confident.

Presuming the seeds to have been sown all right, the little seedlings will soon appear, when they must be guarded from those nocturnal visitors, viz., slugs and mice. To catch the former, place a greased Cabbage leaf in the frame, and for the latter a small trap in which a piece of strong smelling cheese has been placed. Some manures harbour wood-lice, especially tan. To catch this troublesome pest put a few small pots in the frame with a few slices of

* A paper read at the January meeting of the Devon and Exeter Gardeners' Improvement Association by Mr. EDWARDS, gardener to James Hare, Esq., Honeylands, Whipton, near Exeter.

Potatos in them, covered with hay or moss; this will form a hiding place for them. Every morning these should be examined, and if any are found turn them out in a pot of water. Boiling water is a good thing to destroy wood-lice, poured around the sides of the frame.

When the Melon plants are much grown and earthed over, it is a bad practice to pour boiling water around them then, because the roots will have extended themselves, and no doubt would be destroyed. It will be an advantage to the cultivator if the seed bed when first made will carry the young plants past the seedling stage without adding linings, because seedling Melons dislike too much vapour. When raising seedling Melons always aim to keep their foliage hard from the beginning, and then they will be more capable of standing the strong sun when they are young.

As the young plants advance keep them moderately close to the glass, and on very favourable occasions give a little air to keep them stocky; great care should be exercised in giving air at this time of the year. Never give air at the back, but tilt the sash a little in front, and hang a little screen over the opening to check the inrush of cold air. The cultivator will find himself now in the month of March, and the little plants will have made a pair of rough leaves, and will, no doubt, require a shift into pots an inch larger, using soil a little rougher than before, but always take care to have the soil of the same temperature as the beds.

Should the bed require a little life it must be given, but be careful not to hurt the young plants. After the plants have taken root in their fresh pots, if the cultivator wishes to push along one or two of them, let them be stopped. Of course, pinching them now saves time, but it should be remembered that they cannot make but two shoots when pinched so early, although this will make several days difference in cutting, no doubt. The plants for the second and general crops should be stopped at the fourth leaf after planting out.

While the young plants are making progress in the nursing frame hot-beds must be prepared on which they are to be finally planted out, and this being a very important part of the work should be superintended by the gardener himself. Material the same as recommended for the seed bed must be used, not forgetting to add plenty of leaves, as they make the heat more lasting. Supposing the beds to have been made, they should be fit to receive the plants in about ten days, but be careful not to put them in too quick.

Preparing the Soil.

The soil which I use is a good fibrous loam, rather heavy than light, to which has been added a little old mortar rubbish, a little soot, and some ashes from a heap of burnt prunings and vegetable refuse, which contain a good percentage of charcoal mixed well together. When mixing do not chop the loam too fine, as Melons like their soil a bit rough. After preparing sufficient soil for them place one barrowful in the centre of each light a day or so before planting, so as to get it thoroughly warmed. Now take the little plants from the nursing frame, handling them very carefully, preserving every leaf, and plant one or as many as may be thought proper in each hillock. I only plant one and think it sufficient, unless the beds are of an unusual size. When putting the first soil on the beds I always put a turf or two under the soil. This not only preserves the roots from burning quickly, but keeps them up in the soil. When planting do not be afraid of the soil being too rough, but pack the fibrous loam well around the plants, and at the same time make it very firm, which to my mind is one of the chief essentials in their cultivation, as it causes the Vines to be firm and short jointed. Another important particular is to keep the collars of the plants well up.

Planting being done, give them a gentle watering with a fine rose, and let the water be of about the same temperature as the beds, moistening them right through; then close the sashes, and should the weather be very bright put a thin shade on the glass until the plants are rooting freely. It is a good plan to put a little weight on the shading to prevent the wind from blowing it off, otherwise the young plants would be in danger of being scorched. The Melon being a sun-loving plant, this shading, though light, must not be kept on any longer than is necessary, so that they may have the full benefit of the sun.

General Management.

Now comes the general management of the plants. The cultivator must not subject the plants to overheating after planting. If the beds appear too hot pull away a little of the soil from them, and give a little air night and day, but be sure to let the mats hang over the openings to prevent too much cold air from entering, or the plants may receive a check.

Give them a little warm water as they require it, and, in a general way, they should have a little fresh air admitted on all favourable occasions by tilting the sashes a bit in front. Previous to closing the frames in the afternoon, both frames and plants should have a nice damping. This will keep up a growing atmosphere and keep down insects; if possible always close before the sun passes off the glass. The nights at this time will generally be very cold, so that the cultivator must always mat up securely every evening before leaving, and such coverings will usually be required until quite the end of June, when they may be dispensed with altogether.

Being all free from accidents the plants will now be growing freely, and should be stopped at the fourth leaf. This will cause them to throw out side shoots, and these shoots as they grow should be trained evenly over the frame. As the little roots show themselves through the hills they should have a little top-dressing of warm soil which should be in the frames waiting for them, and give a gentle watering, a good time for this being just before closing time.

Setting the Flowers.

The foundation of the plants having been laid, when the cultivator can detect five or six flowers open he should seize this opportunity and impregnate them in the usual way. A suitable time for this operation is the forenoon, when the pollen is dry, and of course the atmosphere must be kept drier during this operation. It is not likely that all these flowers will set, but when it can be ascertained which has taken the lead if too many have set the weakest can be removed, leaving three or four which will be sufficient for large fruiting varieties, such as Hero of Lockinge, Windsor Castle, &c., but smaller varieties may carry one or two more. The cultivator should always bear in mind that the more even the setting the more even the fruits will be in size. For the very earliest the grower need not wait for an even set, but hurry on the first flowers to set their fruits on one of the plants. I would not advise this afterwards, as the crop would be very uneven.

When the little fruits are all safely set the main shoots should have their tops pinched out, and the shoots that are bearing the fruits should be stopped at the second joint, and stop all sub-laterals at the first leaf, so as to throw the whole energy of the plants into the swelling of the fruits.

(*To be continued*).

THE EARLIEST GARDENS IN AMERICA.

There were many interesting private ornamental gardens in the Colonial days. One of the earliest and best was that of Governor Peter Stuyvesant, of New Amsterdam (New York, near Third Avenue), known as the "bouwerie," where forty or fifty negro slaves and also white servants were kept at work. "The road to the city had been put in good condition, and shade trees were planted on each side where it crossed the Governor's property." The Bowery of these degenerate days has lost the Eden-like features which distinguished its illustrious progenitor.

Excellent gardens were attached to the residences of wealthy persons by the middle of last century and probably earlier, and they were said to have been encouraged by the example and precept of Washington. There are records of many large and meritorious collections of plants a century and more ago. William Hamilton's collection at Philadelphia was one of the best, and it contained a large collection of exotics. It flourished towards the close of last century, and was broken up in 1828. William Jackson began "a highly interesting collection of plants at his residence in Londongrove," Pennsylvania, in 1777. About 1800 Joshua and Samuel Pierce, East Marlborough, Pennsylvania, "began to adorn their premises by tasteful culture and planting," and by the establishment of an arboretum of Evergreens The most famous botanic garden which North America has ever had was John Bartram's, established at Philadelphia in 1728. It contained a great collection of native plants, and some of the trees are now amongst the most valued landmarks of the city. Bartram was a skilful farmer and gardener, and his sons John and William inherited his tastes and continued the garden. The elder Bartram was probably the first American to perform successful experiments in hybridisation. Bartram's cousin, Humphrey Marshall, established a botanic garden at West Bradford, in Chester County, Pennsylvania, in 1773. John Bartram's name is preserved to us in the moss Bartramia, and Marshall's in the genus Marshallia, applied to some small Compositæ of the Eastern States. The Elgin botanic garden, near New York, was established in 1801 by David Hosack, a man of great learning and of the keenest sympathies with rural occupations. He is now remembered in the interesting genus Hosackia, one of the Leguminosae. A botanic garden was established at Charleston, South Carolina, about 1804, and one in Maryland about the same time. The botanic garden at Cambridge, Massachusetts, was begun in 1805, an institution which, together with the Professorship of Natural History at Cambridge, was founded largely through the efforts of the Massachusetts Society for Promoting Agriculture. The Society subscribed $500 for the purpose, and raised more by subscription.—*Prof. L. H. Bailey in "Florists' Exchange."*

GARDENING MISCELLANY.

NEW GOLD-LACED POLYANTHUS.

A bunch of flowers of a beautiful seedling Polyanthus belonging to this class has been sent us by Dr. Stuart, Hillside, Chirnside, N.B. It was raised from a finely laced, but pin-eyed variety named Border Maid, crossed with the pollen of George IV. The last is a well known variety amongst the few florists who still cling to this beautiful but much neglected class of plants, but too seldom seen in the neighbourhood of London. We could have wished that Dr. Stuart had sent a specimen of George IV. for comparison, that a synopsis of the exact distinctions and their extent between the parents and progeny might have been possible. The flowers were of two sizes apparently dependent upon the strength of the common footstalk of the flowers, and the largest measured 1¼ in. in diameter across the individual pip. Probably they were grown under ordinary conditions in the open border, and if so, the variety is evidently adapted for border cultivation, and which we should consider a leading recommendation to assist in again popularising this beautiful class of hardy plants. The golden centre is generally well defined and the body colour bright crimson on first expansion, but as the flower becomes fully developed this hue changes to a blackish maroon, thus contrasting strongly with the golden lacing. There was not much fault to be found with the latter, but the degree of refinement can only be determined by comparison with the standard varieties in cultivation. The flowers from a decorative point of view were beautiful and pleasantly fragrant.

NICOTIANA COLOSSEA VARIEGATA.

The ordinary green-leaved variety of this giant Tobacco is getting well known in various establishments for the sub-tropical effect of its magnificent foliage, more especially when planted out so as to afford unlimited root-room to encourage vigorous growth. The variegated variety is more suitable for pot work, and has elliptic, pale green leaves, with a broad but irregular, pale yellow band changing to creamy-white with age. Upon the delicacy of this colour and its untarnished appearance the beauty of the plant depends, so that the protection of a greenhouse would be necessary to bring out and preserve the colour by the shelter so afforded. No doubt the plant could be grown in sheltered positions out of doors during the summer months with its beauty tolerably well preserved, but the experiment will have to be made. The same applies to Nicotiana affinis variegata, but the leaves of this are much smaller, and therefore less readily injured by the wind. It flowers very freely, however, which is not

the case with the giant species above mentioned. Both may be seen in the nursery of Messrs. J. Laing & Sons, Forest Hill.

ABUTILON SWITZII.

VARIEGATED Abutilons continue to increase in number, their differences consisting chiefly in the form of the leaves of the particular kind, and in the shade of colour constituting the variegation. This latter ranges from bright yellow to creamy-white, and is generally attractive when the plant is well furnished with foliage. The leaves of the new variety under notice are palmate, shallowly three to five lobed, and irregularly variegated, with a broad creamy-white or grey margin, ultimately becoming practically white. Compared with A. Sellowianum marmoratum and A. Darwini, the leaves are relatively small and pretty when seen in a mass. The variety, besides being useful for ordinary decorative purposes in the intermediate and cool greenhouse, might be useful in bedding designs by way of contrast to A. Thomsoni, A. Darwini, and A. megapotamicum variegatum. A. Switzii may be seen in the nursery of Messrs. J. Laing & Sons, Forest Hill.

CINERARIA CRUENTA.

THE acquaintance of most gardeners with the genus Cineraria is limited to the well-known race of showy greenhouse plants which have been obtained by careful cultivation and judicious selection of the seed of good varieties from the above plant, and thus it is very seldom that we see the true species cultivated, although it is well worthy a place in any collection of greenhouse flowering subjects. The aim of the florist in his improvement of the Cineraria has been to obtain plants of as dwarf and stocky a habit as possible bearing flowers of regular and even outline. The lovely strains of Cinerarias now sent out by our seedsmen attest to the excellence of the work done by the florist in this direction. Still C. cruenta is well worthy a place in the greenhouse, for, besides the interest attaching to it from the comparison which may be made between it and the florist's strains when both are grown side by side, it is a handsome and useful decorative plant. It reaches a height of several feet and its large loose cymes of reddish purple flowers have a distinctly graceful appearance. Considerable use is made of it in the greenhouse at Kew during the spring months; an example that might well be followed elsewhere. It hails from the Canary Islands, the year 1777 being the probable date of its introduction.

PAVETTA BORBONICA.

OF all the plants grown in gardens under the name of Pavetta that under notice is the most distinct and beautiful as far as the foliage is concerned. The leaves narrowly oblong, leathery, and deep green, with a bright red midrib, and yellow spots between the areas of the lateral veins. The spotting and the red rib gives character to the rest and beautifies the whole. The leaves are in pairs, each successive pair at right angles to the one below, and as they attain a length of 10 in. to 12 in., the plant really makes a beautiful and useful decorative subject that might be used for various purposes. Stove treatment is necessary for the plant, as in the case of Ixoras, to which this plant is closely allied. We noted some fine plants of it in the nursery of Messrs. J. Laing & Sons, Forest Hill.

VARIETIES OF ANEMONE APENNINA.

AMONGST early spring flowers none are more acceptable in their way than those of A. apennina, which exists in various forms in a wild state as do those of several other more or less familiar species. The flowers of the typical form are moderate in size, blue, and consist of ten to fourteen sepals. A. a. blanda has larger blooms, and flowers two or three weeks earlier than the type; its stems and leaf-stalks are green. The sub-variety, A. a. blanda taurica, comes from the Taurus Mountains, and has the stems and back of the leaves red or purple. The flowers vary greatly from a deep to a pale blue, lilac, and rosy-lilac. Less well known is A. a. b. scythinica, has large white flowers, shaded with a beautiful porcelain blue externally. The leaves are bright green, with very narrow segments compared with those of any of the other varieties above named. All of them are of the easiest culture in moderately moist soil in sheltered situations, where they will not be exposed to the cold and drying east winds so prevalent in spring. They may be seen in the nursery of Messrs. Barr & Son, Long Ditton, Surrey.

PLANT NAMES: THEIR DERIVATION AND MEANING.*

I DO not propose to speak about the names of the wild flowers of Great Britain. You are an assembly of gardeners, and are, therefore, naturally more interested in those plants which it is your business to cultivate, and with which you are more familiar.

The names of the wild flowers of our country would, however, make a most interesting subject for some future paper, treating of the various names used by ancient writers, such as Shakespere and others, and also mentioning the local names of plants which differ considerably in different parts of the country; and, if I might venture to suggest the idea to him, I think our friend Mr. Green would treat the subject in a most satisfactory way. As regards the common English names of our garden flowers, I have been struck by noticing how few there are which belong exclusively to those which are only found in the garden or greenhouse. The Rose, the Violet, Heartsease, Pink, Wallflower, Mignonette, &c., are represented by their humbler relatives of the field, and there is only a limited number of English names for exclusively garden flowers. Among these I may mention the Carnation, Hollyhock, Love-lies-Bleeding, Marigold, Marvel of Peru, Passion Flower, Sunflower, Cockscomb, and Virginian Stock, while we have numbers of Latin names for garden favourites which are as familiar to us as the names of Daisy or Buttercup. For instance, look at such names as Auricula, Chrysanthemum, Cyclamen, Dahlia, Fuchsia, Magnolia, Pelargonium, Petunia, Tropaeolum, and Verbena.

I therefore think that we must at once plunge into the midst of that vast assemblage of scientific names which it is my object to discuss this evening. And first let me draw your attention to the beautiful simplicity of our modern nomenclature, and for a few moments show you how we came to be able to describe each species of plant in the vegetable kingdom by two names. Previous to the time of the immortal Linnaeus, although generic names had been for long in use, the specific name of a plant was usually a descriptive sentence. For instance, I have an old book called Flora W., and I will read to you the specific description of the common Viper's Buglos.

Now Linnaeus got rid of all this verbage. He retained the generic name of Echium and substituted the simple word vulgare, so that henceforth the plant has been known as Echium vulgare, Echium being the generic and vulgare the specific name. This brings us a step farther on, and it will be my object to-night to say a few words as to the generic, for I fear we shall not have time to tackle the specific names, which I hope in some way or other to reserve for future treatment. As regards the generic names of plants I propose to classify them under five different heads as follows :—

I.—Original names.
II.—Mythological names and those of heroes of antiquity.
III.—Names of places.
IV.—Names of persons.
V.—Descriptive names.

I.—ORIGINAL NAMES.

By this I mean names that are found as applied to plants and trees by ancient authors. In the works of Pliny, Virgil, and other writers of antiquity there is abundant mention of plants and trees which are called by their then popular names. Very frequently their characteristics and habits are fully described, and it has been the endeavour of various authors by means of these descriptions to identify the species as closely as possible. But as you may suppose, it is frequently a matter of some difficulty, for constantly, when you may think you have settled the point, some further statement may appear which is quite inconsistent with the nature of the plant you thought you had identified. Therefore, though we may make use of some ancient Latin or Greek name for a modern plant, we cannot always nor even frequently be quite certain that the name we have used is the right one, though in many cases we may be pretty sure that we are not much in error. For instance, although we are tolerably certain that Beech is indigenous to Britain, Caesar says that the Fagus of Italy is not so. Yet Pliny's description of both the Beech and the Chestnut is so complete that we have no reasonable doubt that Fagus is the Beech and Castanea the Chestnut—the solution being that Caesar had not penetrated to those parts of the island where they existed. We also know that Quercus is the Oak, Ulmus the Elm, Vitis the Vine, Rosa the Rose. A great many plants are also called by original or native names, such as Bamboo, the Indian name for the plant, Aucuba, which is the Japanese name, and so on.

II.—MYTHOLOGICAL NAMES.

Some plants are called from mythological names or from those of heroes of antiquity. To this class belongs the genus Achillea, named after Achilles. Goddesses, youths, and nymphs have been favourites for the naming of beautiful flowers. Take for instance Amaryllis, Adonis, Andromeda, Hyacinthus, and Iris. Narcissus, we are told, was so beautiful a youth that being slightly conceited he actually fell in love with himself one day when he saw the reflec- of his face in a fountain, and so serious was his love sickness that he actually died of it, while from the place where he fell there sprung up the beautiful flower which has since borne his name.

III.—NAMES OF PLACES.

Some of the genera of plants are named from the places where they are supposed to have originated, such as Arabis from Arabia, Aconitum from Acone, Berberis from Barbary, and Castanea from a place of that name in Thessaly; but I do not find many of them. As a rule the country is more frequently named in the specific, such as Pyrus japonica, Scilla siberica, etc.

IV.—NAMES OF PERSONS.

Here we come to a very much larger division. It seems to me that almost every Continental botanist that has ever existed is represented in the calendar. I say Continental because for some reason or other very few British names appear in the list, while Germans and French are legion. It will suffice to give a very few illustrations of well-known plant names, which are also the names of people:—Aubrietia from Aubriet, a Frenchman; Begonia from Michael Begon, a Frenchman; Dahlia from Andrew Dahl, a Swede and pupil of Linnaeus; Gesnera from Count Gesner of Zurich; Fuchsia from Leonard Fuchs, a German professor; Clarkia from Captain Clarke, who explored the Rocky Mountains; Gardenia from Alexander Garden of Charleston; Eschscholtzia from Eschscholtz, a German. Of the small plant called Linnaea borealis it has been thus written:—"Dr. J. F. Geonovius with the concurrence of Linnaeus selected this little, despised, abject, early-flowering, long overlooked northern plant to transmit the illustrious name of Linnaeus to posterity. All we can say is that the mighty naturalist requires no epitaph to make his name live for ever."

V.—DESCRIPTIVE NAMES.

And now, having to a certain extent cleared the way, I have come to what is the most important and at the same time most difficult part of my subject. We have eliminated all the names of plants which may be called original, and have no meaning in themselves except from a philological point of view; also those names which belong to mythological or heroic pesonages of antiquity; names given as a consequence of their supposed place of origin; and names bestowed in honour of modern, gardeners, and men of science. We have therefore arrived at my fifth and last section, namely, those names with a descriptive meaning. As regards these I must premise that great numbers are excessively fanciful, others extremely far fetched, and many extremely doubtful. They are names principally if not entirely composed of Greek or Latin words, and are supposed to represent some leading characteristic of the plant. In this way all parts of a plant are requisitioned, but only one part in each plant. With one it is the stem, in another case the leaf, and in a third the root has suggested the characteristic epithet for a specific name. Then, again, whether it is tall or stout, large or small, has supplied the motive for a name. Its medicinal qualities are frequently invoked, and these attributes, I need hardly say, are in most cases rather doubtful.

Some of the names are extremely dubious as to their origin, and are matters of entire conjecture, while in many it is useless to try and find out what they can possibly mean. Indeed, the result of my researches for the purpose of this paper has not given me such a high idea of the practical claims of our name-givers as wonder at the extraordinary richness of their imagination; and in explaining the meaning

*A paper read by Mr. S. Arthur Sewell at a meeting of the Ealing Gardeners' Mutual Improvement Society, on the 26th March.

of some of the generic terms one feels almost ashamed of its being so far fetched.

And now I feel how hopeless it is for me to expect you to retain in your memories a particle of what I am going to tell you even if you can take any interest in the narration of it. It is rather of the nature of a scientific enquiry than anything to do with practical gardening; yet, still, I feel sure that in the future it will become part and parcel of every intelligent gardener's education, and if time permits I may say a few words on this subject later on. The feeling I have that my subject in detail will be dry and uninteresting—a mere list of names with their more or less probable meanings—is why I told you at the beginning that I felt I had made rather a mistake in choosing such a subject; but as it admits of no other treatment I must go through with my task and pray that you may have patience with me. For the purpose of this paper I have, with the help of various plant catalogues and my own memory, selected about 150 plants which are well known in the greenhouse and in the garden. Where I enumerate them you will see what I have chosen and no doubt observe many omissions, but if I had taken more, our time and your good nature I venture to affirm would have been entirely exhausted.

(*To be continued.*)

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Large Chrysanthemums.—*A. E. B.*: The dozen largest varieties on your list are Edward Audiguier, Comte de Germiny, Madame Rendatler, W. H. Lincoln, Sarah Owen, Avalanche, Madame Audiguier, Jardin des Plantes, William Tricker, Sunflower, Lord Alcester, and Lord Brooke.

Description of the Daisy.—*Bellis*: You do not tell us to what part of the plant the word "fistulosa" refers. The description you mention should do that, but you leave us in the dark as to the context of the description. The flower scape or peduncle, that is, the flower stalk, is hollow, and the term "fistulosa" might well apply to that.

Insect in Vinery.—*Young Gardener*: The weevil is a pest too well known as a depredator in Vineries and plant houses. It is the Otiorhynchus salcatus of entomologists, and fortunately can be easily captured by night by spreading a sheet under the Vines and smartly tapping the rods, when they will drop down immediately they are disturbed. When they reach the ground they sham death for a time and can be readily gathered up. A little perseverance will soon rid you of them.

Eurya japonica latifolia variegata.—*S. W.*: It is a native of Japan and not quite hardy in this country. As a cold greenhouse plant, grown in pots, it is most useful for house decoration, especially in winter. Being very nearly hardy it will stand cold weather indoors better than many other things, and always looks bright and cheerful. You can get it at any good plant nursery.

Red Flowers.—*Rubens*: Popular names of plants are often a very bad guide as to what they really are. We do not know what you mean by the Crimson Grass. Why not give the botanical name? The Davurian Lily (Lilium davuricum) sometimes flowers in June but usually in July. The Scarlet Pompone and Tiger Lilies flower later. Trifolium incarnatum with crimson and sometimes with pale red flowers would be in bloom by June. The Wood Anemone would be out of flower by June. Some red varieties of Primrose and Polyanthus might still be in bloom by that time, but only a few belated flowers. The Red Streak is a cider Apple and, as far as we know, ripens in autumn.

Weed in hedgerows.—*W. W.*: The weed is commonly called Gout-weed or Bishop-weed (Aegopodium Podagraria). It is but too common throughout Britain and Continental Europe, and is a great nuisance to gardeners and sometimes to farmers everywhere, but we have never heard that it was poisonous. At one time it was considered a specific for gout but is now known to be as useless in medicine as in the garden. As evidence of its not being poisonous, Linnaeus says that it is eaten in Sweden by way of greens after being boiled while yet tender in spring.

Samples of soils.—*Bill May*: One of the samples you send consisted almost wholly of peat in which Bracken has been growing apparently. It would be described as peat or a peaty soil. It has no particular value unless to spread upon clay land at intervals with the object of lightening it. On the contrary you might improve the peat for raising vegetable crops by spreading clay or heavy loam upon it. You might plant Rhododendrons and other American plants in it. The other sample consisted of a black loam with much humus, that is, decaying vegetable matter in it, and might be described as a peaty loam. Of the two samples it is the better for growing garden or other crops generally, such as Carrot, Parsnips, Cabbages &c., provided it is well drained naturally or otherwise.

Names of Plants.—*M. M.*: Salmon Berry (Rubus spectabilis) from North America. *J. K.*: 1, Chionodoxa Luciliae; 2, Scilla bifolia; 3, Ornithogalum nutans; 4, Primula Sieboldi var.; 5, Spiraea prunifolia. *F. Parker*: 1, Pyrus japonica; 2, Viburnum Lantana; 3, Sedum Rhodiola; 4, Alchemilla vulgaris; 5, Veronica gentianoides variegata; 6, Nepeta Mussini. *J. W. G.*: 1, Dendrobium nobile, a fairly good variety but nothing special; 2, Vanda Roxburghii, and a poor variety. *A. C.*: 1, Doronicum plantagineum excelsum; 2, Anemone nemorosa flore pleno; 3, Androsace sarmentosa; 4, Polemonium reptans; 5, Lamium maculatum variegatum. *H. J.*: 1, Primula denticulata; 2, Pieris floribunda; 3, Narcissus Jonquilla; 4, Corydalis cava.

Polyanthus not Flowering.—*M. M.*: It must be very weak in constitution and perhaps may never attain to the flowering stage. Seedlings of various things often turn up in seed beds and behave very much in the same way as you mention. The plant may be physically weak or even imperfect, and unable to develop flowers. Why this should be it is impossible to say, we only know that it is so. We take it for granted that you have it growing in the open ground, if so we should advise you to give it a change of soil, or even prepare a moderately rich compost for it containing a good proportion of leaf soil. By this means you may induce it to make a vigorous growth, and flowering may ensue.

Inflorescence of Flowers.—*Anthos*: It would be a great task of memory, occupying much time, to give an exhaustive list of types such as you have desired, so that we mention the subjoined chiefly as examples which you could amplify at your own leisure as specimens or examples come before you. True corymbs are not very numerous, but a good example may be met with in the Star of Bethlehem (Ornithogalum). Corymbose cymes are plentiful, such as those of the Elder, Spiraea bella. S. japonica, etc. The greater proportion of the Umbellifers produce their flowers in umbels, including the Carrot, Parsnip, Parsley, Cow Parsnip, Angelica, Earthnut, Astrantia, or Masterwort, and many others of the same family. The Flowering Rush, Amaryllis, Knight's Star, many Primulas, including the Polyanthus, Cowslip, and Oxlip, etc., have their flowers in umbels. Racemes may be met with in the Wallflower, Arabis, Cabbage (branching racemes), Hyacinth, Bird Cherry, Cherry and Portugal Laurels, Lupin, Cytisus racemosus, Germander Speedwell, Veronica spicata, V. gentianoide, Lobelias, Everlasting Peas, Lily of the Valley, etc. A large number of the grasses have their flowers in panicles, and the term is applied to many things having a loosely branching inflorescence. The Lilac, Meadow Sweet, Dropwort, and other herbaceous species of Spiraea have a cymose panicle. The leaves of the bulk of the Umbellifers already mentioned are laciniate, and so are those of many of the species of Buttercup, Paeonies, Ferns, Scabious, Pyrethrum, Artemesia, including Wormwood, Southernwood, etc., also Geranium, Pelargonium, Rue, Saxifraga, some of the Hibiscus, and many others.

Communications Received.—J. D.—A. P.—L. Y.—L. B.—W. C.—G. J. I.—W. I.—H. S.—R. B.—E. B.—C. C. C.—G. R.

TRADE CATALOGUES RECEIVED.

F. Sander & Co., St. Albans.—New Orchids for 1895 and other rare plants.

W. & J. Birkenhead, Sale near Manchester.—Ferns and Selaginellas.

I. P. Williams & Bros, Heneratgoda, Ceylon.—Tropical Seeds and Plants of Commercial products, Bulbs, Tubers and Yams.

T. J. Seidel, Dresden-Stiesen, Germany.—Greenhouse Plants, &c.

LONDON SEED TRADE.

May 7th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a decreasing enquiry for Agricultural seeds. Red Clover, White Clover, and Alsike are steady. Trefoil dull. Rye-grasses unchanged. Rape firm. Mustard meets with more attention.

COVENT GARDEN MARKET.

May 1st, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples.....per bushel	3 0	9 0
Nova Scotia Apples per barrel	12 0	21 0
Cob Nuts and Filberts, per 100 lbs	18 0	
Grapes, per lb.	1 0	5 0
Pine-apples.—St. Michael's each	2 6	6 0
Strawberries, Nobles, per lb.	1 6	2 0
Other varieties, per lb.	2 0	4 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	2 0	2 6
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	3 0	0 0
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket	1 6	2 0
Small salading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	1 0	2 0
Turnips .....per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	4 0
Azalea, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Double Daffodils, doz. bchs.	1 6	3 0
Single Daffodils, doz. bchs.	3 0	4 0
Eucharis ...per doz.	4 0	6 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	6 0	9 0
Lilac (French) per bch.	5 0	6 0
Lilium longiflorum per doz.	4 0	6 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pelargoniums, 12 bun.	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	1 0	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 3	2 0
Red Roses.....	3 0	6 0
Pink Roses	5 0	7 0
Roses (French), yellow, doz. blooms	1 6	2 0
Roses (French), red, doz. blooms. ...	2 0	2 6
Smilax, per bunch ...	4 0	6 0
Stephanotis, doz. sprays	4 0	6 0
Tuberoses, doz. blooms	0 4	0 6
Violets (English) doz. bun.	1 0	2 0
Violets (French) Parme, per bun.	2 6	3 6
Violets (French) Czar, per bun. ...	2 0	3 0
Violets (French) Victoria, doz. bun.	2 6	4 0

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
" specimen plants	5 0	10 6
Azaleas, each	3 0	4 0
Cinerarias, per doz.	6 0	10 0
Cyclamen, per doz.	9 0	12 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Erica, various, doz....	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, In var. doz	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Lycopodiums, doz.	3 0	4 0
Marguerite Daisy, per doz.	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Primulas, doz.	4 0	6 0

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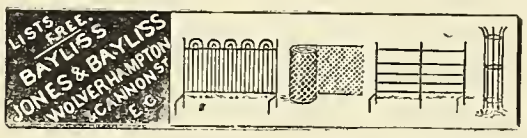

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FLOWER SHOW FIXTURES, 1895.

MAY.

14.—R.H.S. Drill Hall Meeting.
15.—Royal Botanic Society's Summer Show.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Southampton Spring Show.
2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show.
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25. Trentham Rose Show.
26.—Wellingborough Floral Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.

(*Continued on next column.*)

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by BRIAN WYNNE.

SATURDAY, MAY 18th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 21st.—Royal Horticultural Society's Temple Show (3 days).

WEDNESDAY, May 22nd.—Orchid Sale at Protheroe & Morris' Rooms.

SPRING GARDENING.—The notions and opinions as to what should constitute spring gardening are no doubt as varied and as antagonistic or contradictory as are the individuals who conceive them. Amongst civilised communities, however, there must always be a certain amount of conventionalism upon the point, that is, an informal agreement as to a certain standard, to which there will always be a minority of minds to take exception. The love of novelty and change will also insure the shifting of that standard of opinion as to the most tasteful and pleasing arrangements of the subjects used in spring gardening. The comparisons that are made by travellers between what they see in this and foreign countries are odd and startling as they are contrary to probability. Some of them go into raptures over such things as Wistarias, Bignonias, Lantanas, and Bougainvilleas just as if those things were strangers to us; but to compare them with spring gardening in this country is ridiculous. Many an old Wistaria gets quite gorgeous in this country in early summer, and often flowers well a second time in late summer. The others are successfully grown under glass, and it is only a question of space as to the quantity of bloom obtainable. An avenue of Amherstia nobilis such as that mentioned recently in the Botanic Gardens, Calcutta, by our correspondent is, of course, an impossibility in this country. The trees of northern countries or temperate climates are more sober in their hues, though none the less floriferous in many cases. For instance, what can we expect more gorgeous than an avenue of Horse Chestnuts, a liberal distribution of Hawthorns single and double, white, pink, and red amongst the other trees about a park or private establishment, or a free distribution of the two species of Laburnam round the margin of a wood or plantation. Turn to our orchards and say what has been more charming than the profusion of white blossom on the Plum and Pear intermingling with the rose, pink and white of the Apples, and the snowy masses of Cherries. Usually a distinct period elapses between the blossoming of these subjects, but the peculiarities of the season has brought them forward almost simultaneously this year.

Notwithstanding the raptures and odd comparisons made by a correspondent in more than one of our contemporaries, between the above subjects and spring gardening there can be no comparison at all. "Nowhere in all the earth" has the correspondent "seen such refulgency of beauty" as in Hyde Park. We duly noted the attractive character of the same when the Hyacinths were in perfection, but it never occurred to us to compare the floral display with the trees and woody climbers of a tropical forest. Surely the bulb fields of Holland would have been a better comparison, even though their prim neatness as limited by the square and line, is suggestive of utilitarianism and nursery convenience and necessity rather than combinations and arrangements of colour for mere decorative effect which spring gardening should be. There are people of taste who complain of the bedding arrangements in Hyde Park on account of their formality, and consider those of Regent's Park more natural, pleasing and tasteful, though the display is far more limited. The chief complaint that can made against the arrangement in Hyde Park is that there are too many beds in contiguity that match one another in design, planting and colours all tending to monotony and sameness. It may be a remnant of the old Dutch gardening introduced to Kensington gardens so many years ago; but the form of the ground enforces restrictions, to some extent, as to variety and dissimilarity. We do not at all underrate the decorative effect of the gardening accomplished alongside of Park Lane whether in spring or summer. The contiguity of the flower beds to fences, streets and houses necessitates great regularity of design, otherwise there could be no beauty of appropriateness. Furthermore there is sufficient space in the various London Parks to imitate various styles of gardening, as is well demonstrated by the different conformation and environment of Battersea, Finsbury, Victoria, Dulwich, and other parks as well as Kew Gardens.

Then the legitimate question of all concerned to discuss is the material, that is, the plants to be used, and the most effective and tasteful methods of displaying them. Plants intended for spring gardening in this country must of a necessity be hardy, and the beds may either be temporary or permanent or a judicious intermixture of both. The temporary beds would consist of those planted with bulbs and other spring flowering subjects to be dug up, and others substituted, in May or June to carry on the display till autumn. Beds planted permanently with subjects that flower in spring only would necessarily be dull during the remaining portion of our season; but, apart from bulbs, a number of beds might be set apart for keeping up a display from spring onwards with what is conventionally understood as herbaceous plants. That is a feature of gardening that has hardly been touched upon by the parks. Some of them have begun to recognise the value of herbaceous plants, but as yet the latter are mostly confined to rockeries, and being scattered about promiscuously there is neither combination nor segregation of colours for effect. For purely

bedding purposes it is necessary to get masses of separate colours, and those which flower continuously all the season would serve to form combinations accordingly. But, as far as spring bedding is concerned, the object to be kept in view is that fine effects may be produced by the use of herbaceous plants alone, independently of Dutch bulbs. We do not mean to imply that the latter should be discarded or dispensed with, but that a style of spring bedding may be developed without them in a separate part of the park, garden, or pleasure ground.

Mr. J. Dymock, late foreman in the gardens at Devonhurst, Chiswick, has been appointed gardener to B. Wentworth Vernon Esq., Stoke Breuerne Park, Northampton.

Mr. W. M. Meir, late gardener at Glenfenian, Dumbartonshire, has been engaged as gardener to J. D. Fletcher, Esq., Rosehaugh, Ross-shire.

The London Catalogue of British Plants.—A new edition (the ninth) of this work by Mr. F. J. Hanbury has been issued by Messrs. G. Bell & Sons.

Messrs. Heath & Son's collection of Exhibition Plants was sold by auction at Cheltenham on Wednesday, by Messrs. Protheroe & Morris, the firm having decided to give up exhibiting.

Mons. D. Hooibrenk, a famous Dutch Horticulturist, who for some years had charge of Baron Hügel's noted gardens at Vienna, and subsequently became a nurseryman in the same city, died recently at the ripe old age of eighty-three years.

The Temple Show.—We are requested to state in connection with the Royal Horticultural Society's Annual Show to be held in the Temple Gardens on Tuesday, Wednesday, and Thursday next, that the Fruit, Floral and Orchid Committees will meet at the exhibition at 11 o'clock on the 21st. The official list of their awards, however, will not under any circumstances be issued from the Secretary's tent until the following day.

Death of Mr. Thomas Hogg.—We regret to learn of the death on the 4th inst., aged seventy-four, of Mr. Thomas Hogg, head of the old established nursery and seed business of Messrs. Hogg and Wood, of Coldstream, N.B. Mr. Hogg had long been in indifferent health and died at Droitwich where he was on a visit to the salt baths.

Royal Botanic Society.—At a meeting of this Society held in the Gardens at Regent's Park, on Saturday last, it was announced that the donations recently made to the Society included fruits of a species of Gardenia known as Wonderboom in Zululand, where it is held sacred by the natives. Attention was also called to the exceeding beauty of the Gardens at this present time, and the Fellows were congratulated on the very small amount of damage done by the late severe winter.

The Annual Summer outing of the members of the Devon and Exeter Gardeners' Mutual Improvement Association has been arranged to take place on Wednesday, July 24th, and by permission of Lord Poltimore, Sir W. H. Walrond, Bart., M. P.; and Sir J. H. Amory, Bart., the members will be enabled to visit Poltimore Park, Bradfield, and Knightshayes, all of which places are noted for the horticultural interest they possess.

Death of Mr. John Walker of Thame.—We regret to record the death on the 8th inst., after an attack of apoplexy, of Mr. John Walker, the well known and much respected nurseryman of Thame, aged seventy-six. Mr. Walker was a very successful raiser and exhibitor of Dahlias, Sweet Williams and other garden plants, and successful also as a grower and exhibitor of Roses. He was also we believe the raiser of that excellent Pea, Walker's Perpetual Bearer.

A New Recreation Ground for Willesden was opened on Saturday last by Mr. Littler, Q.C., chairman of the Middlesex County Council. Roundwood Park comprises 26½ acres, and is entered from Harlesden Lane. It was purchased by the Willesden Urban Council for £15,000, and the central part stands at a good elevation commanding an extensive view of the surrounding country. On the summit of the elevation there is a fine band-stand, and some 14,000 trees and shrubs adorn the ground. The cost of laying out the Park was £9,000. A more suitable spot for a recreation ground in the district could not have been chosen, but when acquired it was as rough a piece of ground as could be imagined, a minature Dartmoor without the granite, now converted into a Garden of Eden without the serpent.

New Plants Certificated in Belgium.—At the last meeting of the Belgian Chamber of Horticulture at Ghent, certificates of merit were awarded to M. C. Petrick for Smilax argyraea; to the Société Horticole Gantoise for seedling Anthuriums; to M. T. Szewezik for Begonia Stephaniae and B. velutina (Fulgens x Pearcei); to M. L. De Smet, for Scolopendrium scalariforme, and Begonia Mons. Louis Cappe; to M. Em. Martens for Dracaena cannaefolia aurea striata; to M. Jules Hye for Miltonia vexillaria Hyeana, and M. vexillaria alba; to M. Ed. Pynaert for Dracaena indivisa Leopold II. and Strawberry Souv. de Madame Trullens.

Restoring the Interior of a Tree.—A unique process of restoration has been carried out in the interior of the famous "Rollo's Oak," which is to be seen within an easy distance of Rouen, France. It is declared to be the identical oak upon a branch of which the first Duke of Normandy used to hang his gold chain to see if any of his subjects would like to hang there instead. It is, at any rate, so old that it has completely lost its inside, and was liable to collapse at any moment. It has now been relieved of this liability. An arboricultural genius has fitted it with a solid new inside of masonry. The masonry is made to follow and fit every turn and twist, and gnarl of the patient; and there is the veteran solid as a rock again. Then the fissures and cracks on his exterior have been neatly filled up with cement, and the cement has been artistically coloured, so that you would hardly know it from the natural bark. It is expected and believed that the tree will not know the difference either, and take to flourishing again as it did a few centuries ago.

Dundee Horticultural Association.—At the usual monthly meeting of the members of this association held on the 8th inst., Mr. A. W. Wade, Glencarse Nurseries, read a paper entitled "Gardeners' Education and Qualifications." Having pointed out that only men of a high degree of intelligence come to the front in the profession, the essayist gave some valuable advice to young gardeners, who too often, especially in bothies, spent their spare time in card-playing, draughts, &c., instead of acquiring information that would aid them in their work. The result was that the profession was overstocked with inferior men. By way of bringing about improvement, and allowing for the recognition of merit, the essayist advocated the institution of a system whereby gardeners could pass an examination and get a certificate of their qualifications. He hinted that practical gardeners might with advantage give a little more attention to the proper training of apprentices. An animated discussion followed, and the essayist was heartily thanked for his paper.

Propagating Davallia Mooreana.—Davallia Mooreana is a Fern which sends its stems close along the surface of the soil, or a trifling depth under it. It is, therefore, a surface rooter. The roots being small never penetrate deeply into the soil, but form a thick mass for two or three inches at the top of the pot or pan. While growing, the young rhizome-looking growths must have a sufficiency of fresh and easily penetrated soil, or they either get sick and liable to the attacks of insects, or the plants will stop growing, and ultimately shed their fronds. The method of propagation which struck me as being a good one is as follows: "Old plants are divided up and planted out on a bench holding about four inches of well prepared soil, firmed with the feet. The plants at once begin to make rapid growth, but as soon as the new growths are sufficiently rooted they are severed from the parent, when, instead of the vigour going into large fronds, as is usually the case when grown as specimens, new breaks are made, and these are treated in the same manner as soon as it is considered safe to do so. In this way, the leaves are small, with a healthy look about them, the yellowish colour we so often see is absent, and the foliage is more graceful than what we are usually accustomed to in pot grown specimens. It is evident that a goodly number of small sized plants can be got from one piece in a season.—*G. W. Oliver in "Florists' Exchange."*

The Japs. and their Floral decorations.—The peripatetic florist offers quite a contrast to our ideas, with his flowering branches standing in bamboo jars. The Japanese are great flower lovers, and the flower vendor is a familiar sight in the streets of their cities. They are very fond of flowering shrubs, cut sprays being much used in decoration. But their ideas of floral arrangement are very different from ours, and our choicest decorations would be coarse and inartistic in their eyes. All their floral arrangements have an underlying symbolism which we find difficulty in comprehending, though we can recognize the main principle, that of fidelity to nature. A single branch of Cherry blossoms, standing in a bomboo flower-holder, will be the result of as much thought as we give to an elaborate arrangement, and a mixture of incongruous bloom is never seen, being absolutely repugnant to them. The idea that a single Rose, thoughtfully placed so that stem and foliage, as well as bloom, show to advantage, is sufficient decoration for a table, an opinion offered recently by a lady of much taste, is certainly a move toward the Japanese ideal.—*American Florist.*

The Bitter Apple or Bitter Cucumber.—In a report to the State Department at Washington, Mr. Wallace, the United States Consul at Jerusalem, describes the culture of Citrullas Colocynthis, the Colocynth Apple, Bitter Apple or Bitter Cucumber. The plant, he says, grows abundantly on the maritime plain that lies between the mountains of Palestine and the eastern shore of the Mediterranean. It is found from below the city of Gaza, on the south, to the base of Mount Carmel, on the north. The dwellers along this plain pay little attention to the plant, and spend neither time nor labour in its cultivation. It grows without cultivation, the soil and climatic conditions producing it without the help of the husbandman. With some attention the plant would undoubtedly bear a larger and richer fruit—richer in that pulp which makes the Colocynth valuable. But there is no object in thus improving the plant and its yield, as nature alone now supplies far more than the natives can find a market for. The soil of this maritime plain is a light brown loam, very rich, and almost without a stone. In places where the loam has been mixed with sand the Colocynth plant seems to thrive best. The plant itself resembles our common Cucumber, but its fruit is globose, about the size of an Orange, of a light brown colour. Its rind is smooth, thin, and parchment-like. It is known as the Turkish Colocynth, and is superior to the Spanish and Mogador varieties in the amount of pulp its fruit contains. The pulp constitutes 25 per cent. of the fruit. The rind and seeds are valueless. The fellaheen, or peasants, gather the fruit in July and August, before it is quite ripe. It is sold to Jaffa dealers, who peel it and dry the pulp in the sun. It is then moulded into irregular small balls, packed in boxes, and shipped mostly to England. The average annual shipment from Jaffa is 10,000 pounds. The quantity could be increased indefinitely if there were more demand for it, and a price were paid that would make it an inducement for the peasants to gather and prepare it.

Catalogues of Tropical Plants.—Two catalogues, very different from the ordinary run of them in this country, have reached us from Messrs. J. P. William & Bros. nurseryman, Heneratgoda, Ceylon. One is a descriptive list of bulbs, tubers and yams, and the subjects offered for sale consist of various curious or interesting plants, valued either for their flowers or foliage, but in a great many cases for their commercial products. Amongst others is Amorphophallus giganteus with flower spathes 1ft. to 3ft. in circumference, according to the description; the solitary leaf covers an area of 5ft. to 15ft. In these respects, however, it is no rival for A. Titanum. The yams are pretty numerous, and most of them are edible and considered wholesome food. The other catalogue is a descriptive list of tropical seeds and plants of commercial products, with which we are more or less acquainted in botanic gardens here but seldom outside those establishments. Food and textile plants are very numerous, but no less than six species yielding rubber are described and offered for sale while gutta-percha is stated to be obtained from Achras Sapota or the Sapodilla Plum. Most of the kinds are both useful and valuable for cultivation in tropical countries. Curiously enough, Cynara Scolymus is described as the Jerusalem Artichoke but the

latter name is evidently the correct one, judging from the description and the uses to which the tubers are put. There is an interesting and somewhat amusing correspondence concerning a variety of Pineapple. One writer from New Mexico, U.S. America, says "I have heard a Pineapple called the Giant Kew or Mammoth Kew is raised in Ceylon, said to weigh between twenty-five pounds and thirty pounds. Can you give me the address of any grower of these Giant Kews ?" Elsewhere this variety is termed the King of Pines. Some trees for timber, fuel, shade, shelter, avenues, hedges and ornamental purposes are also catalogued, but with exception of a few of the more useful and ornamental kinds, they are not very common in this country.

Vegetation in Scotland.—In his monthly report to the Edinburgh Botanical Society, read on the 9th inst., Mr. R. Lindsay said that during April vegetation generally made fairly good progress in the Edinburgh Botanical Garden. The continuance of cold winds, together with a succession of frosty nights, during the early part of the month prevented any very rapid progress from being made. Consequently the season is still very late. There was no very marked change in the leafage of deciduous trees till the 20th of the month, after which date the foliage began to develop rapidly, in marked contrast to their condition at the same date last year, when the Hawthorn, for instance, was not only in full leaf but in flower also, as early as the 29th of April. Fruit trees and bushes, such as Pear, Apple, Cherry, Currant, and Gooseberry, look very promising, being well set with flower buds. The season being so late, they are more likely to escape injury from late frost, and thus bear good crops of fruit. On the rock garden 133 species of Alpine and herbaceous plants came into flower during the month, as against 153 for April of last year. Mr. A. D. Richardson submitted meteorological observations recorded at the Royal Botanic Garden during the month of April :—Barometer, reduced to 32 degs., 76·5 feet above mean sea level—Mean of 9 a.m. readings, 29·787 inches, being 0·161 inch below the average for April for four previous years. Self-registering thermometers in screen, 4 feet above grass—Maximum, 62·0 degs., on the 23rd; minimum, 28·8 degs. on the 7th; mean of maxima, 51·3 degs.; mean of minima, 39·8 degs.; mean of the month, 45·8 degs., being 0·9 degs. above the average for April for four previous years; frost occurred on 5 days. Sunshine—total recorded, 115½ hours, being 27 per cent. of the possible amount; the sunniest day was the 14th with 10½ hours, being 75 per cent. of the possible amount; none was recorded on three days. Rainfall—rain, &c., fell on 14 days; total fall, 1·085 inch; greatest fall in twenty-four hours, 0·330 inch on the 25th.

CHOICE BERTOLONIAS.

The varieties of Bertolonia now in cultivation are very numerous, but the larger leaved ones are the most beautiful. They are very different in appearance from the allied Sonerillas on account of the greater variety, and richness in coloration, as well as the larger size of the leaves. They require, perhaps, a little careful treatment to encourage a healthy growth of the plant and the preservation of the leaves as long as possible in their best and most presentable condition; but they are worthy of any extra attention they may receive in the way of a bell glass or frames in houses that are in any way draughty. Some cultivators succeed in growing them well without any special protection other than that of a pit or stove. The undermentioned varieties we noted in the nursery of Messrs. J. Laing & Sons, Forest Hill.

One of the best of the large leaved kinds is Souvenir de Gand with large leaves of an olive-green hue, with five longitudinal, bright carmine-purple veins and numerous spots of the same colour in the intervening spaces. The leaves of Madame August Van Geert are similarly large and olive-green with seven grey lines along them tinted with pink, and spotted with pink between the veins. The variegation is more extensive in the case of Comte de Kerchove, and consists of seven rosy veins connected with transverse ones uniting the long ones together in the manner of a wide-meshed net. The squarish areas between the veins are olive-green and spotted with rose. The leaves of Argyroneura have seven silvery nerves as implied by the name and are spotted with white all over, but densely so towards the margins; the ground colour is olive-green or brownish green. Punctata possesses no coloured veins but has olive-green leaves simply spotted all over with pink markings. There is thus a considerable range of variation amongst the above five varieties; but others also are noteworthy and pretty. Alongside of them is a collection of Sonerillas all exhibiting a pearly spotting. Here also may be noted the curious and beautiful Centrosolenia bullata with very dark green leaves raised into blisters, pimples, or sharp elevations all over the surface and bronzy when young.

DANESFIELD.

To very few gentlemen's estates indeed has nature been so lavishly kind as it has to Danesfield, the seat of C. A. Scott-Murray, Esq., which is situated about half-way between Great Marlow and Henley-on-Thames, and comprises within its limits very much of the finest of the lovely scenery for which the banks of the Thames in the district are so widely and justly famed. It fell to our lot to make its acquaintance on a sweltering hot day that perhaps made the steep banks and braes which abound on every hand all the more conspicuous, forcibly reminding us as they did of the toil that was necessary before the feet of the interested visitor could stand upon their summits, and from the vantage point thus gained view the surrounding country. The pretty little lodge at the entrance to the carriage drive looked indeed a spot where beauty reigned supreme, for its walls were lavishly decorated with the rich dark crimson flowers of Pyrus japonica, and a profusion of the dazzling white blossoms of the not less beautiful Clematis montana, than which it would be hard indeed to enumerate a more worthy climber, possessed of a hardy constitution, and whose floriferousness it would be impossible to question.

The mansion itself is situated upon a hill, and, although a solid and old-fashioned looking structure, is evidently a spacious and convenient abode. The carriage drive, at the entrance of which stands the lodge afore mentioned, winds away up the hill from the high road, and, passing close to the mansion, leads us into the kitchen and fruit gardens. These are about six acres in extent, and have for the last thirty or forty years been under the supervision of Mr. E. Croker, who, despite his advancing years, is still most keenly interested in all that pertains to the gardener's profession. As the owner of the estate does not reside thereon, and is indeed trying to find a purchaser for it, no pretence at elaborate decorative plant culture is attempted. In one stove, however, a magnificent specimen of Euphorbia splendens, by far the best we have yet seen, met our gaze. This plant, we were informed, had occupied the same position for the last thirty years, during which time it had only been twice or thrice re-potted. This system of treatment would seem to suit it to perfection, judging from the blaze of colour it at present affords, the flowers not only being numerous but individually large and of good substance.

The vegetable and hardy fruit gardens certainly do not suffer from lack of attention, for, despite the fact that rain was badly needed, crops of all kinds looked exceedingly well. Only those who are practical gardeners can have any idea of the amount of head work involved in properly cropping a kitchen garden in a way that shall yield the largest and best results. This becomes an even more difficult operation when a sufficiency of men is not obtainable, as is the case at Danesfield at present. Onions were a very fair crop, although from their appearance we gathered that they would joyfully welcome a thorough downpour of rain. Carrots, not quite so forward, were just peeping above the ground. A fine patch of Cabbage was also noteworthy in a season when the crops of spring Cabbage have sustained such serious damage. The varieties grown are Early Battersea, Fulham, Wheeler's Imperial, Veitch's Main Crop, Enfield Market, Cattell's Reliance, and Early Dwarf York, the latter name apparently being rather misleading, for the plants of this variety were taller than any of the rest. All of the sorts mentioned, however, have come through the winter exceedingly well and with but comparatively few losses, a state of things for which Mr. Croker is of opinion the rather late planting is responsible, as none of the plants were put out before the middle of October.

The display of bloom upon the majority of the hardy fruit trees is most profuse, and the prospecte for good crops appear very inviting. Apples have been making an especially brave show, also Cherries. Pears not quite so good, Plums comparatively scanty, whilst of small fruits of all kinds there will apparently be no lack. Amongst the fruit trees some exceedingly large specimens trained espalier fashion along the edges of the walks were very noticeable, and were not a whit behind the younger members in their crop of bloom.

The pleasure grounds surrounding the mansion and which slope down to the river are of a particularly inviting character, the long sweeps of pasture being enlivened on all hands by patches of the Bluebell, the Primrose, the Dog Violet, and hosts of other pretty wildlings, which space forbids our mentioning here. It must suffice to say that the flora of the district is a very rich and varied one, and has proved a happy hunting ground for many a zealous botanist interested in our native plants, and we have no doubt will yet continue to be so for some time to come, at any rate as long as the lovely country-side does not fall into the clutches of the brick and mortar fiend. Danesfield boasts of not a few historic recollections of deeds of arms wrought in days gone by, and doubtless owes its present title to the fact that the ground hereabouts was once the site of an old Danish camp. That this is the case is indisputably proved by the existence of a ditch and bank, which even now describes an immense horse-shoe-like form in the grounds immediately surrounding the mansion, as well as by the finding from time to time of various relics in the shape of household utensils, which doubtless at one time formed part of the stock-in-trade of some worthy householder or rather tent-holder.

Mr. Croker informed us that when a few years ago he was enclosing a piece of land which had till then been tilled by means of the plough, to serve as a kitchen garden, a number of huge dishes, several inches in thickness, evidently made of roughly burnt clay, were brought to light. These had lain too low for the plough to disturb them, and they were only discovered during the trenching with the spade that the land underwent. A great part of the surrounding woods are composed of Beech, for the timber finds a ready sale, as much as a shilling a foot being sometimes obtained for it for chair making, an industry to which a great deal of attention is paid in the surrounding district. In many parts of the grounds, however, the Beech trees have to a large extent been cleared out, and their places occupied by many handsome trees and shrubs of various kinds, clumps of Lilac being here, as indeed they are everywhere else, looked upon with especial favour. Taking it altogether, Danesfield is a place which, while it undoubtedly possesses a great many natural attractions, might by a judicious expenditure of a comparatively moderate sum be vastly improved.

SCIENCE AND PRACTICE.

I have to admit on looking back on the history of civilisation, that if we want to isolate the causes which, more than any other, conduce to the movements of great civilised societies, you must not look to the politicians of the hour on whom, it may be, all eyes are fixed; you must look to those who, often unknown by the multitude, whose work, it may be, is never properly realised by the men of their country till after they are dead—you must look on them and on their labours to find the great sources of social movements. It is to those who, very often with no other object in view, casting their eyes upon no other object that the abstract pure truth, which it is their desire to elucidate, penetrate further and further into the secrets of Nature and provide the practical man with the material upon which he works—these are the men to whom, if you analyse the social forces to their ultimate units, we owe most . . . It may be, however, that though, as a nation we have been as productive as other nations —I put it modestly—in the men of genius who have made these fundamental discoveries, we have not, as a nation— and I do not think we have—sufficiently realised how great a bearing theory in these modern days must necessarily have upon practice if we are to keep pace with the rest of the world. We have produced great theorists—none greater. We have produced men of great practical genius—none

greater. I am not sure, however, that at this moment we are not behind one at least of the great nations of the continent, perhaps more than one, in the art of combining theory and practice—in the art of so welding together in a great organic and self-supporting whole, the man of genius, who, at one end of the scale, discovers a new law of nature, and the man of practice on the other hand, whose business it is to turn these discoveries to account . . . While I think that those who object to technical education have their justification, it yet remains true that if you include, as you ought to include within the term technical education, the really scientific instruction which would turn scientific discoveries to practical account—if that is what you mean, or what you ought to mean by technical instruction, then there is nothing of which England has at this moment any greater need, and there is nothing which, if she, in her folly, determines to neglect it, will more conduce to the success of her rivals in the markets of the world, and to her inevitable abdication of the position of commercial supremacy which she has hitherto held. I do not deny that manufactures and commerce have received an immense amount of gain from theoretical investigations, and, as everybody will admit who has even the most cursory acquaintance with, let us say, the history of discoveries in electricity and magnetising power, science has been the means of great gain through industrial development. While both these things are true, I am the last person to deny that it is a poor end, a poor object for a man of science to look forward to, of merely making money for himself and other people. After all, while the effect of science on the world is almost incalculable, that effect can only be gained in the future, as it has been gained in the past, by men of science pursuing knowledge for the sake of knowledge, and for the sake of knowledge alone; and if I thought that by anything that had dropped from me to-night I had given ground for the idea that I looked on science from what is called a strictly utilitarian point, that I measured its triumphs by the number of successful companies which it had succeeded in starting, or by the amount of dividends which it gave to capitalists, or even by the amount of additional comfort which it gave to the masses of population, I should greatly understate my thought. . . . Truth, not profit, must necessarily be the motto of every body of scientific men who desire to be remembered by posterity for their discoveries.—*Hon. A. J. Balfour, M.P., at the Annual Meeting of the Chemical Society.*

TOMATO DISEASE.

I SEND you a Tomato plant affected with a disease which has troubled me for the last three years. The disease, ailment, or whatever it may be, takes the plant when in full vigour, and generally one side of the plant goes first. I did not expect a return of it this year as I trenched the soil and left it to the last winter's frost, so you will gather that they are planted in beds in the native soil, which is a brick earth rather full of iron rust. I have tried nothing more than keeping them wet and dry, but with the same results, except that they go off quicker when dry. It appears that no one else in this neighbourhood is troubled with the same thing. I shall be glad if you can enlighten me on the subject.—*F. Dunning, Ryde, Isle of Wight.*

[We failed to find any evidence of disease on the plant received; in fact we think it too early in the season for the usual fungi to show themselves. Some of the lower leaves were indeed losing colour, but that frequently happens, especially when the plants in the early stages have been kept in a rather close, moist atmosphere. Such leaves are thin in texture, and, when overhung by other and larger ones above them, this natural shading causes them to be short-lived and to wither away. The rest of the leaves, the bunches, and the plant generally looked wonderfully healthy and dark green, but we would advise you to give them more ventilation now. There is just one other suggestion we should make, and that is to ask whether you change your seed every year. Though using the same sort, you might arrange with some of your friends at a distance to grow seed for you on a different soil. Our experience in a town garden is that two or three seasons is the longest we can go without fresh seed. The plants get weaker and weaker every year, and some of them die off in the course of the summer without any evidence of insects or fungi upon them except red spider in very dry seasons in the open air.—ED.]

ORCHID NOTES AND GLEANINGS.

By JOHN FRASER, F.L.S., KEW.

Cymbidium Lowianum.—A short time ago we noted a considerable range of variety amongst the flowers of plants in the nursery of Messrs. J. Laing & Sons, Forest Hill. In one case the apical blotch on the lip was bright brownish-crimson edged with yellow, while the sepals and petals were pale yellow tinted with green. Close by was another distinct variety having a dark crimson-red blotch to the lip, and the sepals and petals were tinted with chocolate-brown. Some of the pieces are large, others small, but well grown, as we counted twenty-six flowers on a raceme; this particular plant had a richly coloured lip, and the face of the column was rather prominently spotted.

Two Varieties of Dendrobium Farmeri.—The dwarf habit and the large pendent raceme of flowers of D. Farmeri render it one of the prettiest and most accommodating species of Dendrobe for basket culture. The varieties constitute great acquisitions, whether as companions for the type or for their own intrinsic merit. D. F. aureum has bright yellow flowers, so different from the ordinary type as to be misleading at first sight. The variety D. F. roseum, though less far removed from the original, is yet distinct and pretty. The sepals are pink, the ovate petals white, and the lip yellow with a white tip, thus showing all the range of colours of the species in one and the same variety. Both of the varieties here mentioned flowered beautifully in the nursery of Messrs. J. Veitch & Sons, Chelsea, a short time ago.

Cattleya gigas franconvillensis.—Many sub-varieties of Cattleya Warscewiczii, better known as C. gigas have been introduced from time to time and named. That under notice is indeed distinct and very charming. The flower measures about six inches across, and has pure white sepals and petals, the latter being broadly ovate and imbricate. All these segments constitute a beautiful background for the lip which is beautifully and distinctly coloured—we say distinctly because the margins of the long bifid lamina are white. The greater portion is crimson-purple, including the side lobes, but their richness serves to make the yellow and white eye-like blotches at the base even more distinct. The variety was introduced amongst an importation of C. gigas, amongst which it turned up quite accidentally according to the phraseology of Orchid lore, and first flowered in the rich collection of the Duc de Massa, Chateau de Franconville, par Luzarches, France. The plant is of the same habit as the type, and in all probability will succeed under the same treatment. Whether grown in a basket or in pots, it should be stood on staging close to the glass or suspended from the roof where it will get all the advantage of light and ventilation, and be freely supplied with water during the period of growth. The compost for it should consist of fibrous peat, or polypodium fibre and sphagnum with a few lumps of charcoal incorporated with it. A beautiful coloured illustration of the variety is given in the *Orchid Album Pl.* 505.

The Orchids described below were awarded Certificates according to merit by the Royal Horticultural Society on the 14th inst.:—

Cypripedium Godefroyae leucochilum. *Nov. var.*—The flowers of this variety are of great size, and the colouring, with exception of the lip, recalls C. bellatulum, while the foliage recalls C. niveum. The upper sepal is nearly orbicular, and boldly netted with crimson-purple all over a pure white ground. The petals are broadly oval and coloured in the same way, but the markings are more broken up. The lip is pure white with exception of small purple spots on the claw. The staminode is similarly spotted. The leaves are small, very leathery, and deep purple beneath. The plant looks like a natural hybrid between C. bellatulum and C. niveum. First-class Certificate, R.H.S., May 14th. R. I. Measures, Esq. (gardener, Mr. H. Chapman), Flodden Road, Camberwell.

Cypripedium Gertrude Hollington, *Nov. hyb.*—This new hybrid was obtained from C. ciliolare crossed with the pollen of C. hellatulum. From the latter it takes its great size. The upper sepal is white tinted with pale green along the centre and having numerous purple veins. The petals are very broadly oblong and densely spotted or blotched all over with deep purple, especially at the base, where the colour becomes almost continuous. The lip is very dark purple and green behind. First-class Certificate, R.H.S., May 14th. Messrs. Hugh Low & Co., Clapton.

Cattleya Mendelii Princess of Wales, *Nov. var.*—The sepals and petals of this beautiful variety are of the palest or softest blush lilac and very chaste. The lamina of the lip is very wavy and crisped, intense purple, but not crimson; the side lobes are white tinted with yellow at the base; the interior of the tube is purple striped with yellow, and the exterior is almost white. Award of Merit, R.H.S., May 14th. De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks.

Odontoglossum crispum The Bride, *Nov. var.*—A fine arching raceme of this variety bore fourteen closely placed flowers. The sepals and petals are very broad, imbricated, and pure white; the petals are also very jagged at the edges. The lip is white with a yellow centre, with a number of small brown spots on the surface. It is a chaste and telling variety. Award of Merit, R.H.S., 14th May. W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

Epidendrum Obrienianum roseum, *Nov. var.*—The flowers are borne in a short raceme at the top of a long scape and are of a uniform rosy-carmine. The sepals are oblanceolate, the petals narrower, but otherwise similar, and the three cuneate lobes of the lip are fringed at the end. The type is intense scarlet, and the two are therefore very distinct. Award of Merit, R.H.S., 14th May, Messrs. J. Veitch & Sons.

Dendrobium Taurinum.—The stems of this species are 2 ft. to 3 ft. high, and bear shortly oblong and very obtuse, leathery leaves recurved in the middle. The sepals are creamy-white and the lateral ones unite at the base to form a conical spur. The oblong-linear, twisted petals are rosy-purple, but paler towards the base. The three-lobed and scoop-shaped lip is rosy-purple. Botanical Certificate, R.H.S., 14th May. Messrs. J. Veitch & Sons.

Cattleya Mendelii leucoglossa. *Nov. var.*—The sepals and petals of this variety are faintly tinted with a blush hue, while the lamina, and, in fact, the greatest portion of the lip, is pure white; the yellow blotch in the throat fades to a pale sulphur tint. Award of Merit, R.H.S., 14th May. Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Cirrhopetalum macraei.—The lateral sepals of this species are about 2 in. long, and of a deep buff-yellow. They are united by the upper edges in such a way that the lower surface is uppermost, except at the very base. The upper sepal is ovate, concave, and buff-yellow, with five crimson lines, and ciliate. The petals are small and ciliate, and the lip is dark blood-red. Botanical Certificate, R.H.S., 14th May. Mrs. Langton (gardener, Mr. J. Pierce), Hillfield, Reigate.

Dendrobium strongylanthum.—This is a dwarf growing subject about 6 in. high, and bearing a pendent raceme of flowers from the apex of the younger growths. The sepals and petals are lanceolate and buff-yellow, more or less mottled with small purple spots. The lip is revolute at the middle and rather more stained with purple than the rest. Botanical Certificate, R.H.S., 14th May. Messrs. Hugh Low & Co., Clapton.

THE FLOWER GARDEN.

BEDDING OUT.

Where a great amount of summer bedding plants have to be put out it is necessary that as early a start as possible should be made in order that the work may be well advanced by the middle of June at the latest, and a fairly long period of growth thus afforded the plants, which have cost such a deal of time and trouble to raise in sufficient quantities. A commencement should therefore be made without delay. The hardier subjects, such as Zonal Pelargoniums, must be operated on first, leaving those of more tender constitution, such as Irecines, Coleuses, and Begonias, until the last. A good

watering in should be given the plants as soon as the day is sufficiently advanced to preclude the possibility of scorching, and continued at intervals as required.

NEWLY-LAID TURF.

The period of drought which we have lately been experiencing can scarcely fail to be somewhat trying to turf that was laid late in the season, and which, owing to this, has not been able to make fresh roots and thus establish itself in its new quarters. During this dry weather, therefore, it must be assisted as far as possible by repeated watering with the hose. Any trees or shrubs that were planted late in the spring in rather light or well-drained soils must also be watered now and again if any fear as to the satisfactory condition of their roots is entertained, for the hot sun will otherwise prove exceedingly trying to them.

ROSES.

There can be no question as to the importance of the position which these hold among our hardy flower garden subjects; and thus any little trouble that may be taken with them is labour well spent. All Rose beds and borders should now receive a liberal mulching of short well-decayed stable manure; for this will serve the double purpose of adding nutriment to the soil as well as preventing it from drying up so quickly. Mulchings of this kind are, moreover, among the best preventatives of mildew, which is usually so prevalent amongst plants which are growing in a dry soil. Besides mildew there are various insect pests which are partial to Roses at this season of the year, and which all do more or less damage. Among them may be mentioned several species of aphides and saw-flies. For plants attacked with aphis, or green-fly as it is commonly called, nothing is better than to apply a solution of Quassia chips and soft soap to the affected parts. One pound of the former should be boiled in four gallons of water, which should be as soft as possible, a pound of soft soap being added to the mixture. The syringe may be used as the medium for applying, or the infected shoots may be dipped. In all cases, however, plants thus treated should be given a thoroughly good washing with the garden engine within an hour after the application of the solution. A dusting of tobacco powder is also an efficacious remedy; this, however, must also be syringed off with clear water. An occasional use of the garden engine among both the standard plants and those which are trained to walls will be of the greatest service, even if they are not affected with the fly, for it will serve to keep them clean, and in good health. Among the various moths that attack the Rose, several species are fond of rolling up the leaflets into tubes or pouches in which their larvae live. Any leaves, therefore, that are observed to be deformed in this manner may receive a light pressure between finger and thumb in order to kill them. This is also the best method of dealing with the various saw-flies which burrow between the surface of the leaves and thus cause those ugly brown blotches which are too often seen. A light dusting over with Hellebore powder or with flowers of sulphur may also be recommended as an efficacious remedy.

FRUIT UNDER GLASS.

WATERING.

It is very true that at various times the importance of seeing that all fruit trees grown under glass are kept well watered has been descanted upon, and yet there is still plenty of room left for another word upon the subject. While all growers will admit readily enough that it is necessary that all the trees which are in full growth should receive an abundant supply of water, yet, somehow or other, the idea has got afloat, and is to a great extent believed in, that from the time that the fruit commences to colour, the borders which have until then been kept nicely moist must be suffered to lapse into a well-nigh dust-dry condition. That this is sheer fallacy a few minutes' dispassionate and intelligent thought will impress upon the mind of all fruit cultivators. During the season when vegetative growth is most active, stimulated and strengthened by every device of which the gardener can conceive, countless numbers of young fibrous roots are formed to assist in the rapid and extensive food absorption necessary to the well-being of a plant that is carrying heavy crops of fruit. These young and tender roots must inevitably be destroyed wholesale when the strata of soil immediately surrounding them is suffered to become parched for lack of water, and a correspondingly severe check is sustained by the plant. A word of caution to those who have houses of ripe fruit may therefore be opportune. While the supply of water given to the roots of such plants may be very considerably curtailed, on no account must the border be allowed to get quite dry. When it is necessary to water houses where ripe fruit is hanging the forenoon is always the best time of the day to see about it, sufficient time being thus allowed for the atmosphere to dry somewhat before nightfall, under the influence of the warm sun and the assistance of plenty of ventilation. It is hardly necessary to add that in this case nothing but clear water must be given, or the flavour of the fruit may suffer. With Vines, Figs, Peaches, etc., that are not so far advanced other treatment will be necessary, for liberal supplies of manurial stimulant will be of inestimable service. With regard to the temperature at which the water should be applied, it should not be colder than 65° Fahr., although if it is as warm as 70° so much the better.

CUCUMBERS.

Continual attention will be necessary in dealing with these usually easy grown subjects to the stopping of shoots that have overgrown their limit, to the removal of others where growth threatens to become too crowded, as well as to the pinching out of male blossoms, which only serve to enfeeble the plants. As soon as the fruits reach a suitable size they should be cut and their ends placed in an inch or so of water in which condition they will keep fresh for days. Where the plants are being trained to a trellis in a specially constructed house the tying in of the growths will be a necessity. If the plants are being accommodated in a frame the shoots should be distributed over the surface and neatly pegged down to keep them in their places. The syringe must be kept at work amongst the plants each morning and evening, and shade from hot sun will also be essential, for if the fruit is exposed it invariably acquires a bitter taste.

MELONS.

In houses where the fruit is ripening syringing must, of course, be discontinued and the plants may be kept very much drier at the root for a few days before the fruit is cut. More air must also be given, and a few degrees lower night temperature will do no harm whatever. In the succession house the plants may be kept lightly dewed over with the syringe in the mornings and evenings of bright days. The temperature here must not be allowed to fall below 70° Fahr., and may rise to 80° during bright drys. Unlike its closely allied relative, the Cucumber, the Melon needs no shade whatever, free exposure to the sun being essential, excepting, of course, for a few days subsequent to planting out.—*A. S. G.*

THE VEGETABLE GARDEN.

Colonel Clarke's Solid Red Celery.

ACCORDING to my experience which extends over 25 years, and includes the trial of a considerable number of varieties, there is no other variety in cultivation to equal a good strain of Colonel Clarke's Solid Red for late use. A sort that will stand such an ordeal as the past winter must certainly be considered hardy. I have made a point of growing several rows of this valuable sort for many years past, and every season it has proved the best in spring, and at this date, May 15th, we have still good heads on hand. A friend of mine in Norfolk, whose employers will not have any other sort sent to table, obtained his original stock from Messrs. Veitch when it was first sent out, and has kept it perfectly true since by saving a few seeds annually. Growing no other variety this is easily done in his case.—*Con.*

Planting Broccoli on poor Ground.

It is in winters like the past when the wisdom of planting Broccoli on poor ground and wide apart is most strikingly illustrated. I had hardly thought there were any Broccoli alive in these parts until a few days ago, when I observed some nice heads in a cottage garden, and subsequently a good breadth consisting of several varieties in the kitchen garden at Bovey House, near Seaton, Axminster. These were on poor land in an exposed situation, and I noticed that not more than 25 per cent. had died. I should have been glad to have been the owner of such a lot. As a rule we gardeners get these plants too fat in the autumn for our own good.—*Con.*

Gleanings from the World of Science.

Apple Scab and Bordeaux Mixture.—Experiments made with this mixture in America go to prove that it may be profitably employed for the prevention of the fungus named Apple Scab (Fusicladium dendriticum), and which often proves so destructive as to prevent a large number of fruits from attaining their natural size, while the remainder are disfigured. This fact is recorded in *Bulletin No.* 6 of the United States Department of Agriculture, of the Division of Vegetable Pathology. Three and sometimes four sprayings are given, the first just as the bud scales expand and show the flower buds; the second is given when the latter are on the point of expansion, and the third just as the petals are falling and showing that the fruit has set. In dry seasons no further spraying need be given, but if moist weather prevails, then a fourth spraying will be necessary when the fruits are half an inch in diameter. Any experiments made beyond this period are found to be of doubtful value. The ordinary or typical mixture consists of six pounds of sulphate of copper, four pounds of lime, and twenty-two gallons of water. A more diluted solution has given the best results, to wit, a seventy-five gallon formula, differing only from the other in consisting of seventy-five gallons of water with a little more lime to neutralise the copper.

A topsy-turvy Pear.—Travellers that have been to the Antipodes come back with marvellous tales of everything being in the reverse order of arrangement from what they are here. For instance, they state that the sun travels round the north, that there are ducks with fur instead of feathers (referring to the Platypus ornithorhynchus), and that Pears hang with the thin end downwards, or topsy-turvy. The Pears are described as not very large, but have a beautiful Peach-like bloom flushed with crimson on the cheek. The fruits are very hard, even when they mature, and the interior is golden yellow with a small pip furnished with a wing resembling an insect. All this shows that the fruit in question is no Pear at all, being woody and uneatable, while the presence of a wing to the seed shows that the fruit was never meant by nature to be eaten, but that its woody character was meant to protect the seeds from drought and from animals. The winged seeds also show that the fruit was meant to burst open to allow them to be dispersed by the wind. Under the conditions it must be nothing more or less than the woody fruit of some of the Hakeas, Grevilleas, or other of the Proteaceae which are so largely represented in Australasia.

Alpine Plants on Mountain Tops.—The theory is that as the glacial ice-cap crept farther and farther south, so the plants of northern regions retreated to the south in front of the snow and ice, appropriating the places that were formerly the abode of the original occupants which could not withstand the cold. As the temperature again rose, melting the snow, the northern plants retreated up the mountains, so that when the plants which had been driven south straggled back to their former homes they were unable to supplant the hardy northern species, stranded as it were on the mountain tops. These suppositions are plausible enough, but when Madeira is cited as an example of a country covered with the same kind of vegetation from the bottom of the valleys to the mountain tops, to prove that the same thing must have prevailed in our country previous to the advent of the glacial epoch, one is apt to be somewhat sceptical. The more southern latitude of Madeira ensures a much higher temperature there at the same elevation above sea level than in any part of the British Islands. It is a moot point whether our lowland plants could ascend the mountains to any great extent, even if the latter were entirely divested of vegetation by way of experiment to prove it. Neither can the Alpines drive the lowland plants below the altitudes which nature has already prescribed for them. Each class is adapted and fitted for certain conditions as to temperature and environment. If the above theory is true the mountain tops must have been bare of vegetation before the glacial epoch, unless the temperature in every part of these islands was much higher than it is at present.

HINTS FOR AMATEURS.

TREATMENT OF SEEDLINGS.

SEED sowing is usually admitted to be an operation which requires a great deal of care to be exercised in its performance. It is a notorious fact that far too many professional gardeners are much too clumsy in this matter, and where they fail, with all the practice in the art that usually falls to their lot, it is scarcely to be expected that the amateur in his necessarily restricted sphere should succeed. The importance of not sowing the seed too thickly cannot be over estimated, for if anything like a fair percentage of it is good much undue crowding of the plants must result. Now no one who has had even a slight experience of seed sowing needs to be told that it is foolishness to sprinkle half-an-ounce of seed where a pinch would be amply sufficient. Of course we are aware that this may be to the seedsman's advantage, and seedsmen, like other people, must live, but it is distinctly bad gardening nevertheless. Next in magnitude to the evils resulting from too thick sowing come those that are the result of burying the seed too deeply beneath the surface of the soil. Many of the failures that are set down to the credit, or rather discredit, of the nurseryman for supplying bad seed are simply the result of want of attention to this point on the part of the sower himself.

Now supposing the sowing of the seed to have been carefully performed, and a goodly percentage of it to have germinated, then comes the question of how to treat these seedlings, and what method to adopt so that we may obtain nice stocky plants fit for anyone to look at. As seedlings are gifted with a notoriously delicate constitution, it is very necessary that they should have all possible care taken with them in order that they may not sustain a check in their earlier stages when it could not fail to be fraught with serious consequences to the health of the plant. The first point is to notice that the plants are not left too long in the seed pans; for this must inevitably result in damage to them, more particularly if the seed has been sown too thickly in the first place. When left so long they not only become drawn and spindly from want of the room necessary to proper development, but it is a matter of great difficulty to separate them from each other without depriving them of the small fibrous roots which are so necessary to their health and well-being. This, which is technically known to gardeners as "stripping," is of itself responsible for a large proportion of the deaths among seedlings, and is, as we have noted, either caused by the leaving of the plants too long in their seed pans or is perhaps due to the clumsiness or carelessness of unskilful workmen. To prevent "stripping," or in other words to preserve the delicate fibres of the roots intact, very careful handling will be necessary during the process of separation.

Next in importance perhaps comes the proper inserting of the seedling in the soil. "Hanging" is often accountable for the deaths of a large number of seedlings. This is another technicality common amongst members of the gardening fraternity and is certainly not an inappropriate phrase. If sufficient care is not taken to work the soil around the roots of the young plants the delicate fibrils not being in sufficiently close contact with the soil shrivel up and perish. It is necessary therefore, when dibbling the seedlings out, to see that the holes are not made too deep, and that the roots of the plants reach quite to the bottom. A good watering from a Rose can to settle the soil well about the roots is also of importance.

SOILS.—Seedlings do not require a rich soil to grow in at first, although this must not be taken to mean that any rough stuff will do. On the contrary it is very essential that a great deal of care should be employed in the preparation of the compost to be used for pricking off young seedlings. A case that once came before my notice will serve to illustrate this. A bin in a potting shed which had for some time contained salt, had been as the gardener thought cleaned thoroughly out, and a lot of soil that had been prepared for seedlings had been placed in it. The floor and walls of the bin were, however, so strongly impregnated with salt that the soil, unknown to the gardener, absorbed a sufficient quantity to kill off wholesale the seedlings that were pricked off in it, and it was not until he set his wits to work to discover the cause of this mortality among his plants that the true state of affairs was discovered. Other soil was tried and this time the best of results were obtained. Needless to say, that gardener never again made the mistake of using soil for seedlings that had been in such close proximity to salt as the former had been.

A compost of loam and leaf soil with a liberal addition of sharp sand will answer the requirements of most subjects, although more or less leaf soil may be added according to the ideas of the gardener. The sand is a very necessary ingredient, for its use renders the compost much more friable than would be the case were it not present. Moreover, as soon as it becomes necessary to shift the plants into more commodious quarters, either to the flower garden or into pots in the greenhouse, the use of plenty of sand admits of their much easier separation.

SUBSEQUENT TREATMENT.—After the plants have been pricked off and watered in, it is true that half the battle is over, although for a little while, immediately after their shift, a watchful eye must be kept upon them. Shade will, as a matter of course, be required during sunny days. This, however, should not be heavy enough to shut out the light entirely from them, or harm will be done that way. If procurable, a piece of tiffany is the best shading material, as this admits plenty of light whilst intercepting the direct rays of the sun. The frame or pit in which the plants are placed must also be kept rather close for a few days until they have got somewhat established, when air must be gradually admitted. Above all, in dealing with seedlings of half hardy annuals or perennials, whether intended for the decoration of the flower garden or the furnishing of the greenhouse, the amateur must remember that it is a great mistake to coddle the plants. How often do we see weak puny specimens that betray a long sojourn in close hot-houses, when by the adoption of more rational treatment far better results would have been obtained with perhaps less trouble.—*Rex.*

THE WILD FLOWERS OF SPRING.

IN a recent "popular explanation" given at the Brighton Museum, Mr. B. Lomax selected as his subject spring wild flowers, of which a large number were exhibited in the armour room. He first called attention to the fact that the colour of the flowers was either blue, white, or pale yellow, and that there were no red or orange-yellow blooms as yet. These did not come, he said, until the summer. Blue, white, and pale yellow were the colours of cold climates, and might be found in Arctic regions; but our autumn flowers were a reflected glow from the tropics, where crimson, scarlet, and orange were the rule. To some extent this choice of colour was a necessity. The colour of a flower was caused by the rays it rejected. Red and orange were the heat producing rays, and the flowers of cold climates and cold seasons could not afford to reject them. Thus the flowers of onr chilly spring swallowed up the heat-giving reds, and rejected the cold blue. Again, it would be seen that a large percentage of the flowers before them were members of those closely allied families which produce the Lily, the Snowdrop, and the Orchis. These families were, in a way, foreigners, never growing to any size except in the tropical or sub-tropical regions of the earth, and it seemed at first strange that they should form the staple of our spring flowers. But the key to the mystery was found in their adaptability to the surroundings. Spring with us was a very uncertain season. Dry ground often became suddenly flooded; cold winds nipped off young buds, or blighted newly expanded leaves; but such plants as the Daffodil and Bluebell could afford to lose a single venture. Their under ground bulb, in which they had thriftily stored up the savings of last year, enabled them to renew the struggle for life, while the long succulent leaves of some of them absorbed surplus water which might otherwise chill their roots.

The "pale Primroses, that die before they're wed" belonged, Mr. Lomax said, to that thoroughly English section of plants which contained our forest trees and our most characteristic wild flowers, but it managed to hold its own successfully with the foreigners. To meet the exigencies of the inclement season in which it appeared, it had relinquished the tall stem and leafy branches to which its botanical rank entitled it, and, condensing the whole into a stumpy rootstock, sent out underground stalks, forming a perfect colony of sturdy Primroses, not to be eradicated by "all the airts the wind can blow." With regard to the exceeding beauty of the wild flowers, the lecturer pointed out that mere beauty, though always attained, was never the only object aimed at. In the floral, as in the animal world, every tint, every marking, was of distinct use to its possessor, unless, as frequently happened, it was a certificate of relationship to some other species. But the motive was different in the two great kingdoms. The colours and markings of an animal were to aid in concealment, whether for the purpose of evading his enemy or of ensnaring his prey; but those of a flower were to attract the attention of animals who might be useful to them. The spreading brilliant flower of the Primroses attracted the bee, and led him to seek the hidden honey of the flower and so unconsciously do the plant's errand, by carrying its pollen to distant blossoms. The bright red berries of the Hawthorn and Briony caught the eye of the passing bird, who stopped to eat them and carried their seeds to other parts of the country. The pretty flower cups beautified the landscape; the tradesmen's advertising boards disfigured it; but both were displayed for the same purpose.

RANUNCULUS GRANDIFOLIUS.

SOME gardeners might take exception to the cultivation of Buttercups, but the variety of species is very great and some are really choice and beautiful. The species under notice is by no means so common as it ought to be although orginally introduced from Teneriffe in 1826. It is better known in gardens, perhaps, under the name of R. cortusaefolius, and though both names are fairly appropriate, R. grandifolius is the more so, and refers to the great size of the leaves compared to those European species with which we are more familiar. The name must not be confused with R. macrophyllus, another large-leaved species introduced from the same place in 1658, but apparently lost to cultivation or lost sight of in some neglected old garden. The stem of the plant under notice attains a height of 3 ft. to 4 ft. or more under good cultural treatment, and branches upwards bearing numerous large, golden yellow flowers. The leaves are very large, rich green, roundly heart-shaped and shallowy lobed. It is described as a hardy, tuberous rooted species, but we are afraid it requires a greenhouse temperature in winter to enable it to pass through that trying period in our uncertain and occasionally severe climate. In any case if grown in pots and so protected it will give much more satisfaction, and prove an attractive and distinct looking subject for the conservatory during May as a rule; but that would to some extent depend upon the temperature of the house in which it is kept. The plant was again exhibited at the Drill Hall on Tuesday, this time from the Royal Gardens, Kew.

MELONS AND CUCUMBERS.*

(*Concluded from page* 587)

THE cultivator must keep an eye to the temperature of the Melon beds for they will no doubt requite some warm linings. I like to give fresh linings after the setting period; if given before it will cause far too moist an atmosphere and then some difficulty may be experienced in setting the fruits. After adding these linings see that the little roots are kept covered but not too deeply with the warm soil, and give them a gentle watering with warm liquid manure which may afterwards be applied twice a week until the fruits show signs of ripening. The general routine of airing must be carried out with care and promptitude. Always watch the weather and when uncovering in the morning if the weather be favourable give just a chink of air, and should the weather prove unfavourable an hour after close them again. Some may think it needless fussiness to give air and close again in the morning, but it is my opinion that after being shut up all night a change of air is beneficial to all fruit growing under glass. Supposing everything to be favourable do not give air at random, but by degrees until the maximum is reached, and as the season advances closing time will be later but don't overdo it and lose the sun's influence. Always damp the walls and plants well

* A paper read at the January meeting of the Devon and Exeter Gardeners' Improvement Association by Mr. EDWARDS, gardener to James Hare, Esq., Honeylands, Whipton near Exeter.

before closing. Some gardeners use the syringe a great deal in Melon growing, but I believe it to be the stepping stone to canker, about which I will say a few words later on. I like to use a watering pot with a nice rose in preference to the syringe. Of course damping with the rose will not wet the undersides of the leaves, but this is a matter of little importance if the atmosphere is kept in a genial state by frequent linings and careful airing, and never allowing the plants to suffer for want of water at the roots.

The plants will require a little top-dressing before the fruits get full grown, and this time I advise giving a little stimulant in the soil, such as guano, Veitch's horticultural manure, or Standen's manure, which I have found a good manure for flavouring Melons. Giving Melons artificial manure in the soil is no doubt far better than giving so much liquid manure, especially in a cold and sunless summer, for it not only adds to their flavour but makes stout leathery leaves, which means a great deal to them. In top-dressing Melons be careful not to partly bury the fruits with the soil, as is sometimes the case, for if covered for a little time they will not only get deformed but lose their colour, which they will never regain. It is generally the custom to expose the fruits by placing them upon small pots or pieces of slate, but whatever is used it should be put so as not to hold the moisture under them, and they should be turned a little now and then, or else there will be a bad spot under them, and at the same time be careful not to let them roll off when nearly ripe and twist the stem out, as none of this will add to their beauty when sent to table. When the fruits show sign of ripening more air should be given and watering may be withheld, but be careful not to dry too much, as is often the case, or they will get infested with red spider. This will not help them to bear a second crop if needed. Some varieties are subject to cracking, which is no doubt caused by some defect in cultivation, as in the case of canker, but insufficient heat and dryness at the roots are in my opinion the chief cause of cracking, for in that dry and trying summer of 1893, when water was very scarce, I had more cracked Melons than ever before. I have found it a good plan to partly sever the stem in this case, but some cut the fruits off entirely, a practice I do not recommend, as it greatly impairs the flavour. Inexperienced growers may be at a loss to know when to cut a Melon for the table. Well, when Melons get near the ripening stage all varieties, but some more than others, will crack around the stem, and they must be cut as soon as this can be detected. A sharp eye must be kept on them, for a Melon in hot weather very soon changes. Another way to detect ripe Melons is by means of the beautiful aroma they give off when opening the frames, in fact, I always cut my Melons as soon as possible after they are ripe, for I believe they lose flavour if allowed to stay on after. When the fruits are cut take them to a cool place for an hour or so; this will improve them greatly, for if taken quite warm and sent to table they are not so agreeable to the taste, and oftentimes are insipid.

If the plants are intended to carry a second crop they should have a good syringing and also a good watering with liquid manure; this will refresh them and set them going again. Although a nice crop can be obtained a second and often a third time, I do not recommend it; if there are frames enough I prefer putting in young plants, and from the end of June to the end of August so much bottom heat will not be required, but it is always best to be on the safe side and have plenty in case of a cold cloudy time. It is a very good plan to have a flow and return pipe through a range of frames for autumn growing if possible, for we cannot always reckon on having what we call our second summer, which is nice for the Melon grower. Of course every gardener knows his own business best as regards the demands, etc., made upon him, but let them be great or small he should supply them in an even regular manner, and not spasmodically. If a fresh batch of seeds is sown about the time the first are planted out, and given good treatment afterwards, they will be found to come in about the nick of time; in fact, where Melons are in constant demand a few seeds should be sown about every month from February to June or July if there is plenty of heat at command, and always try and have a plant to spare in case of accidents. It is no use talking, we all know that we cannot go by dates and figures, as the summer is a very pressing time for the gardener, and he has to look out for himself. If he cannot meet the demands by once cropping, crop twice; never get a great gap if it can be avoided.

RANUNCULUS GRANDIFOLIUS.

CANKER IN MELONS.

I said just now that I do not recommend syringing very much in Melon growing, as I believe it has something to do with canker. It lowers the temperature a great deal, and no doubt gives the plants a check. For instance, I consider syringing in the morning rather a blunder than otherwise, for when syringed and air is admitted afterward, very often carelessly, it is like a shower of hail on a sunny day, to say nothing about disfiguring the principal leaves, which alone is very favourable to canker. If there is plenty of vapour in the frames all night after closing them, and in the morning air is given with judgment the plants will stand the full rays of the sun without a blemish and enjoy it. The cultivator should also be careful not to turn back the Vines at any time and bruise their tissues, as this too is very

favourable to canker, and lastly do not allow them to grow at random, which sooner or later renders them liable to mutilation. In short, nothing but careful management will keep canker at bay.

VARIETIES TO GROW.

As regards varieties, every gardener has his favourites, so I will only mention those which I have grown. Green fleshed: Golden Perfection, Victory of Bath, and Windsor Castle. White fleshed: The Countess, Hero of Lockinge, and Crawley Paragon. Scarlet fleshed: Blenheim Orange and Scarlet Premier.

In my estimation the following are all especially good varieties:—Golden Perfection (green flesh). This variety still holds its own as one of the best flavoured Melons. It has been in cultivation for a considerable time, and perhaps for quality is unsurpassed. Scarlet Premier (scarlet flesh), a beautifully netted variety, handsome in appearance, a good cropper, and flavour quite up to the average. Hero of Lockinge (white flesh) a very fine Melon, a free setter, and of good quality. The Countess is also one of the very best Melons grown. There is not one quality that it does not possess; it is a free setter, of good appearance, good flavour, and good constitution. Crawley Paragon is a good flavoured Melon of medium size, but not often met with. I have also grown Windsor Castle. It attains a large size, but, being of recent introduction and not having had altogether a good season to start with, I cannot say much for or against it.

CUCUMBERS.

There can be but few gardeners who do not cultivate the Cucumber more or less in the spring and summer months, and a great many grow it in winter also. Still, it is in the hot summer months when Cucumbers, like Melons, are most appreciated and deservedly so. Although I may boast of cutting about a thousand Cucumbers yearly, I do not intend going far into their cultivation, as I think they deserve a paper to themselves, because if there are not many complete failures there are many inferior crops grown. The coupling of Cucumbers with Melons is to some extent misleading, as there is some difference between them as regards cultural requirements. The Melon is a sun-loving subject, and has a ripening process to go through, therefore it requires at certain times rather a dry atmosphere, rather heavy soil, and a firm root run. While the Cucumber delights in partial shade, abundant atmospheric moisture in all stages of its growth, rather light soil, and a free root run. A few seeds of Cucumbers may be sown about the same time as Melons for a first crop and planted out when strong enough. After the foundations of the plants have been laid it is my practice to keep the leading shoots persistently pinched at the third or fourth joints, and to pinch all laterals at or above the second joints. As regards airing, watering, etc., this should be much the same as for Melons with the few exceptions previously referred to. Cucumbers may have rather more soil than is good for Melons, and may be planted a bit deeper, and when getting nearly spent out may be allowed to root at their joints to give them renewed vigour. It is bad practice to allow Cucumbers to stay on the plants and get seedy if not wanted. It is far better to give or throw them away than to let them exhaust the plant. As to varieties, I might say that Improved Telegraph and Lockie's Perfection are in all respects excellent.

FAIRFIELD, ABERDEEN.

ABERDEEN glories in its Roses, likewise its Orchids; indeed the latter seems to have taken a very prominent position in and around the granite city. On a recent visit to Fairfield, the residence of A. O. Gill, Esq., I was pleased to see a brilliaut display of Orchids and other plants. The most striking plant was a splendid specimen of Lycaste Skinnerii with the handsome number of thirty-four open flowers and more to follow. The plant was a perfect picture. Dendrobium thyrsiflora was represented by a fine plant bearing fourteen spikes; though the flowers are of short duration it is invaluable. The beautiful Dendrobium Jamesianum was well done, as also D. nobile, Wardianum and Crassinode. Cypripediums were flowering freely, the kinds being C. Callosum, Lawrenceanum, Barbatum and others. Laelia cinnabarina was striking with its rich colour. Cymbidium Lowianum and giganteum were pushing forth fine spikes. Odontoglossums were flowering freely, and a fine plant of O. maculatum carried twenty-four flowers, O. Alexandrae, cirrosum, Pescatorei and a charming Rossii majus were equally good. The beautiful Cattleya citrina was also in flower, and numerous others were showing flower.

The plants were admirably arranged in a span house along with other flowering and foliage plants. The stove was filled with many rare Orchids and plants, and mention may be made regarding the cleanliness of all the plants a very important item in their culture. Mr. Gregor is an accomplished Orchid grower as his plants testify.—*Vanda.*

NOTES ON HARDY PLANTS.

MYOSOTIS RUPICOLA.—This is a distinct and pretty alpine species of great beauty at this season of the year, and also quite distinct in character from all other Forget-me-Nots. Being of very dwarf and compact habit, growing only about 3 in. to 4 in. in height, it will when better known entirely supersede the well known M. dissitiflora for bedding purposes. It is easily grown in any ordinary garden soil, and is also well adapted for pot culture, but the flowers are not so conspicuous as when grown in the open. Its flowers are deep blue, and produced in such profusion as to form a dense mass of colour, quite hiding its foliage. It was formerly found in great abundance in Scotland but is now very rarely found in a wild state, as it has been lost to cultivation for some years past. It is perfectly hardy and easily increased by cuttings or division in spring and autumn.

CHEIRANTHUS ALPINUS.—Few people are aware of the beauty of this dwarf species of the Wallflower family, which now forms a perfect mass of its pale yellow flowers, which are also very fragrant. Although a native of South Europe and introduced so far as 1810, it very rarely seen in our gardens and as its culture is of the simplest it will when better known be greatly prized, the flowers being well adapted for cutting. It grows well in any good garden soil and is readily increased by cuttings or seeds. There are other species somewhat similar to the foregoing, notable among which is C. Marshallii which is supposed by some authorities to be an hybrid, and is quite distinct from C. alpinus in flower, the flowers being of a dark orange colour, and also very fragrant, while C. multiflorus has purplish flowers, and is also quite as useful and is frequently met with under the synonymous name of C. mutabilis. This is a native of Madeira whence it was introduced in 1777, and will be found described in *Botanical Magazine t.* 195. It is quite hardy having survived the past severe winter and is now flowering freely. All the species are useful for borders or the rockwork, and form a striking display during the early summer months.—*E. Scapelhorn, Woking.*

PLANT NAMES: THEIR DERIVATION AND MEANING.*

(*Concluded from p.* 589)

Taking my former division into 5 groups I find that this century and a half of plants will be separated as follows:

Original names	12
Mythological and Heroic	8
Local	2
Personal	22
Descriptive	108
	152

Eliminating all classes as I said before except the descriptive section we now come to the Greek and Latin derivatives.

DESCRIPTIVE WORDS.

Acacia: *ac*, a point; *akazo*, to sharpen.

Acanthus: same root and *anthos*, a flower.

Agapanthus: *agape*, love; *anthos*, a flower.

Althaea: *altheo*, to cure; in allusion to healing properties.

Alyssum: *a* and *lyssa*, rage.

Ampelopsis: *ampeles*, a vine.

Androsace: *aner*, a man; *sakos*, buckler.

Anemone; *anemos*, the wind.

Antirrhinum: *anti*, similar; *rhin*, nose, snout of an animal.

Aquilegia: *aquila*, an eagle.

Arenaria: *arena*, sand.

Aristolochia: *aristos*, best, and *locheia*, parturition.

Asparagus: *sparasso*, to tear; some species have strong prickles.

Aster: a star.

Auricula: little ear; from *aura*, an ear.

Azalea: *azaleos*, dry, arid.

Campanula: a little bell from *campana*, a bell.

Cheiranthus: Arabic name is *kheyry*, *anthos*.

Chrysanthemum: *chrysos*, gold; *anthos*, a flower.

Cineraria: *cineres*, ashes; referring to the grey down on the leaves.

Clematis: *klema*, a vine branch.

Chorozema: *choros*, a dance, and *zema*, a drink. This name was given to the plant by Labillardiere who discovered it in Australia near a spot where after suffering great thirst, he and his party found an abundance of water.

Convolvulus: *convolvere*, to twine.

Coreopsis: koris, a bug; *opsis*, like; referring to the seeds.

Croton: *kroton*, a tick, applying to the seeds.

Cyclamen: *kuklos*, a circle; referring to the circular leaves.

Delphinium: *delphin*, a dolphin; in allusion to the nectary.

Dianthus: *dios*, divine; *anthos*, a flower; referring to the fragrance and beauty.

Doronicum: altered from Doronigi, an Arabic name.

Draba: *drabe*, acrid, biting leaves.

Digitalis: *digitus*, a finger; referring to the shape of the flowers of the Foxglove.

Diosma: *dios*, divine; *osme*, smell.

Epilobium: *epi*, upon; *lobos*, a pod; the flower appears seated on the top of the pod.

Epacris: *epi*, upon; *akros*, the top; growing on the top of hills.

Eryngium: *eringion* the Greek name.

Erysimum, *eryo*, to draw or cure; cures sore throats, draws blisters.

Erythraea; *erythros*, red; the colour of the flowers.

Eriostemon: *erion*, wool; *stemon*, a stamen; woolly stamens.

Eucharis: *eu*, well; *charis*, grace.

Fumaria, *fumus*, smoke; referring to the smell of the plant.

Geum: *geum*, to give a relish; the roots of G. urbanum.

Gladiolus: *gladius*, a sword; in reference to the shape of leaves.

Gnaphalium: *gnaphalon*, the soft down on the leaves.

Gypsophila: *gypsos*, chalk, and *phileo*, I love; in reference to habitat.

Geranium: *geranos*, a crane; the beak-like fruit of the plant.

Helianthemum: *helios*, the sun; *anthos*, a flower. Helianthus has the same derivation and meaning.

Heliocarpus, Heliophila: both have reference to the sun.

Helleborus: *helin*, to cause death, and *bora*, food; their poisonous nature is alluded to.

Hieracium: *hierax*, a hawk, but no reason why.

Hydrangea: *hydor*, water, and *aggeion*, a vessel; alluding to the capsule of some.

Jasminium: *ion*, a violet, and *osme*, smell; or *ysmyn*, Arabic.

Leucojum: *leukos*, white, and *ion*, a violet; the colour of the snowflake.

Linaria: similarity of leaves to those of linum.

Lunaria: *luna*, the moon; applied to the seed vessels.

Lupinus: *lupus*, a wolf; destructive to land.

Lychnis: *lychnos*, a lamp; brilliancy of flowers.

Lycopodium: *lykos*, a wolf; *pous*, a foot.

Lysimachia: *lysis*, dissolving, and *mache*, strife.

Malva: *malache*, soft; emollient qualities or softness of the plants.

Meconopsis: *mekon*, a poppy, and *opsis*, resemblance.

Mesembryanthemum: *mesembria*, mid-day, and *anthemon*, a flower.

Mimulus: *mimo*, an ape or actor; in reference to the ringent corollas.

Myosotis: *mus*, a mouse, and *ous*, ear.

Nymphaea: *nymphe*, a water nymph.

Oenothera: *oinos*, wine, and *thera*; pursuit of. In ancient times roots of Oe. biennis were taken to increase desire for wine.

Ononis and Onobrychis: *onos*, an ass.

Oxalis: *oxus*, acid.

Papaver: *papa*, thick milk pap, juice mixed with children's food to make them sleep.

*A paper read by Mr. S. Arthur Sewell at a meeting of the Ealing Gardeners' Mutual Improvement Society, on the 26th March.

Pelargonium: *pelargos*, a stork; in allusion to the beak-like fruit.

Phlox: *phlox*, a flame; colour of the flowers.

Pinguicula: *pinguis*, fat, referring to the greasy leaves.

Plumbago: *plumbum*, an eye disease; supposed cure.

Polemonium: *polemos*, war; Pliny says war, and two kings each claimed to have discovered its virtues.

Polygala: *polys*, much, and *gala*, milk; the milk-wort.

Polygonum: *polys*, many, and *gonu*, the knee; referring to the numerous knee-like joints of the stem.

Potentilla: *potens*, powerful, medical.

Primula: *primus*, first or early flowering.

Pyrethrum: *pyr*, fire; roots hot to taste.

Ranunculus: *rana*, a frog; locality.

Rhododendron: *rhodos*, a rose; *dendron*, a tree; literally, rose tree.

Salvia: *salveo*, I heal; healing qualities of the Sage.

Saxifraga: *saxum*, a stone; *frangere*, to break; supposed medicinal properties.

Scabiosa: *scabies*, itch; a supposed cure.

Sedum: *sedere*, to sit; in allusion to its habit of growing on rocks, walls, etc.

Senecio: *senex*, an old man; naked receptacle after the papus gone; bald head.

Silene: *sialon*, saliva; viscid moisture on stalks whereby flies are attracted; catch-fly.

Stellaria: *stella*, a star.

Syringa: *syrinx*, a pipe; straight branches filled with medulla, hence the old name of the Lilac is pipe tree; Lilac is Persian for the flower.

Thalictrum: *thallo*, to grow green; in allusion to the colour of the young shoots.

Trifolium: *tres*, three, and *folium*, in leaf; Trefoil.

Tritonia: *treis*, three, and *temno* to cut; three sharp edges at end of leaves.

Tropaeolum: *tropaion*, a trophy; leaves a buckler, flowers a helmet.

Tussilago: *tussis*, a cough; Coltsfoot.

Vicia: *vincio*, to bind; tendrils.

Valeriana: *valere*, to be in health; medical qualities.

ORCHIDS.

Calanthe: *kalos*, beautiful; *anthos*, a flower.

Cattleya: named by Lindley after Wm. Cattley, of Barnet; patron and collector.

Coelogyne: *koilos*, hollow; form of stigma.

Cymbidium: *kymbe*, a hollow recess (labellum).

Cypripedium: *cupris*, Venus; *podion*, slipper.

Dendrobium: *dendron*, a tree; *bios*, life; generally found on trees.

Epidendrum: *epi*, upon, and *dendron*, a tree.

Masdevallia: Joseph Masdeval; Spanish.

Odontoglossum: *odous*, a tooth; *glossa*, a tongue.

Oncidium: *onkos*, a tumour; warts on the lip.

Phalaenopsis: *phalaina*, a moth; *opsis*, resemblance.

Vanilla: diminutive of *vaina*, Spanish for a sheath; in reference to pod being like a sheath of a knife.

FERNS.

Adiantum: *adiantos*, dry. Pliny says it is in vain to plunge the Adiantum into water for it will always remain dry.

Asplenum: *a*, not; and *splen*, the spleen.

Botrychium: *botrys*, a bunch; arrangement of the fruitification.

Cystopteris: *kustis*, a bladder; *pteron*, a wing, a feather.

Gymnogramme: *gymnos*, naked; *gamma*, writing; naked sori.

Hymenophyllum: *hymen*, a membrane, and *phyllon*, a leaf.

Ophioglossum: *ophios*, a snake, and *glossa*, a tongue.

Osmunda: a Celtic deity.

Polypodium: *polys*, many; and *pous*, a foot; rhizomes.

Polystichum: *polys*, many; and *stachys*, a spike.

Pteris: *pteron*, a wing or feather; shape of the leaves.

Scolopendrium: *scolopendra*, a centipede; in allusion to the sori being like that animal.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. WEBSTER. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens Price, 3s.; post free, 3s. 3d. Publisher, GARDENING WORLD 3, Clement's Inn, Strand, London, W.C.

GARDENING MISCELLANY.

BEGONIA TRIOMPHE DE NANCY.

THE dwarf habit and the beautiful colours of this winter-flowering subject make it one of the most useful for the purpose. Hitherto many less beautiful sorts have been grown with all cultural care and the closest attention in order to get some flowers for cutting, or plants for decorative purposes; but that under notice surpasses a host of the earlier raised sorts in many respects. The leaves are peltate and convex above, reminding one of B. socrotana or some of its hybrid progeny, but the stems and natural habit of the plant are, of course, different. The flower buds just before expansion are of a brilliant carmine, though considerably paler after they are opened; their profusion renders the plant a valuable one for winter decoration. We saw it recently in the nursery of Messrs. J. Laing & Sons, Forest Hill.

MUSCARI CONICUM.

WHILE this species is one of the earliest to come into bloom, it is also one of the latest owing to the slowness of growth and the durable character of the flowers. The linear, dark green leaves are very numerous and from amongst them the floral inflorescence slowly pushes up, and becomes well coloured and attractive at a very early age. All the lower and fertile flowers, that is, those which produce seed are of a bright or intense violet-blue, while the barren ones at the apex of the scape are much paler in hue. In average seasons the bulbs commence flowering in March, and though slightly later this year, they were still in splendid condition at the end of April in the nursery of Messrs. Barr & Sons, Long Ditton, Surrey, and likely to last for a considerable time longer. A good sized patch is more effective than a few bulbs crowded together and forming a crowded tuft. Space might be found for such patches in the herbaceous borders or in small circular beds where a Standard Rose, a Rhododendron, or other subject is planted in the centre. As the foliage dies down something can be planted over the top to keep the space tidy for the season.

ARUM SANCTUM.

WOULD you kindly give me the culture of Arum sanctum in the GARDENING WORLD?—*J.P.*

[The proper name for the plant is Arum palaestinum which was first introduced and distributed under that name as long ago as 1864. It is not hardy, but requires a greenhouse temperature to succeed, seeing that it commences to grow so early in the season. During the resting period the tubers should be kept rather dry, and when they begin to grow they should be re-potted in a rich compost consisting of good fibrous loam with a third of well decayed farmyard manure, some leaf soil and sufficient sand to keep the whole porous and open. Let the plants come along slowly, giving them very little water in the early stages till in full growth, when they will take a fair supply dependent, of course, upon the weather and the amount of ventilation given. Keep the plants near the glass to prevent their getting drawn, They make their growth in spring earlier or later. according to the temperature maintained, and flower accordingly some time between March and May.—ED.]

PLANTS INJURIOUS TO CATTLE.

I SHALL feel much obliged if you will inform me if the Cowburn (which is, I believe, injurious to cattle), or any other plant which is injurious to them, is to be found in pastures where plants which they find nutritious, such as Tussock Grass, Clover, and Sainfoin, are also found.—*Bos.*

[By Cowburn we take it for granted that you mean Cowbane (Cicuta virosa), an umbelliferous plant which grows in ditches and similarly wet places. Cattle would occasionally meet with it in such places, but not on pastures proper, unless they are wet and marshy. The Darnel Grass (Lolium temulentum) is said to be injurious to cattle, but according to our experience it is far from common. Hemlock (Conium maculatum), and Fool's Parsley (Aethusa Cynapium), also belong to the same order as Cowbane, and are reputed poisonous. They grow about hedges and in waste places where cattle might have access to them. The injury they would cause we suspect would depend upon the extent to which they are poisonous and the quantity eaten. Tussock Grass (Poa flabellata), also known as Dactylis caespitosa and Festuca flabellata, is a native of the Falkland Islands and not much cultivated here as far as we have seen or heard. Possibly you may refer to Dactylis glomerata, better known as Cock's-foot Grass; if so, it is a common British Grass, and as widely distributed as Clover. Sainfoin is more confined to chalky districts. Except Darnel Grass, none of the poisonous plants above mentioned would grow on good pasture land.—ED.]

THREE FINE TULIPS.

ONE of the largest flowered species in cultivation is T. Eichleri, which has huge flowers of a brilliant scarlet with a large obversely heart-shaped black blotch edged with gold at the base of every segment. The richness of the colour and the handsome blotches give the whole a gorgeous appearance during the month of May. The foliage is of a light glaucous green and the plant very dwarf. Another species flowering at the same time, or slightly later, is T. undulatifolia Boissieri, with long scarlet segments having a wedge-shaped black blotch edged with gold at the base of each. The foliage is very pretty, and the most distinct characteristic of the species. The leaves are narrow and very much undulated or finely crisped and wavy, and of a deep glaucous or sea-green; they are mostly confined to the base of the scape and radiate on all sides close to the ground. The flowers of T. Clusiana are of moderate size, but white with a broad bright red band along the back of the three outer segments, and having a carmine blotch at the base of all the six segments internally. The bulbs flower freely and regularly, sending up stems to the height of 15 in., and the leaves are linear and deeply glaucous. That known as T. C. Leichtlinii is dwarfer. All flowered very finely a short time ago in the nursery of Messrs. Barr & Son, Long Ditton, Nursery.

PTERIS CRETICA TORRANCII.

In the early stages this Fern closely resembles P. cretica nobilis, but as it attains full vigour the plant practically develops a fresh character. The fronds at first erect and somewhat massive are followed by another series of them that are heavily crested, yet though they assume a spreading habit thus diverging from P. c. nobilis, they remain compact making the plant bold and handsome, yet graceful for decorative purposes. It is possible to raise seedlings from it having the same characters as the parent but a large percentage of them would no doubt present variable characters. The plant can, however, be increased by separating the crowns, and this method of propagation would suffice for the needs of private establishments. We noted some plants of this beautiful variety in the nursery of Messrs. J. Laing & Sons, Forest Hill.

TRACTABILITY OF CANNAS.

As a reserve plant of immediate effect few can outclass the Canna. If removed with care, even in a blooming state it shows no resentment. I start my Cannas in a hotbed of moderate warmth, first dividing the clumps and then packing the divisions as closely together as bricks are laid in a pavement. When the main hotbed is vacant and the Canna beds proper are filled, the surplus is transplanted to other portions of the spent hotbed, where they remain until wanted elsewhere. Oh! how they do like to send their roots down through the thin layer of soil and ramble in among the manure in the hotbed. They require frequent watering in this situation. When needed elsewhere, a thorough soaking of the soil is given, and then with a sharp spade deep cuts are made on three sides without any lateral pressure, the fourth cut being slightly oblique, with a pressure down on the handle, when the plant is lifted with soil adhering. This can be done any time in summer, and they can be used to replace late spring blooming plants or fill gaps in the border occasioned by accident or disease. I use chiefly Madame Crozy for this purpose.—*W. C. Egan, in "Gardening" (American).*

WREATH MAKING.

MOST gardeners are called upon at some time or other to make up wreaths, but it is not everyone who has the knack of doing it well, and there are a good many who hardly know how to set about the work at all. There are also some who still stick to the old-fashioned method of laying and wrapping,

never having tried the wiring system, which is so much better in every way. To these, as to the tyro in wreath making, a few hints on the subject may therefore not come amiss.

Having decided to give the wiring system a trial, the wreath maker should proceed as follows:—First procure an assistant to help you in wiring the flowers, for it is rather trying to have to put your wreath down to wire and wrap your flowers. Next proceed to cut your flowers and Fern, or better still the Fern (Adiantum) should have been cut a couple of hours previously and steeped in water, which makes it more durable. The foundation of the wreath should be made of wire, evenly wrapped round with fresh damp moss, and the operator should be careful to wrap it round firmly to ensure a good hold for the wires subsequently to be inserted in it. Then begin to wire your flowers. Roses will require to have their stalks broken right off, and a stalk wire passed through the heart of the bloom, but out of sight; no wrapping being necessary with a good firm flower. Stephanotis blooms should be broken away in pips, then have a wire passed through them with a small hook at the end, and have the small stalks wrapped with the smallest piece of cotton-wool to prevent cutting. Practice will very soon show what each individual flower requires to make it look at its best. A layer of something slightly stiffer than Fern should be the groundwork, and of course this and Fern should be wrapped in as you proceed to fix the flowers. When you begin to arrange the latter, pass the wires straight through the middle of the foundation, pulling it to the height required, then twist the wire and turn the point into the moss underneath. The pips of Stephanotis should be slightly raised above the larger flowers so as to give the whole a light appearance. Tuberoses and single pips of Hyacinths and any small, solid, solitary flowers are very useful for the same purpose. Shapely pieces of Asparagus tenuissimus placed at regular intervals among the flowers greatly improves the appearance of the work.

Of course most gardeners have to make the most of what they have got, unlike the florist who can buy what he wants, and the quality of wreaths in a measure will depend upon the flowers in season. Many wreaths, in my opinion, are made very much too heavy, but something depends upon the size required. For ordinary wreaths, from 12 in. to 16 in. across, Callas, Lilium auratum, and L. speciosum blooms are much too large. Lightness and firmness should be the main points to keep in view, firmness especially in wiring and fixing. Let every flower stand just clear, bending the wires as required to draw them into the right position for showing them to the best advantage. A few flowers suitable for everyday wreath work are Gardenias, Freesia refracta alba, Stephanotis floribunda, Roses, Niphetos, The Bride, The Queen, Marie Van Houtte, and Devoniensis; Azalea Bernard Andreas alba, Tuberoses, Roman Hyacinths, Lapageria alba, Deutzia gracilis, Francoa ramosa, white Chrysanthemums, Lily of the Valley, &c.—*J. G. P.*

SOCIETIES.

Royal Horticultural, 14*th May*.—The exhibits at the meeting on Tuesday last consisted to a great extent of hardy plants, such as Tulips of the late flowering and florists' kinds, which were very much in evidence. Daffodils and Paeonies were also conspicuous, and Amaryllis, Gloxinias and fine foliaged stove plants also held a place. Orchids were not so numerous as on on several previous occasions, but the near approach of Temple Show no doubt affected this section of plants causing some exhibitors to keep back their specimens for next week. A large group of Orchids was exhibited by Messrs. J. Veitch & Son, Chelsea, for which a Silver-Gilt Flora Medal was awarded. Conspicuous amongst others in this group were large and well-flowered pieces of Laelia purpurata, Dendrobrium thyrsiflorum, Cattleya Mossiae, Cypripedium caudatum Wallisii, Lycaste cruenta, Oncidium superbiens and several others. Pretty and interesting were the flowers of Dendrobium taurinum with their strange contrasting colours, and the same might be said of D. glomeratum, Laelio-cattleya Hippolyta, and the pretty Disa langleyensis. Bold and showy were the flowers of Cypripedium Rothschildianum, Oncidium concolor and Maxillaria Sanderiana, Masdevallia Veitchiana was very highly coloured, and the uniformly yellow flower of Oncidium concolor were abundant and pleasing. A Cultural Commendation was awarded to Henry Weetman, Esq., (gardener, Mr. B. Dunn) Little Haywood, for two very tall and well-flowered specimens of a species of Phaius. Cirrhopetalum Macraei was staged by Mrs. Langton (gardener, Mr. J. Pierce), Hillfield, Reigate. Cypripedium candatum Wallisii and C. tortile were exhibited by H. Grinling, Esq., (gardener, Mr. W. Rapley) Harrow Weald House, Stanmore. A supposed hybrid Odontoglossum was exhibited by Messrs. Fred Horsman & Co., Colchester. A beautiful Cypripedium named C. Godefroyae leucochilum was exhibited by R. I. Measures, Esq., (gardener, Mr. Hy. Chapman), Cambridge Lodge, Flodden Road, Camberwell. Cattleya Mossiae Dulcote var. was shown by Walter Cobb, Esq., Tunbridge Wells. Some flowers of the pretty Cattleya Claesiana and C. Mendelii leucoglossa were exhibited by Thos. Statter Esq., (gardener, Mr. Johnson), Stand Hall, Manchester. Cattleya Mendelii Glebeland's var. was also brought up by J. Gurney Fowler, Esq., (gardener, Mr. J. Davis), Glebelands, South Woodford. A specimen of Odontoglossum cirrhosum flowering the second time from the same scape was exhibited by A. H. Smee, Esq., (gardener, Mr. G. W. Cummins), The Grange, Wallington, Surrey. A small group of Orchids including Cypripedium Gertrude Hollington, Laelia purpurata Schroderae, and L. p. Russelliana, was shown by Messrs. Hugh Low & Co., Clapton. Curious also was the little Dendrobium strongylanthum. The Cypripedium was, however, the gem of the collection. A magnificent Odontoglot named O. crispum Florie, also Cattleya Mendelii Princess of Wales, and O. Hallii xanthoglossum, all handsome in their way, were exhibited by De B. Crawshay, Esq. (gardener, Mr. Sidney Cooke), Rosefield, Sevenoaks. He also had a curious case of two pseudo-bulbs growing close together with only one bract for the two on one side. A fine variety of Odontoglossum crispum was shown by Mr. H. W. Ward, Salisbury. A very interesting and pretty group of Orchids was shown by W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs. Odontoglossum crispum The Bride, O. cordatum aureum, O. Andersonianum Thompson's var., O. Rossii rubescens, O. Ruckerianum ocellatum, and Cattleya Skinneri alba were one and all of them very choice and specially attractive in their rich blotches and colouring generally.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, N., exhibited a very showy group of herbaceous plants and bulbs in flower, for which a Silver Flora Medal was awarded. Tree Paeonies in pots were a special feature here, and both showy and handsome they looked. Some well-flowered pieces of Spiraea japonica nana compacta, S. palmata, and S. astilboides were deserving of all praise. Handsome plants of the well-known Saxifraga pyramidalis were also forthcoming, and some good examples of Cypripedium Calceolus, C. montana, and C. pubescens were likewise in evidence. Well-flowered spikes of Gladiolus The Bride, Tulips in variety, and Anemone narcissiflora all contributed to add to the attractiveness of a bright and pretty group. Messrs. John Peed & Sons, Roupell Park Nurseries, S.E., were again well to the fore with stove foliage plants in their usual praiseworthy condition. Caladiums Charlemagne, Puvis de Chavannes, Linne, L'Insolite, and Triomphe de Comte were in fine order, as were also Dracaenas Lindenii, terminalis alba, splendens, and Goldieana (Silver Banksian Medal).

Messrs. John Laing & Sons, Forest Hill, sent some very fine examples of their Prize Gloxinias. The plants were remarkably healthy, the blooms large and of many and varied colours. Among the best of the varieties shown were John Laing, Majestic, Mrs. Laing, Leopard, and Lord Hillingdon. The excellent examples of Caladiums, Rose Laing, La Duchesse, and Pauline Guichard were worthy of all praise, and some four or five nice little plants of Streptocarpus Royal Purple, carrying large and fine flowers, deserve honourable mention (Silver-Gilt Banksian Medal). Some interesting contributions came from F. W. Moore, Esq., Glasnevin, in the shape of fine flower heads of Brownia Ariza, and B. grandiceps x B. macrophylla; Acanthephippium javanicum, Darlingtonia californica, and some hybrid Sarracenias.

An extensive and meritorious collection of cut sprays of hardy ornamental and flowering trees and shrubs, which came from Messrs. J. Cheal & Sons, Crawley, Sussex, was awarded a Bronze Banksian Medal. The examples of Pyrus malus floribunda, P. occuparia hybrida, Cerasus Sieboldii Rosa pleno amongst the flowering subjects, and Sambucus canadensis variegata, Ulmus Dampierii aurea, Acer Negundo variegata, and A. Leopoldii illustrated the great value of this class of decorative plants. Syringa alba grandiflora came from Earl Cowper, Panshanger (gardener, Mr. J. Fitt), in first-class condition, and would appear to be a variety deserving of extensive cultivation. Mr. George Mount, The Rose Nurseries, Canterbury, sent some six or seven dozen cut Roses in excellent style, Mrs. John Laing, General Jacqueminot, Ulrich Brunner, Lady Mary Fitzwilliam, T. Ducher, and The Bride appearing to great advantage (Silver-Gilt Banksian Medal). A fine specimen of the well-known stove plant Medinilla magnifica, which was contributed by Mr. McLeod, gardener to C. Pierrepont Morgan, Esq., Dover House, Roehampton, was a very attractive feature. Looking at its large size and noting the number of racemes of flower which it was bearing, the fact that it was raised from a cutting struck in February, 1892, appeared remarkable. A number of profusely flowered sprays of Turner's Crimson Rambler Rose, also of Cercis siliquastrum, which were sent by the Messrs. de Rothschild, Gunnersbury House, Acton, were much admired.

A first prize was awarded to J. T. Bennett Poë, Esq., Holmewood, Cheshunt (gardener, Mr. Downes), for a collection of Florist's Tulips amongst which some large and fine blooms appeared. Messrs. James Veitch & Sons, exhibited an extensive and comprehensive collection of Tulips. In the Parrot section some very showy examples were to be seen Mark Graaf, Lutea Major, Constantinople, Perfecta, Cramoise and Brilliant, being among the best. Of Bizarres Everett Kroskell, President Thiers, and Sir Montefiore were good, whilst William III. and Leon d'Holland among the Darwin and Osman Pacha, Graaf Buren and Spinosa among the Bybloemen sections were well represented (Silver Flora Medal). R. Maitland, Esq., Courie Castle, Dunfermline, Fife (gardener, Mr. G. McIvor) was awarded a first prize for a collection of cut blooms of Narcissi, both double and single flowered varieties being represented. C. J. Backhouse, Esq., St. John's, Walsingham, Darlington, took the second place for a similar exhibit which although much more extensive than that of the first prize-taker's did not contain such good material. Messrs. Barr & Son, 12 and 13 King Street, Covent Garden, staged a large number of cut flowers of which Tulips formed by far the greater part. This was an especially good display and thoroughly merited the award that was given it by the committee. Rose Pompone, Yellow Queen, Vitellina. Gesneriana spathulata, viridiflora, fulgens, Gold Flake, Golden Beauty, Fairy Queen, and Macrospeila were only a few of the kinds here shown. Whilst these were staged in bunches a number of single bloom were also shown, Bizarres, and Bybloemens being exceedingly well represented. The group likewise contained some bunches of flowers of Tree Paeonies, Northern Glory, Excelsior and Purple Emperor being especially good (Silver-Gilt Banksian Medal).

Fruit and vegetables, although not entirely wanting, were only present in very small force. Messrs. B. S. Williams & Son, Holloway, had examples of their new seedling dwarf French Bean in pots. Of Cucumbers some good specimens were shown, some of which, of a variety known as Vert's Favourite, coming from Mr. James Vert, Audley End, Saffron Waldron, were of extra large size. Examples of another variety, Allen's Favourite, sent by Messrs. James Veitch & Sons, were but little smaller than the former. Some medium-sized but beautifully-shaped Cucumbers which were contributed by Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, were in exceedingly meritorious condition, Marvel being the variety. A few sprays of the haulm was also shown to illustrate the heavy fruiting qualities of the variety, which should prove an acquisition. Mr. J. F. McLeod sent a bunch of Asparagus, of which the heads were of larger size than is usually seen. Mr. G. Wythes, gardener, Syon House, Brentford, was awarded a Cultural Commendation for a dish of Amsden June Peach, the fruit being apparently of

first-class quality. A very interesting exhibit of Tomatos, Potatos, and Bananas, came from the Canary Islands through Messrs. Elder, Dempster & Co., of Liverpool.

THE APIARY.

FOUL BROOD IN BEES.

A deputation of British bee-keepers waited, on Tuesday of last week, on Mr. Herbert Gardner, President of the Board of Agriculture, asking for legislation for stamping out a contagious disease known as "foul brood," which threatens irreparable injury to the industry. Unfortunately, the prevalence of the disease is but too easily demonstrated. Within the last three or four years it has produced a serious diminution of the number of bee-keepers in Scotland; In Ireland it has caused the utter abandonment of the industry, over wide districts wherein it used to flourish. The loss of one hundred hives is reported from a single Irish apiary, and this occurrence could be paralleled by a case in the north of England. From the Midland and Southern Counties come very bad reports. In Middlesex it is said to be cutting "at the root of apiculture"; in Nottingham it is making the pursuit of bee-keeping hazardous; it is reported from twenty-five districts in Hampshire, eighty-two of Sussex, and forty-seven of south Surrey. These are but specimen cases; and it is doubtful if any part of England remains unaffected. Mr. Cowan, chairman of the British Bee-keepers' Association, pointed out that at the present time there were no fewer than 52,000 bee-keepers in Great Britain; while the annual value of the honey produced was, roughly speaking, £150,000. Various speakers suggested as a remedy that inspectors should be appointed to visit hives in all parts of the country, and that the county councils should be empowered to impart increased education on the question to the rural population.

Mr. Gardner, in reply, said he was very glad to hear that there was one industry still remaining amongst them which was not afraid of foreign competition. Any action, however, which might be taken by public authorities against the disease must be based upon a system of compulsory notification of the disease, which must be enforced by proceedings for penalties; and he would like to be assured that public opinion amongst bee-keepers was sufficiently matured to justify the adoption of such a system. He was inclined to think that such a matter could be best dealt with by the village or district councils, as the machinery for dealing with the disease would thereby be materially cheapened. He suggested also that the Bee-keepers' Association or some of its affiliated societies, either voluntarily or for a reasonable fee, should supply the expert assistance required; and with this object he thought two or three members of the Association might confer with the officers of his department, so that the way might be paved for the introduction of some remedial legislation.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

WHAT IS A FRUIT?—*Scoria*: The difficulties of defining what a fruit is become greatly simplified if the botanical meaning is accepted. With regard to garden subjects there is much difference of opinion, owing to the meaning of the term being interpreted by the use to which they are put as to whether they are to be considered fruits or vegetables. In the case of wild plants to be used for decorative or other purposes there should be no difference of opinion at all, and the fruit of the plant, whatever its form may be, should be admitted in an exhibition class. Unless this is admitted there can be no exact definition as to what a fruit is or should be, and to make it clear to every one what is meant it would be necessary to name every kind to be used, or at all events, the particular classes of fruits that are meant. If fruits of a decorative value are wanted, then the awards of the judges should be made according to decorative value and the taste displayed in arranging them, and this without disqualification of any sort of fruit if really wild.

RED FLOWERS.—*Rubens*: The flowers of Lathyrus Missolia are crimson variegated with purple and white, and bloom from May and June onwards, dependent upon the season, and everything is late this year. In the warm and early season of 1893 plants all flowered earlier, and many red flowers were in bloom in June that usually do not show till July, so you must bear this in mind. The floral calendar is by no means inflexible. Lathyrus rotundifolius is brick-red and flowers from May to July, earlier or later. The wings and keel of L. tingitanus are bright red, and appear in June and July. Lilium Martagon does not flower in our climate till the end of June in average seasons. L. M. glabrum has white flowers. L. elegans bicolor, also called L. e. aurantiacum, has a yellow centre with red sides to the segments, but does not flower till the beginning of July. T. elegans sanguineum has blood-red flowers, and those of L. e. atrosanguineum has deep red flowers, but both would come in July. L. bulbiferum flowers in June. L. superbum has orange-red flowers, but they do not appear before July and August. L. bulbiferum would meet your requirements. June is a month too early for the bulk of the Lilies. There might be some red varieties of Cineraria in bloom in June, but as a rule all the best of them are over and gone before then. Spiraea japonica has rosy-red flowers; S. j. rubra, dark red; S. j. superba, deep rosy-red flowers. They all flower in June. This must not be confused with the common Astilbe japonica, always called Spiraea japonica in the market. S. palmata with rosy-red flowers commences in June. The Red Streak is a cider Apple; we should not consider it a codling, nor do the codlings ripen in June.

NAMES OF PLANTS.—*N. McF.*: 1, The Bottlebush, Metrosideros floribunda; 2, Habrothamnus fasciculatus; 3, Habrothamnus elegans; 4, Eriostemon cuspidatus minor; 5, Narcissus Poeticus patellaris; 6, Coprosma Baueriana variegata; 7, Rose not recognised.—*Leucojium*: A Tyddea much resembling Madame Heine, if not that variety. A Gesneriaceous plant requiring much the same treatment as Achimenes, only that it must not be dried off like the latter.—*G.Russell*: A pretty variety of Odontoglossum Andersonianum.

CARPET BEDDING.—*Diagram*: We think the diagram will suit very well provided you plant it neatly and keep it well trimmed afterwards. Seeing that you are to plant No. 3 with the white Antennaria, and No. 5 with the creamy-yellow Mesembryanthemum, the planting of No. 2 with Iresine, will make a better contrast and a more decided division between 3 and 5 than would Echeveria. The planting of the other spaces with the subjects you recommend will also answer very well; but we think it would be an improvement to insert a small circular patch of a red or purple Alternanthera in the wide space at either end of the oval No. 3. These could be edged with small plants of Echeveria secunda glauca, or E. Peacocki, or Kleinia repens, whichever you may happen to have. We do not chance to have any diagrams by us beyond those in books. Oval beds are seldom attempted, we believe, possibly because of the difficulty of laying them out in geometrical design. Scroll work of some sort would be more convenient and appropriate to delineate in beds of such form, and are difficult to describe, but you could invent some pattern of that sort for another year. An idea may dawn upon you in your leisure moments during the course of the year, and you could sketch out a rough design of it on the spot on a piece of paper, placing it in the drawer of your writing table or desk till wanted. New designs are always more interesting than copies of old ones.

VARIOUS.—*Scot*: 1. "The Primer of Horticulture" is published by Macmillan & Co., Bedford Street, Covent Garden, W.C.; 2. Messrs. J. R. Pearson & Son, Chilwell Nurseries, Notts.; 3. We hardly understand your question, both presume you mean whether tallies should be written to read from the top downwards or from the bottom upwards. If that is the case, then the former is the system usually followed, but there are many who adopt the latter on the ground that it is more important to preserve the specific than the generic name, and the specific name being written nearest the top of the label is the most likely to be preserved the longest.

BOX AND HOLLY.—*L. Thain*: The best time to transplant Box and Hollies is during showery weather in April or May, but both are ticklish subjects to move unless carefully prepared beforehand. Box roots readily if cuttings 4 in. to 6 in. long are inserted firmly in sandy soil in a shady place in August and September. Hollies are usually raised from seeds and special varieties increased by grafting during March and budding in May, or budding with dormant buds in the autumn.

COMMUNICATIONS RECEIVED.—J. McO.—R. B.—J.—W. T.—J. G. V.—W. W.—Ranger.—X.—Forester.

TRADE CATALOGUES RECEIVED.

PETER LAMBERT, Frier, Germany.—New Roses for 1895.

LONDON SEED TRADE.

May 14th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a retail enquiry for Agricultural seeds at unchanged rates. Canary seed, owing to speculators operating, has advanced 2/- per quarter.

COVENT GARDEN MARKET.

May 15th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bnshel	3 0	9 0	Grapes, per lb.	1 0	4 0
Nova Scotia Apples per barrel	12 0	21 0	Pine-apples. —St. Michael's each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	10 0		Strawberries, Nobles, per lb.	1 0	2 0
Tasmanian Apples, per case	8 0	11 0	Other varieties, per lb.	2 0	4 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, per bundle	1 6	4 0	Lettuces ...per dozen	2 0	
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers.....doz.	3 0	6 0	Seakale...per basket	1 0	1 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 9	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 0	2 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Peonys, doz. bchs. ...	6 0	9 0
Azalea, doz. sprays	0 6	1 0	Primula, double, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0	Pyrethrum doz. bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Roses (indoor), doz.	0 6	1 0
Carnations doz. blms.	2 0	3 0	" Tea, white, doz.	1 0	2 0
Eucharis ...per doz.	3 0	5 0	" Yellow, doz. ...	2 0	3 0
Gardenias ...per doz.	3 0	4 0	" Safrano (English), doz. ...	1 3	2 0
Geranium, scarlet, doz. bunches	4 0	6 0	Red Roses.....	3 0	6 0
Lilac, English, doz. bchs.	4 0	6 0	Pink Roses	5 0	7 0
Lilac (French) per bch.	5 0	6 0	Roses (French), yellow, doz. blooms ...	1 6	2 0
Lilium longiflorum per doz.	2 0	5 0	Roses (French) red, doz. blooms. ...	2 0	2 6
Lilium candidum, per doz.	1 6	2 0	Smilax, per bunch ...	4 0	6 0
Lily of the Valley, doz. bchs.	6 0	15 0	Stephanotis, doz. sprays ...	4 0	6 0
Marguerites, 12 bnn.	1 6	3 0	Tuberoses, doz. blooms ...	0 4	0 6
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (English) doz. bun. ...	1 0	2 0
Narcissus, doz. bchs.	1 0	2 0	Violets (French) bun.	1 0	1 6
Orchids, doz. blooms	1 6	12 0			
Pelargoniums, 12 bun.	6 0	9 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0	Fuchsia, per doz.....	6 0	9 0
Aspidistra, doz.....	18 0	36 0	Heliotrope, per doz.	6 0	8 0
" specimen plants	5 0	10 6	Hydrangea, per doz.	9 0	18 0
Azaleas, each	1 6	2 6	Ivy Geraniums, per doz.	6 0	8 0
Calceolaria, per doz.	6 0	9 0	Lobelia, per doz.....	4 0	6 0
Cinerarias, per doz.	6 0	10 0	Lycopodiums, doz.	3 0	4 0
Dracaena, various, per doz.	12 0	30 0	Mignonette, per doz.	5 0	6 0
Dracaena viridis, doz.	9 0	18 0	Marguerite Daisy doz	6 0	12 0
Erica, various, doz....	9 0	18 0	Myrtles, doz.	6 0	9 0
Euonymus, var. doz.	6 0	18 0	Palms in variety, each	1 0	15 0
Evergreens, In var. doz	6 0	24 0	Palms, Specimen ...	21 0	63 0
Ferns, in var., per doz.	4 0	18 0	Pelargoniums, per doz.	9 0	15 0
Ferns, small, per 100	4 0	6 0	Primulas, doz.	4 0	6 0
Ficus elastica, each	1 0	5 0	Scarlets, per doz.....	3 0	9 0
Foliage Plants, var., each	2 0	10 0	Stocks, per doz.	4 0	6 0

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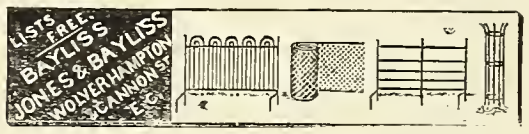

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spicuous amongst others in
well-flowered pieces of Laelia purpu[illegible]
brium thyrsiflorum, Cattleya Mossiae, [illegible]
caudatum Wallisii, Lycaste cruen[illegible]
dium superbiens and several others. Pre[illegible]
interesting were the flowers of Dendrobium [illegible]
num with their strange contrasting colours, and [illegible]
same might be said of D. glomeratum, Laelio-cattl[illegible]
Hippolyta, and the pretty Disa langleyensis. B[illegible]
and showy were the flowers of Cypripedium Ro[illegible]
childianum, Oncidium concolor and Maxil[illegible]

FLOWER SHOW FIXTURES, 1895.

MAY.
21, 22, 23.—R.H.S. Temple Show.
29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.
3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
12, 13.—Southend-on-Sea Horticultural Show.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.
3.—Southampton Spring Show.
2.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show.
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.
1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.
5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.
8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.
1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.

(*Continued on next column.*)

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.
3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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For Index to Contents see page 621.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, MAY 25th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 28th.—Orchid Sale at Protheroe & Morris' Rooms.

WEDNESDAY and THURSDAY, May 29th and 30th.—Pansy and Viola Show in the Botanic Gardens, Edgbaston, Birmingham, with a Conference of Pansy and Viola Growers on the afternoon of Wednesday, 29th.

FRIDAY, May 31st.—Orchid Sale at Protheroe & Morris' Rooms.

SUMMER FLOWER SHOWS OF TO-DAY.—In discussing this subject it must be approached from two points of view, namely by retrospection and modern aspects. It is only by such a method that we can make a comparison. The exhibitors of twenty years ago, as might be expected, deplore the absence of the huge specimen Azaleas, the giant Heaths, the Darwinias, the Statices, Tremandras, Dracophyllums, Aphlexis and other hard wooded subjects that were spoken of under the general name of New Holland plants. Tempting prizes were offered at the summer flower shows for groups of a certain number of stove and greenhouse flowering plants, so that there was an admixture of Ixoras, Dippladenias, Clerodendrons and others of that class with the greenhouse subjects above mentioned. Those who did not commence horticulture soon enough to be in the bustle and stir of those exhibition days, to see the plants and share in the excitement over them, do not miss them at modern shows. There were many young gardeners, however, then living in remote country districts who read glowing reports of the various leading exhibitions, as detailed in the gardening journals; and though they may never have seen one of those big shows, yet they could almost picture to themselves the bold and telling appearance of huge specimen plants by comparison with those under their own charge. Moreover, if not personally acquainted with the distinguished growers and exhibitors, yet gardeners at a distance from the scene of the contest knew all those men, at least, by the reputation attached to their names; and the struggle of the competitors, their day dreams and disturbed dreams by night before the advent of the exhibition, were subjects for comment amongst gardeners everywhere.

All that is a thing of the past, and there are frequent discussions as to whether the cultivation of those huge hard-wooded plants is not a lost art. To some extent it doubtlessly is so, but that fact applies to every other class of plants more or less, which requires special methods of cultivation. For some years past the large specimens have been gradually disappearing as one after another the collections of them were dispersed. This summer, judging from their absence from the shows that previously favoured and encouraged them, witnesses apparently their final exit from the principal London exhibitions. Most connoisseurs agree that they constituted a telling factor in the get-up of an attractive show, and to the general public who was privileged to see them only once a year they presented a certain amount of freshness. On the contrary those who had much to do with the plants, and who saw them from year to year, and at all the leading exhibitions of the season, must have felt a considerable degree of satiety and a sense of monotony and sameness at the appearance in public of the same plants they had seen, it might be, for a dozen years previously. The same lots of big plants would turn up at many or all the leading exhibitions of a season, and many were the jokes passed upon them by gardeners who knew all the circumstances of the case. In some instances a well-marked and characteristic plant—it might be a unique specimen of a Palm, Heath, Cactus or other subject—was sure to form a component part of a certain exhibitor's group at every show, and gardeners could calculate upon its appearance to a certainty. We have known a case where a huge and well-grown Hydrangea constituted one of the most striking features of a certain show every year, and a prominent position was given to it in the exhibition tent. In another case a tall specimen of the Old Man Cactus (Pilocereus senilis) constituted an equally persistent but less welcome component of a particular exhibit. One gardener made the pertinent remark to a brother of the profession, that his "Old Man" knew the road so well that he would only have to open the door of the house in which he was confined and the knowing old fellow would find the way to the exhibition by himself!

Public ideas have changed since then; and flowers have practically become more democratic, very much on the same lines as they are in America at the present day. In every private establishment the owners require large quantities of bloom for cut flower and other decorative purposes, so that there is no space for the bestowal of a few giant specimens in the greenhouses, nor have gardeners time to attend to their special requirements. Therefore, since the large specimens no longer exist, it follows that exhibitions have to be furnished with the more popular classes of plants. Prizes in various forms are offered for groups and collections of special classes of plants, and as their extent is often left to the exhibitor, the size of the group depends upon the resources of the competitors and the quality upon their cultural skill. In this country the example has been set by the Royal Horticultural Society at their principal shows in the Inner Temple Gardens and at Chiswick. The big shows of this kind have practically grown out of the ordinary fortnightly meetings of that society. On the Continent this feature of modern exhibitions prevails to a large extent and differs only in minor details. Groups and collections of Roses in pots and otherwise, have, for many years, formed part of an exhibition but the plants have become smaller and more numerous. Tuberous Begonias

are decidedly a modern innovation, seeing that they have only recently been introduced and brought to their present state of perfection. The imposing collections of Orchids generally in moderate-sized plants cannot be overlooked, especially those at the Temple Show, while the large specimens, whether specially made up of small pieces or otherwise, have practically disappeared. Collections of Clivias, Amaryllis, Caladiums, Paeonies, Tulips, especially of the true old florists' type, and herbaceous plants generally constitute imposing and effective features of the early summer exhibitions. Tree Paeonie sand those raised from the Siberian Paeonia albiflora are almost as modern as the Begonias for this style of exhibition. Our columns for this week give a more complete list of the classes of plants used for this style of modern exhibitions, and which has every appearance of spreading to the more remote districts of the country.

Viola Conference at Birmingham.—The second annual conference of growers and others interested in Violas will be held on the first day (29th inst.), of the Pansy and Viola show in the Edgbaston Botanical Gardens at 4 o'clock in the afternoon. Mr. William Cuthbertson will be chairman, and the following papers will be contributed:—

"The Genus Viola."—Professor Hillhouse.

"Older Varieties of Violas."—Mr. Richard Dean.

"Viola Sports."—Mr. J. D. Stuart.

"Violas that do well in Surrey."—Mr. E. Burrell.

"Newer Varieties of the Violetta Type."—Dr. Stuart.

"Winter Treatment of Violas."—Mr. A. J. Rowberry.

Manifestations in honour of M. Rodigas.—The esteemed director of the horticultural and agricultural school of the State of Ghent, has been the object of the most sympathetic manifestations on the occasion of the 35th anniversary of his entrance upon the teaching of horticulture. The 3rd May will be an unforgetable day for the director and for the students of the establishment. From the morning the school was *en fete*. The students of the three divisions presented cordial addresses and charming bouquets to their esteemed director. At the same time the musical section of the school gave a suitable concert, in which some specialists gave proof of much talent. The Circle of Horticulture students came in their turn to offer a superb souvenir of honour to its president. On Sunday, 5th May, the professional staff of the school and the members of the Council of Administration of the Circle of Arboriculture of Belgium offered M. Em. Rodigas a banquet, which took place at the Hotel of the Post at Ghent, and remitted to him as a souvenir of the fete a flower-stand in silver, richly garnished with Orchid flowers. The various toasts, and more particularly those proposed by M. Burvenich and by M. le Comte de Kerchove de Denterghem, President of the Circle of Arboriculture, to Madame Rodigas, were very happy and much cheered. The banquet has been a charming cordiality, and everybody will long remember that agreeable reunion.

Cordyline Australis at Broughty Ferry.—A beautiful specimen of the Cordyline australis has flowered at Angus Lodge, Broughty Ferry, the residence of Provost Orchar, to whom the plant belongs. The plant stands 11ft. high, and the branching inflorescence measures 3ft. in diameter and the same in height. These plants very rarely flower in this country. They are natives of New Zealand, and were introduced into Britain in 1823. It may be added that the flower is deliciously scented, and that the plants are very popular for conservatory and house decoration owing to their hardy nature. It may further be stated that the plant is grown in a pot and not planted in the open air. The stem is of some considerable height, but so well are the long leaves preserved that the lower ones hang down to the pot covering the naked portion of the stem. In Guernsey, specimens in the open air form small trees with a stout trunk 20ft. high or more in some cases and flower profusely every year, ripening an abundance of good seeds. In Britain proper the plant requires a very favourable situation in the south or west to live out of doors, and it seldom flowers under glass except in botanic gardens where it is allowed to attain a large size.

School of Instruction.—The Legislature of the State of New York last year voted a subvention of £1,666 13s. 4d. for the erection of a school of horticulture. That will be annexed to the Cornell University. It will be seen that the necessity for instruction makes itself felt amongst the gardeners of the new as well as amongst those of the old world. Our Continental neighbours have long felt this need and have been taking steps to supply its requirements, but we in this country are so slow in our movements that we are only beginning to see the necessity for technical instruction on a far more general and comprehensive scale than has hitherto been the case.

Completion of the temperate house at Kew.—According to recent statements from various sources it is affirmed that the large temperate house at the south end of the Royal Gardens, Kew, is to be completed after various statements to the contrary. The tender for the two wings is to be sent out next month. The building is already a conspicuous and imposing feature in this part of the garden, but when the large additional wings to complete the original design have been erected, it must be the finest plant house of its kind to be seen anywhere.

American Chrysanthemum Annual for 1895.—Our cousins on the western shore of the Atlantic have for some time past been feeling the want of a publication in which all the more important facts relating to the Chrysanthemum should be brought together annually and put into form suitable and convenient for purposes of reference. The first of these publications—*The American Chrysanthemum Annual*—is now before us and has been edited by Mr. Michael Barker, an old Kew man, now of the Horticultural Department, Cornell University, United States, America. It consists of forty-four large sized pages of closely printed matter got up on somewhat similar lines to that of the National Chrysanthemum Society in this country, but dealing with Chrysanthemum lore according to American needs, aspects and circumstances. There are some twenty-five chapters mostly by different writers. The first is a piece of poetry in blank verse, entitled "The Flower from the East," but we are surprised that the name Chrysanthemum should not have been interwoven with the text; it would seem that poets draw the line at the lengthy word of Greek origin. Amongst other subjects dealt with are chapters on Early American History, Specimen Plants, The National Society of England, Outdoor Culture, The American Society, Seeds and seedlings, Fungous Enemies, Insect Friends and Enemies, European Varieties in America, In Far China, as well as other places, Crown Buds and Terminals, and other subjects of that nature in which many Chrysanthemum growers in this country should feel highly interested. The work is admirably got up as is usual with many American publications, and includes a number of portraits of the leading members of the American Society as well as illustrations of Chrysanthemum blooms. The *Annual* is published by The Mayflower Publishing Company, Floral Park, New York.

Popular Botanical Lectures.—Miss Styan commenced the annual series of lectures in the gardens of the Royal Botanic Society recently, and took as her subject, "Fruits and Seeds; Their Structure, Means of Protection and Dispersion." With regard to the latter point she stated that some had sails by which they can move through the air, while others are provided with hooks and anchors or a screwing apparatus by means of which they ultimately buried themselves in the ground. In this country plants with hooks were represented by the Cleavers and Burdocks, but none were so formidable as the Grapple-plant (Harpagophytum procumbens), of South Africa, which sometimes destroyed even the lion. The fruits are furnished with great hooks which sometimes get fixed in some part of the skin of that noble beast, and when the latter tries to remove the same, the hooks get fixed in his mouth, thus preventing him from eating, thereby causing him to die of starvation. The lectures are held on Fridays during May and June, and all visitors to the gardens have access to them free of charge.

"Real English" Tomatos.—A stall-holder in the Smithfield Market, Manchester, was last week fined 40s., and 40s. extra as costs, under the Merchandise Marks Act, for attaching a false trade description to foreign grown Tomatos. A gentleman connected with the Wholesale Fruiterers' Association went to the defendant's stall in the market and saw two baskets of Tomatos. One of the baskets was labelled "Real English Seed, 4d. per lb.," and the label on the other basket bore the words "Real English, 6d. per lb." In the first instance the words "Real English" were very large, and the word "Seed" very small and surrounded with a scroll. He carefully asked if the Tomatos were really English, and was informed that they were. He thereupon bought a pound, and informed the dealer that he was going to take a test case, whereupon the defendant said the Tomatos were from English seed, and the offending labels were removed a short time after. The stipendiary was informed that at the time the Tomatos in question were sold real English were selling at the rate of 1s. 2d. per lb.

Sussex Horticulturists at Brighton.—At the usual monthly meeting of the members, held last night at the Imperial Hotel, Brighton, with Mr. W. Balchin, jun., in the chair, Mr. J. Edwards, of Henfield, read a paper on "Soils and manures." Mr. Edwards's remarks, being of a practical character, must have proved very helpful to the members, especially to amateurs. He began by speaking of the misconceptions which, some few years ago, prevailed regarding the advantages of artificial manures, and recalled the old-fashioned sayings about "loam and peat" and "peat and loam," the one meaning much loam and little peat, and the other much peat and little loam. Then he went on to describe the early efforts made to ascertain the value of manures and their effect on the soil. Much more had been done for agriculture than for horticulture in this respect, and while farmers were familiar with the term "agricultural chemistry" the term "horticultural chemistry" was certainly not in general use, though he did not know why it should not be. All honour to Gilbert & Laws, who had done so much in this direction, and to one of whom they owed the application of superphosphate in relation to soil. Now they had a number of artificial manures, and the cost of production was not great. Their object should be to get a clearer knowledge of them and of their application to the soil. Mr. Edwards next explained soils organic and inorganic, and showed how nature had to be supplemented if it were to be made productive. The admixture of soils was really the most effective, and he had seen bad gardens turned into good gardens by this method. He thought that in the future horticulture and agriculture would go hand in hand in this matter more than they had done in the past. He had seen a gentleman who had possessed an estate do a great deal with "correctives," but in other cases more could be done by manures which had a more direct and immediate effect. Having indicated how soluble substances could pass into the roots of plants, while insoluble substances could not, he said this showed the error of using manure water unless it was clear; in pot culture it was to a great extent fatal. It had been said that these artificial manures impoverished the land, but, although there was no doubt a sense in which this was true, it was a fallacy to those who understood how these chemical manures could be used with discrimination and with natural manure. Mr. Edwards was cordially thanked for his interesting paper.—Several new members were elected.

PRIMULA SIEBOLDI.

In view of recent events that have taken place in the far east it may not be out of place to remember Primula Sieboldi amongst the many highly ornamental plants which we have received from Japan. Since its introduction in 1865 it has undergone many and vast improvements, which we hope to see continued as time rolls on. These varieties have been spoken of as Japanese Primroses, but that title rightly belongs to P. japonica. The subject under notice has, however, given rise to much greater variation than the true Japanese Primrose, but although less than that of the Chinese Primrose, it has the additional recommendation of being perfectly hardy. Specimens in the open air all last winter are now flowering beautifully, and are much dwarfer than those grown in cold frames. Pot plants have the recommendation of being transferable to the cool conservatory when in bloom, and a charming effect they have. The accompanying illustration shows the form of the flowers, and gives

a hint of the distribution of the colours of half a dozen varieties. That marked 1 has dark rose flowers beautifully lined and netted with much paler almost white lines, and is named Rosea striata. No. 2 has pure white flowers, and is named Grandiflora alba; but there are other white varieties differing in some more or less important particulars. No. 3 is Magenta Queen, the name of which is a true indication of the colour. Dark colours are highly favoured by a great many growers, who would be pleased with Purple Queen (No. 4) as representing that particular hue. Rosea alba (No. 5) has more starry flowers quite distinct in form from any of the others here enumerated, and is characterised by the upper surface being white and the lower face rosy. Lilacina (No. 6) is purple streaked with white along the course of the principal veins. Besides the above there are now some charming blue varieties, including Bruce Findlay, and some with jagged or laciniated petals, amongst which are Laciniata and its sub-varieties. The original type has been superseded both in size and colour.

THE PLANTS OF THE CANARIES.

The members of the Royal Horticultural Society had the pleasure of listening to a most interesting lecture by Dr. Morris, C.M.G., Assistant Director of the Royal Gardens, Kew, at which Dr. Masters presided. The lecture was rendered still more attractive by limelight illustrations that, considering the difficulties under which the lantern was worked, were represented on the screen with astonishing clearness. To admit of these limelight views, the end of the Drill Hall, where the lectures are usually given, had been temporarily enclosed by canvas, and into this improvised dark room a goodly percentage of the visitors flocked in eager expectancy, evidently anticipating an enjoyable and profitable hour. Nor were they disappointed, for Dr. Morris in his usual lucid and vigorous style captivated the attention of his hearers with his graphic descriptions of sights to be seen and plants, both wild and cultivated, to be found within the limits of the Canary Islands. Appropriately enough he commenced by describing the whereabouts of the Canaries as off the north-west coast of Africa, and in the same latitude as Florida, Egypt, and Persia. They were distant, he said, about six or seven days' journey from London and Liverpool, and four or five from Plymouth. Referring to the history of the islands, Dr. Morris said that they were known to the ancients by the name of the Fortunate Isles, and are referred to by Pliny under that name. Juba, one of the old kings of Numidia, had also sent some ships to visit them. Nothing had come of this voyage of discovery other than the bringing away of two huge dogs, with which the islands at that time abounded, and which were subsequently sent as presents to the then reigning Roman emperor. The islands were re-discovered by some Portuguese navigators in the fourteenth century, and under the influence of their cruel and oppressive tyranny the whole of the aboriginal inhabitants were exterminated by the end of the seventeenth century. The population of the islands at present was of mixed descent, but was largely composed of Spaniards and Portuguese. The group was composed of seven islands of different sizes, and altogether would be about equal in area to the county of Devonshire, whilst it contained about the same number of inhabitants as Northamptonshire. The lecturer stated, however, that it was with the islands of Teneriffe and the Grand Canary that he wished particularly to deal, as it was with these that he could claim the closest acquaintance.

The islands themselves being practically only a continuation of the great Atlas chain of mountains of North-Western Africa, the water immediately surrounding them was of great depth, and the outlines of the coasts were rough, rugged, and broken. In many places huge beetling cliffs rose abruptly out of the water to a considerable height, whilst behind them in the interior huge snow-clad peaks lifted their heads to heaven. One of them, the well-known Peak of Teneriffe, rising to an altitude of 12,000 feet above sea level. Although in the lower regions the climate was hot and dry, as might be expected from the close proximity to the great desert of Sahara, still all sorts of climates were obtainable according to the various altitudes. The average mean winter temperature of the islands, that is to say during the months of December, January, and February was about 60° Fahr. The soil itself was only volcanic dust covered with stones to a very great depth. And yet, despite these natural disadvantages, much of the soil was cultivated and to good purpose. The expenses connected with the preparation of the land were, the lecturer continued, very great; the cost of clearing each acre of the stones with which the land was so thickly covered exceeding £200 sterling. In many cases these stones would be stacked in a huge heap in the centre of the field, where they would naturally present a rather strange appearance. Then, besides the cost of clearing, the whole of the land had to be artificially irrigated.

Dr. Morris then went on to say that some of the productions of these islands were known far and wide, such as the canary bird and the canary grass, the former being valued as one of our best songsters and a pet in many a home. The canary grass, too, although brought originally from the islands as food for the canary bird, was now cultivated rather largely in Europe and America as food for many birds besides canaries. The islands, too, had been celebrated in times past for the canary wine. Owing to the havoc committed among the Vines by the Oidium fungus the export of wine has during the present century almost entirely ceased. Our knowledge of the flora of the islands practically commenced with Humboldt's visit to them. The great explorer found that the vegetation might be divided into two or three zones. First comes the Vine district, in which are also cultivated Bananas and Sugar Canes, and where he found a native Date Palm, Phoenix canariensis, flourishing. Next to this comes the Laurel zone, characterised by clumps of Laurels, Hollies, wild Olives, Arbutus, and a host of British plants, amongst which might be reckoned at least a dozen of English Ferns. Above this a dry and barren district exists, destitute of verdure, and in which one might look in vain for the numbers of beautiful plants characteristic of the lower levels, nothing but the Spanish Broom (Spartium junceum) being able to exist.

The flora of the islands was, the lecturer continued, rather remarkable, for out of the eight hundred vascular plants it contains, no fewer than four hundred are endemic, over one hundred of these being now in cultivation at Kew. Specimens of these had been brought from Kew for purposes of illustration, among which might be mentioned Cheiranthes mutabilis, a plant rather remarkable on account of its two-coloured flowers, and which is to be found at an altitude of from three to four thousand feet above sea level; Cineraria cruenta, about which a considerable stir is being made at present as to it being the reputed parent of the various strains of the popular Cineraria of gardens. It was said of this plant that when growing wild it was characterised by the purple colour of the under side of the leaves. Under cultivation, however, the plant gradually loses this, until finally a total elimination of the purple takes place. Ranunculus cortusaefolius is another remarkably pretty plant which grows with astonishing freedom in the Laurel zone at a height of from one thousand to two thousand feet, its large, rich yellow flowers being particularly conspicuous. Other plants which are to be met with in our gardens and which have come from the Canary Islands are the popular Cytisus racemosus, the more rarely seen C. filipes, the flowers of which are so fragrant, Cineraria Heritieri, Chrysanthemum urosenetii, and C. foeniculaceum. The native Date Palm, P. canariensis, also attains a great size. It is rather distinct in habit from the true Date Palm, and forms a large globe-like head of fronds, the pinnae being dark green in colour, and set very closely together. A fine representation that was given upon the screen of the far-famed Dragon Tree (Dracaena Draco) aroused a good deal of interest, which the lecturer still further excited by saying that although the tree itself had succumbed to the influence of time a piece of it was still growing at Kew.

Illustrations were also given of the Cochineal Cactus, upon which the cochineal insects feed, also of Opuntia Dillenii, the spines of which were used to fasten the insects on to the plants. Both these Opuntias it was stated flourished in the Canaries, and the export of cochineal had in times past been a lucrative industry. Views of the Botanic Gardens were also given as well as illustrations of Mrs. Smith's garden, where Miss North painted the greater part of the pictures of plants characteristic of the Canary Isles, which were now to be seen in the North Gallery at Kew. Mention was also made of the large Myrtle trees, some ten or eleven feet in height, of magnificent specimens of Ficus Roxburghii, the traveller's tree, Ravenala madagascariensis, Caryota urens, beautiful Bougainvilleas, and Roses, groves of Oranges, &c., which were to be seen in the cultivated parts of the islands. But, Dr. Morris went on to say, although the imported and cultivated plants grew so strongly and so well, they were not in any way elbowing out the native plants, for, as far as his personal observations and experience went, the latter appeared to be quite capable of holding their own against foreign introductions.

PELARGONIUMS AT RYECROFT.

The old proverb which states that "anything that is worth doing at all is worth doing well" is evidently thoroughly believed in, and what is more acted upon, by Mr. H. J. Jones, in his treatment of the Show, Decorative, and Regal sections of the Pelargonium, as a visit to his busy little nursery at Hither Green, Lewisham, will sufficiently testify. At the present time a light roomy house some hundred feet in length by twenty-five in width is filled with exceedingly meritorious examples of this showy class of plants. The house is a blaze of colour from end to end, colour indeed that is all the more striking from its agreeable contrast with the rich dark green of the foliage which it surmounts, a hue that bespeaks cultivation of no mean order of merit. Show Pelargoniums are, it is true, very largely cultivated throughout the country and during the seasons at various flower shows of note they may be seen in a more or less meritorious condition. Seldom, however, do we come across a collection of plants more worthy of praise than those which are just now so much in evidence at Ryecroft Nursery.

Show and Decorative Sorts.

In these sections some fine examples were forthcoming, both of the newer introductions as well as of varieties which have stood the test of several years of culture, and even yet hold their own as proven and trustworthy sorts. Among these latter W. C. Boyes was charming, being of good habit and producing its pretty salmon tinted flowers in great profusion. Jubilee has blooms of a delicate soft pink hue, blotched maroon. Rose Bard, with its soft rose flowers, the upper petals being feathered and blotched with maroon, is a very pretty sort; also Rose Queen, the blooms of which are of a bluish-pink shade, the upper petals blotched red. Very charming and distinct is Lady Isabel, carrying quantities of the soft rosy-lilac blooms, also blotched with maroon; whilst of Volonte nationale alba, with its large pure white flowers, too much can scarcely be said in commendation. Among the varieties sent out during 1894 may be seen some real gems. One of them, Mr. H. J. Jones, was well represented by some splendid plants quite 3 ft. in diameter, and, to judge from the number of trusses of bloom which they carried, this variety would be hard to beat for floriferousness. The flowers are of a bright rosy-red hue with a white eye, whilst the crimson-maroon blotch on the upper petals add not a little to their beauty. May Queen, another desirable variety, has clear soft salmon-rose blooms blotched dark crimson, whilst Lady Duff, a sport from the well-known Duke of Fife, is exceedingly attractive with its trusses of rich red flowers. The large size of the flowers borne by Mrs. H. J. Jones serve to render this variety very conspicuous; indeed, it is said to be the largest flowering Pelargonium in existence. A number of plants were in fine condition, and to judge from appearances the blush-white blooms with their characteristic crimson blotches are highly thought of at Ryecroft, and, we may add, well they deserve to be.

In the list of 1895 introductions are to be found some exquisite varieties. J. Douglas, a fine exhibition plant, having rich purple-rose flowers and white centres, stands out from the rest very conspicuously. Another not less important acquisition is to be found in Eucharis. This is of the same habit as Volonte nationale alba, but is distinct from it in that each individual flower possesses a much longer pedicel than is usually the case with the majority of Pelargoniums. This feature renders

the plant extremely useful for growing for purposes of cut flower, for with the addition of a little floral cement the blooms stand well. Mr. Jones informed us that he expects great things from this variety. Mr. Jeffrey is a decided acquisition bearing heavy trusses of deep purple flowers, a shade far too uncommon among Pelargoniums. The plant is, moreover, of dwarf, compact and sturdy habit. Another desirable sort, Mrs. W. Wright, has been awarded a First-class Certificate by the Royal Horticultural Society. In colour the blooms are an exquisite rosy blush paling somewhat as they age. The edges of the petals are also slightly crisped, a fact that adds not a little to the charm of the flower.

Of varieties to be offered to the public next year there are no lack, and judging from the appearance of some of the plants now on view some really good things will be then forthcoming. The undermentioned are a few of the most noteworthy. Duke of Portland, in which the flowers are of a soft rosy-red shade, the upper petals being heavily blotched; Multiflora, an exceedingly pretty plant, the lower petals soft blush, and the upper ones red with a dark maroon blotch; Miss Alice Lowe, which has deep blush flowers, blotched dark maroon, the edges of the petals being beautifully crisped, and closely resembling Mrs. W. Wright; Ladas, with its deep pink blooms heavily blotched with maroon, is also not behind the rest in point of excellence. All these new varieties are possessed of the dwarf and sturdy habit, vigorous constitution, and free flowering qualities that go to make up an ideal plant.

Regal Varieties.

Although not quite so strongly represented with regard to numbers as the show and decorative sorts, Mr. Jones has a goodly collection of Pelargoniums of the regal section now in flower. They are considered as distinct from the show and decorative varieties in that they have the petals so crimped as to impart a semi-double appearance to the flowers that cannot fail to render them highly attractive as well as popular. The following are a few instances of especially valuable and noteworthy sorts:—Madame Thibaut, an old, but none the less splendid variety, carrying large trusses of the white flowers marbled with rose. Very charming is Madame Thibaut alba, a sport from this possessing the same fine habit, but producing pure white flowers. Duke of Fife has flowers a clear lake in colour, the white margin being both pretty and conspicuous. Bush Hill Beauty, a well-known variety of several years' standing, was quite up to its usual standard of merit. The blooms borne by this desirable sort are of extra large size, rich rose in colour, and beautifully mottled or marbled withal. With Prince of Wales, which carries huge trusses of bright vermilion-coloured blooms rather lighter in the centre, we must bring to a close a list that might be considerably extended. The varieties mentioned, however, are among the gems of the Ryecroft collection, and are without doubt thoroughly deserving of extensive cultivation by all growers who desire to keep their collections of show, decorative, and regal Pelargoniums as representative and up-to-date as possible.

THE ROCKERY.

Various flowers have been making themselves conspicuous on the rockery at intervals more or less remote ever since the first Snowdrops pushed up their nodding and graceful blooms, exposing them to our wintry skies. During the month of May the number of hardy subjects suitable for cultivation on the rockwork gets greatly augmented by a host of subjects, natives of temperate and cool temperate climates, and such as may be expected to thrive unprotected in various parts of Britain. The actual time for the appearance of each respective species depends upon its habits or season of flowering in its native country; secondly, upon latitude when cultivated in Britain; and thirdly, upon the state of the weather for some time previous to the expansion of the flowers. The degree of exposure and local environment would also affect many kinds to a small extent.

Rare plants and those difficult to cultivate and flower in the open air are always of interest to the collector and the connoisseur of this class of hardy subjects, but the adornment of the rockery does not depend upon them. This is easily effected by those types of vegetation which are more common, easily cultivated, and easily propagated, so that losses from whatever cause are more readily made good when the rockery is overhauled in spring, and additions made to the collection. For general effect, the more showy subjects should be planted in masses or allowed to grow into such in the case of recently acquired sorts. At the present time the Aubrietias are making a brave show following on the heels of the common but not unattractive Arabis albida, and the yellow and white Drabas all belonging to the same family, which furnishes many of our spring flowers. Aubrietia deltoidea violacea with dark purple flowers tinted with violet in their early stages, and the variety Leichtlinii with rich rosy flowers, are two of the best. Both form large sheets of bloom at the present time, and none are more suitable for making a display when planted in broad masses where the soil is sufficiently deep and moist to prevent the plants getting dried up by the east winds which are so prevalent in spring. A skilful propagator of hardy plants knows that cuttings of Aubrietias root readily when taken after a period of moist weather has put them into vigorous growth.

The dwarf Phloxes of North America are scarcely less important than the European Aubrietias. There are several of them, but some of the best are Phlox subulata, P. amoena, P. stolonifera (often called P. verna), and P. canadensis. The first-named furnishes many really beautiful varieties, including P. subulata Nelsoni, with five or ten violet spots round the eye of the white flower; P. s. nivea, pure white; P. s. Vivid, warm rose; and sub-varieties of the more rampantly trailing form best known in gardens as P. setacea. The quantity of flowers produced by P. amoena is surprising when planted in fairly rich and moist soil in full exposure to sunshine. It is a mistake to plant these dwarf Phloxes in shady positions, and worse still to put them under the drip of trees where they cannot look otherwise than stunted, weakened, and miserable, with anything but a full complement of bloom. The dark slaty-blue flowers of P. canadensis are very distinct and pleasing by contrast with the others, but it grows taller than either, being about a foot high. They can all be readily propagated from cuttings in sandy soil under a handlight, which may itself be placed in a cold frame. The cuttings should be taken from the barren shoots when getting moderately firm to avoid damping during the rooting process. This can be done during June and July, but may be continued till September. When the cuttings have made roots they will begin to grow, so that in a short time others may be taken from them; the second batch will root more quickly than the first. All may be planted out in September or early in October if so desired.

The snowy flowers of Dryas octopetala are very telling and interesting just now by contrast with the scolloped dark green leaves that cover the stems, slowly creeping over the ledges of the rockwork in positions and localities where it thrives. It is by no means difficult to grow in soils that can readily be kept moist, and this can easily be done by the use of peat in the soil. Some lime rubble would also be advantageous, as the plant naturally grows in mountain districts where limestone abounds. Veronica saxatilis is a gem just now with its dark blue flowers and dwarf creeping stems. It is difficult to find a difference between this and V. Guthrieana, said to be of garden origin. Those who have difficulty in growing Gentiana verna would have no trouble with this Alpine Speedwell, which may be increased to any extent by cuttings in pots of sandy soil in a frame kept rather close till rooting takes place. That little gem Dianthus gelidus with dark rose flowers about the breadth of a sixpence is now flowering freely on stems about an inch high.—*Propagator.*

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Dendrobium Dalhousieanum.—Under ordinary circumstances the flowers of this species are very imposing. On well grown plants they measure 4 in. to 5 in. across, but we are in receipt of a flower from Mr. A. Wright, gardener to Thomas MacMeekin, Esq., Falkland Park, South Norwood Hill, which measures 5½ in. across, while another flower measured 6 in. The nankeen-yellow sepals and petals were tinted and veined with a soft rose. Each petal measured close upon 3 in. in length and 1¾ in. across. The two maroon-purple, eye-like blotches at the base of the lip constitute a most conspicuous and telling feature of the species, and in this case they were enlarged in proportion to the enhanced size of the bloom. The apical half of the lip presents a curious appearance in being densely covered with creamy-white fringes and hairs. The species is widely distributed throughout Burmah, and fresh importations of it are frequently made from its native habitats. So distinct is this species that it is not likely to be confused with any other of this vast genus; and gardeners as well as other connoisseurs generally consider it as one of the noblest of the genus, and whether this is a distinct variety or its huge flowers are the result of good cultivation, the owner is to be congratulated on his possession.

THE PLANT HOUSES.

The Stove.

After the spell of almost tropical weather with which we have until a few days ago been favoured, the recent cold winds and low temperatures cannot fail to prove excessively trying. A little extra care will be needed in dealing with the occupants of the stove in order to see that they do not sustain a check, and as this would inevitably take place if the temperatures were allowed to fall too low, recourse must be had to a little more fire heat than was used during the hot weather.

Palms.—These, from their great value as decorative plants both for the furnishing of the stove and for standing in vases or stands in the house, are practically indispensable in all establishments of any size. In order to be of real service it is necessary that a number of them should be kept in as small pots as possible. Plants which were potted early in the spring will now have filled their pots with roots, and as, when in this condition, they soon exhaust the goodness from the soil, manurial stimulant of some kind will be needed if they are to preserve the healthy dark green hue of their foliage. Of artificial manure nitrate of soda is one of the most efficacious, although the greatest care must be exercised in its use or harm instead of good will result. A pinch scattered over the surface of the soil every week or ten days will soon work wonders in improving the appearance of starved plants. In the application of nitrate of soda, as indeed when dealing with all other manures, it must be borne in mind that stimulants of this kind must only be given to plants which are in full vigour of growth and which as a natural result call for increased supplies of food. To apply manures to sickly, weakly-growing plants with a view to improving their condition is a gross mistake, as it is then nothing more nor less than poison to them. If due caution be exercised, however, the judicious application of manures will materially assist in the attaining of the desirable end of healthy shapely plants with a good spread of foliage in small pots.

Bertolonias.—Although this genus contains not a few wonderfully pretty foliage plants they are certainly not grown to the extent that they deserve to be. This may, perhaps, in a great measure, be accounted for by the fact that they will not stand anything like rough treatment; indeed, we might well class them among the aristocrats of the stove. While a little care is needed in their culture, however, they are certainly not difficult to grow. A mixture of equal parts of peat and good turfy loam with a liberal addition of sharp sand will be necessary, and the plants will need to be covered, more especially in the earlier stages, with a bell-glass. Those who wish to grow something a little out of the usual run of stove plants will find the following varieties well worthy their attention: Van Houttei, Souvenir de Gand, Comte de Kerchove, and Madame Van Geert.

Greenhouse and Cool Conservatory.

The cold winds will be anything but a blessing in this department also, and great caution will be needed in the giving of air. Tempted by the tropical-like weather which prevailed up to within a week ago many plants will have been brought in that require a rather warmer temperature than that which at present obtains in an unheated house. For a while, therefore, the lights should be closed at nightfall, until these tender plants get somewhat acclimatized.

PELARGONIUMS.—These will now be making a gorgeous show if they have been well looked after during the early months of the year. Staking will, of course, be an important point to attend to, for the plants in most cases make heavy growths, that if not supported are extremely liable to break off at the base during shifting. A few neat stakes carefully inserted also allows of the trusses of bloom being evenly distributed over the plant, of itself no small consideration. But, while the Pelargonium is a most showy and useful greenhouse subject, it causes a good deal of trouble, as the continually falling blooms make a lot of litter. They should therefore be gone over every day and all yellow leaves or falling blossoms removed. It is also advisable to alter the arrangement now and again, and thus vary the appearance as far as possible, besides keeping the plants neat and trim.

LATER BATCHES of plants which are not yet in flower must be kept near the glass to prevent them becoming drawn. A liberal allowance of liquid manure may be given at alternate waterings. At this time of the year green fly usually proves more or less of a nuisance, and its first appearance must be carefully watched for. Any affected plants may be syringed or dipped with tobacco water, washing this off with clean water after a lapse of not more than ten minutes from the time of application, when it should have done its work pretty effectually.

SOOT.—While this is one of the most easily obtained it is also one of the most useful manures that can possibly be applied, either for soft or hard-wooded plants. At this season of the year, when so many subjects are needing some stimulant or other, a supply of soot water should be always on hand. The best method of procuring this is to place the soot in a bag, tying the mouth of the latter firmly and soaking it in a tank of water for a day or two before using. By this means a clear solution is obtained, free from all the sediment, which, if this precaution were not taken, would form a hard crust upon the surface of the soil.

Pits and Frames.

PRIMULA SINENSIS.—It is now quite time that the main sowing of Chinese Primulas should be made. Rather shallow pans should be chosen. These must be well drained and filled with fine light soil to within an inch of the brim. A gentle pressure must be given the soil with any flat surface to make it even, and then the seed may be sprinkled carefully over it, afterwards lightly covering it with sand. A piece of glass laid over the pan will, by preventing rapid or excessive evaporation, do away with the necessity for frequent waterings until the seed has germinated. Place the seed pans in a close warm pit, and shade carefully from hot sun. There are now a great many beautiful varieties upon the market producing flowers of various hues from which the best results may be confidently expected. Any or all of the following sorts can be confidently recommended:—Veitch's Snowflake, Superb Fringed White, Superb Fringed Red, Chelsea Blue, Sutton's Giant White, Reading Blue, Rosea magnifica, and Alba magnifica.

DOUBLE PRIMULAS.—A batch of these should be grown in every garden, for not only do they constitute an agreeable contrast to the single varieties when both are grown side by side, but they come in very useful for the furnishing of cut flowers during the dull months of the year. The double varieties must be propagated each year either by cuttings or division. The latter method is to be preferred as being more certain. Plants which have been flowering through the last season should have had all their flower scapes picked off, and should have been introduced into a gentle heat to induce them to make growth. The base of the stems may now be earthed up with leaf-mould, or, if preferred, with sphagnum moss. The plants will root freely into this surrounding material, and thus, when division takes place a few weeks hence, the cuttings will be furnished with roots, and, as a result, strong young plants will soon be forthcoming. So floriferous are the double varieties of Primulas that, as a rule, it will be necessary to pinch out the flower stems which they never seem to tire of throwing up throughout the whole of the growing season.

CINERARIAS.—Seed must be sown without delay if it is desired to have nice sturdy plants to bloom from February onwards. Similar treatment to that advocated for Chinese Primulas will be necessary. The great thing is to obtain a good strain, and this, if the seed order has been entrusted to a good seedsman, is not a difficult matter. Any seed that has been saved from particularly good varieties of home cultivation may also be sown, as the best of results are sometimes obtained in this way. The plants resulting from home saved seed should in all cases be marked for comparison with others obtained from purchased seed.

BEDDING STUFF.—The later struck cuttings of the tenderer section of bedding plants will now be going through the usual process of hardening off in readiness for planting out at the beginning of June should the weather prove favourable. Taking into consideration the recent inclement weather it will not be advisable to expose Iresines, Coleuses, or Verbenas too much. The lights should therefore be put on the frames containing these plants at nightfall.—*A. S. G.*

THE ORCHID HOUSES.

THE SHOW HOUSE.—Those that are fortunate to have such a structure at their command have an advantage in being able to show off their plants by placing Palms and Ferns amongst them whilst in flower, which takes off the stiffness otherwise observed in such things as Cattleyas and some of the Dendrobiums. Besides they can be viewed with more comfort, as it is not necessary or judicious to keep the temperature of the house nearly so high or the atmosphere so moist, as in the growing divisions we are not all so favoured and are compelled to make the best of what we have. We manage to make an imposing show by massing all those in bloom either along the side of the middle stage or at one end, relieved with a few Palms and Ferns. This is much better than for one to be in flower here and another a little farther on, and these perhaps not within the line of sight; they last longer in bloom, too, because they are not so liable to get wetted when damping down.

ODONTOGLOSSUM CITROSMUM.—This fine Orchid has pendulous spikes if left to its own resources and is rather difficult to show off well; a good plan with the spikes is to stake them up when the blooms are about half developed. I do not mean to tie the whole length securely to the stake, but just catch it loosely below the bottom bloom, allowing the other part to arch gracefully over the foliage.

DENDROBIUMS.—Every encouragement must now be given to all sections which are in an advanced stage of growth by affording them an abundance of heat and moisture. The past week has not been at all favourable to any plant, let alone those in active growth, being dull and cold, compelling us, though reluctantly, to again have recourse to fire heat in the day time as well as at night.

SHADING.—After a spell of dull sunless weather such as we are having, the plants will require careful looking after as regards shade when bright weather comes, or a lot of damage to foliage will be the result, until it again becomes accustomed to it, when less would suffice.

COMPOST.—The material best suited to their requirements consists of peat of the roughest kind and growing heads of sphagnum moss; to this should be added rough pieces of charcoal, pieces of broken crocks, or anything to keep it porous, as they dislike a compost that will not allow of the moisture passing freely away.

MANURE WATER.—When well established they are much benefited by weak doses of some stimulant, drainings from the cow sheds very much diluted being very good for them, either direct to the roots or used for damping down purposes. Next to getting a good growth is giving them a good season of rest if they are to flower well. The temperature should range from 80° to 100° with sun heat, with a night range of 70° to 75°.—*C.*

Gleanings from the World of Science.

Tricks played by Plants.—Dr. Lundstrom has recently described some cases of alleged plant mimicry. The cultivated plant known as Calendula may in different conditions produce at least three kinds of fruit. Some have sails, and are suited for transportation by the wind; while others have hooks, and catch hold of passing animals; but the third kind exhibits a more desperate dodge, for it becomes like a caterpillar! Not that the fruit knows anything about it, but, if it be sufficiently like a caterpillar, a bird may eat it by mistake, the indigestible seeds will be subsequently sown, and so the trick succeeds. The next case is more marvellous. There is a more graceful wild plant, with beautiful delicate flowers, known to many as the Cow-wheat. Ants are fond of visiting the Cow-wheat to feast on a sweet banquet spread out upon the leaves. Dr. Lundstrom has observed one of these ants, and was surprised to see it making off with one of the seeds from an open fruit. The ant took the seed home with it. On exploring some ant-nests, the explorer soon saw that this was not the first Cow-wheat seed which had been similarly treated. Many seeds were found in the ant nurseries. The ants did not eat them or destroy them; in fact, when the nest was disturbed the ants saved the seeds along with their brood, for in size, form, colour, and weight, even in minute particulars, the seeds in question resemble ant-cocoons. Once placed among the cocoons, it requires a better eye than an ant has to distinguish the tares from the wheat. In the excitement of flitting, when the nest is disturbed, the mistake is repeated, and the seeds are also saved. The trick is found out some day; for the seeds, like the cocoons, awake out of sleep. The awakening displays the fraud. The seeds are thus supposed to be scattered; they germinate and seem to thrive in the ant-nests. [We admit that Dr. Lundstrom has correctly observed the form of the fruits of the common Marigold; but we doubt if birds ever eat the caterpillar-like fruits, and should prefer to say that they may carry them away and ultimately discover their mistake when they proceed to swallow the hard and much ribbed achenes. Unless they could manage to shell the fruits to get at the kernel, we should imagine they would be dropped as uneatable. The purpose of dissemination would thus be served by the cheating of the birds which may carry the fruits to greater or less distances from the parent plant.—ED.]

Is science bankrupt?—More than thirty years ago Darwin published his great work on "The Origin of Species," and since then most people engaged in investigations on the problems presented by living matter have embraced the creed embodied in that book. The question at present to be considered is "what progress has been made in biological science since Darwin promulgated his great theory? Professor Ray Lancaster has undertaken to answer the question by a series of lectures at the Royal Institution, and the first was delivered on the 14th inst. There had been much useless talk on the subject by various writers, some of whom imputed bankruptcy to science, which had promised the millennium but had given disappointment. The pretensions of magazine scribblers and newspaper paragraphists did not, he said, affect the aims and doings of scientific men, whose work was proceeding and progressing in the unravelling of the tangled web of nature. The charge of bankruptcy was easy disproved on behalf of biology judging from the results being achieved in the detection and prevention of disease. He gave a summary of the cell theory of life while reviewing biological history for the past thirty years. One of the most important discoveries made during that time was the continuity of the protoplasm in plants as in animals; another was that a vast kingdom of animal life exists in which the animals are limited to a single cell of protoplasmic matter. The importance of the nucleus of a cell was also discovered. Before a cell can divide into two an important process termed karyokinesis takes place, and during this the original nucleus breaks up into two, and each constitutes the nucleus of a cell after a partition has been formed through the middle of the original one. Thus all the cells are related to one another by direct descent from the original one of the embryo; and the ultimate form which each takes depends upon its position in the plant and the function which it is called upon to perform. The differentiation of cells takes place by a process of evolution, for the original cell divides into many which are at first alike. Not only do the cells become differentiated, but the whole organism as it progresses toward the adult stage.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gadens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s. post free, 5s. 3d., from GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C.

THE TEMPLE SHOW.

The eighth great annual show of the Royal Horticultural Society was held as usual in the Inner Temple Gardens, close to the Victoria Embankment, on the 21st, 22nd, and 23rd inst. The opening day brought a great number of people, the great improvement in the weather and the promised visit of H R.H. the Princess of Wales acting as incentives to a large attendance. The exhibits were accommodated in five instead of four tents, including the large marquee, on this occasion, and the arrangements were considerably different in the first three tents from what they were in previous years. On all hands it was admitted to be one of the best, if not actually the best show held in the Temple Gardens by the Society. Everywhere there was greater evidence of taste than on previous occasions, and the several groups of plants were put up with more artistic effect than we have ever seen them here before. The vegetables in pots were a new and decidedly interesting feature of the show.

Orchids.

In the large tent (No. 5) the plants were arranged much as on former occasions, the Orchids occupying the high staging along the centre. At the south end of it Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, staged a magnificent group of Orchids, making an imposing and gorgeous display of bloom. The varieties of Laelia purpurata were very numerous, and equally effective were the large pieces of Cattleya Skinneri, C. Lawrenceana, and C. Mossiae. Two batches of Vanda teres were also conspicuous. The rich colour of Miltonia vexillaria gigantea was very telling, and the long, arching, and often branching sprays of Odontoglossum lent a gracefulness and beauty to the whole, which it is almost impossible to describe in the space at our disposal. Odontoglossum crispum apiatum was a noticeable feature of the collection on account of the huge purple blotch on the centre of each segment. The Masdevallias were both numerous and extremely varied in species, colour, and habit. A huge piece of M. nycterina in a basket bore many hundreds of flowers as thickly arranged as they could be all round the sides of the basket.

Another extensive group, exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking, occupied a considerable extent of the same staging. Here a huge piece of Epidendrum Stamfordianum in a number 1-sized pot and bearing some fifteen branching panicles of bloom, formed a conspicuous object on the upper part of the staging. The unspotted lip formed a fine contrast to the rich spotting of the sepals and petals. A Silver Flora Medal was awarded for this plant, and another of similar value for a healthy piece of Cypripedium Stonei platytaenium under a bell-glass, and bearing four of its magnificent flowers on two scapes. The heavily blotched petals were 4 in. to 5 in. long. Under another bell-glass was the largest and best piece of Anoectochilus (Macodes) petola which we have ever seen. The tall plants of Epidendrum radicans and E. Frederici Guillielmi, as well as the Oncidiums and Cypripedium Rothschildianum, along the top of the staging were conspicuous and attractive. Showy, interesting, and effective also were the Odontoglossums, Masdevallias, Cattleya Mossiae, C. Mendelii, Laelia purpurata, L. majalis, Cymbidium Lowianum viride, and others, with their respective varieties. Though not an Orchid the new hardy perennial from China and named Incarvillea Delavayii was very interesting. A piece of Masdevallia rosea bore over twenty flowers.

A group consisting largely of numerous varieties of Odontoglossum crispum was exhibited by W. S. Ellis, Esq., Hazelbourne, Dorking. Cochlioda Noetzliana formed bright bits of colour along the front. Odontoglossum Coradinei, O. polyxanthum, and O. luteo-purpureum afforded some contrast with their dark colours, and Miltonia vexillaria also served to brighten it up. A rather larger group of Orchids showing a greater variety of colouring was exhibited by the Hon. Earl Percy (gardener, Mr. G. Wythes), Syon House, Brentford. Prominent in this collection were fine pieces of Dendrobium thyrsiflorum, a fine form of Cypripedium barbatum, Vanda teres, and many pieces of Cymbidium Lowianum, with long arching spikes. Cattleyas and Laelia purpurata were also varied and noteworthy. The whole was interspersed with Palms and plenty of Adiantum. A small group of Orchids was staged by Malcolm S. Cooke, Esq. (gardener, Mr. E. Buckwell), Kingston Hill. Odontoglossums, including varieties of O. crispum and O. cordatum, Laelia grandis tenebrosa and several of the Masdevallias formed the more conspicuous elements of the group.

Small lots consisting chiefly of new Orchids were exhibited by H. Shaw, Esq., (gardener, Mr. J. Cliffe) Stamford House, Ashton-on-Lyne; by Thos. Statter, Esq., (gardener, Mr. R. Johnson), Stand Hall, Manchester; by Jules Hye Leysen, 8, Le Coupure, Ghent, who had several certificates; by M. Ch. Vuylsteke, Belgium; and by Mr. J. Prewett, Hammersmith.

A very extensive collection of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans, occupying nearly half of one side of staging in the large tent. At one end of the group was a massive piece of Oncidium sphacelatum, whose long branching panicles had a spread of 6 ft. and was much noticed. Other large and prominent plants were Miltonia vexillaria, in quantity, Cymbidium Lowianum, Laelia purpurata, L. p. alba, L. p. Princess of Wales, Phaius assamicus in many pieces, Sobralia Veitchi St. Albans var., and others. Very choice were Cattleya Mossiae Prince of Wales, C. M. Wagneri, Odontoglossum Phalaenopsis Princess of Wales, Odontoglossum crispum Florie with its beautiful shading and blotches, O. Princess of Wales, O. Alexandrae Duchess of York, almost pure white, O. A. Princess Victoria and others whose various markings, shadings and blotches would take a whole week to describe. Then what shall we say of the Masdevallias, the Aerides, the Cypripediums and the other species of Odontoglossum so abundant and floriferous, and all mixed with Palms and Ferns?

A moderate sized but interesting group of Orchids was staged by Sir F. Wigan (grower, Mr. W. H. Young), Clare Lawn, East Sheen. The Cattleyas and Cypripediums were gorgeous and very rich in variety, and included Cattleya Mossiae, Lady Wigan, with white sepals and petals and a delicately coloured lip; also C. Mendelii, C. Warneri. Oncidium sphacelatum, Odontoglossum polyxanthum grandiflorum, and a grand piece of Cypripedium Rothschildianum, with several interesting Masdevallias including M. trochilus. Thomas McMeekin, Esq. (gardener, Mr. A. Wright), Falkland Park, South Norwood Hill, exhibited a large piece of Dendrobium Dalhousieanum Big Ben, with huge flowers 5 in. to 6 in. in diameter. J. Gurney Fowler, Esq. (gardener, Mr. Davis), Glebelands, Woodford, had a well-flowered group consisting of varieties of the Cattleyas, Laelias, and Odontoglossums now in season. Interesting was Cypripedium Lawrenceanum Hyeanum, a soft green variety, and Masdevallia courtaldiana. He was awarded a Cultural Commendation for a huge piece of Epidendrum Wallisii, with eight splendidly-flowered stems—the finest piece we have seen.

Messrs. B. S. Williams & Son, Upper Holloway, occupied about two-fifths of one side of the staging in the large tent. In this collection a huge piece of Cymbidium Lowianum was very conspicuous, as were the varieties of Laelia purpurata, Cattleya Mossiae, and C. Mendelii, which were very largely represented and frequently showing great richness of colour. Other noticeable species were Oncidium sarcodes, Brassia Keeleana tristis, Oncidium Marshallianum, O. Leitzei, Dendrobium thyrsiflorum, Vanda concolor, Vanda teres, and a host of other subjects too numerous to mention. The colours of the flowers were well set off against their own foliage as well as that of Palms and Ferns, and a few other fine foliaged subjects that set off the edges of the staging.

A considerable portion of tent No. 4 was also occupied with Orchids, and on one of the side benches was a large, floriferous, and effective group exhibited by Messrs. Charlesworth & Co., Orchid Importers and Growers, Heaton, Bradford. They had conspicuous and showy masses of Dendrobium thyrsiflorum, Laelia purpurata, Cymbidium Lowianum, Oncidium macranthum in quantity and O. concolor. The varieties Odontoglossum crispum and Cypripedium were very numerous and added considerably to the effect of the whole. Here also was the new Dendrobium Hillebrandii, fine pieces of Cypripedium bellatulum and a grand plant of Cypripedium Rothschildianum with four large flowers on a spike exhibited by Messrs. Charlesworth for W. P. Berkenshaw, Esq., Hull.

Messrs. W. L. Lewis & Co., Southgate, occupied a portion of the central staging with a large and varied collection in which Cattleya Mossiae, C. Mendelii, Laelia purpurata and Miltonia vexillaria formed the most conspicuous and telling elements of the collection, and very floriferous they were. Other noteworthy kinds were Dendrobium crepidatum superbum, Chysis bractescens, Odontoglossum citrosmum magnificum, O. c. album, O. Pescatorei, O. Andersonianum superbum, Brassia verrucosa and others. The tall Palms at the back, with long arcbing leaves, did much to show off the decorative effect of the numerous pleasing colours and their distribution. The Cattleyas were certainly the most telling on account of the size of the flowers.

Mr. James Cypber, Cheltenham, had a similarly extensive group of Orchids, but the plants were more elevated on pots, and in some cases they were taller. Laelia purpurata, in several varieties, was the most dominant feature of the collection. Here and there amongst them were finely flowered pieces of Dendrobium Falconeri, D. moschatum with its slipper-like lip, also Epidendrum radicans, E. O'Brienianum, Cypripedium grande atratum, Masdevallia Veitchi grandiflora, Sobralia macrantha, Odontoglossum citrosmum album, Oncidium varicosum, and others. The irregular outline of the plants was not the least pleasing feature of the arrangement. Ferns were plentifully used, as well as Palms, Caladiums, and others, from amongst which the long sprays of Orchids stood out very prominently.

An extensive collection was also staged by Messrs. Hugh Low & Co., Clapton. The gorgeous appearance presented by the numerous Cattleyas, including C. Mossiae, C. Mendelii, and their respective varieties, in soft as well as intense but pleasing colours, formed the most striking feature of the collection. Through and amongst the rose, pink, and white Cattleyas were the darker colours of the Odontoglossums, the Cypripediums, Oncidiums, and others. Cattleya Reineckiana superbissima was charming in its light purple and white lip, and pure white sepals and petals. Good pieces were Cypripedium caudatum, C. c. Wallisii, Cattleya Mendelii grandis, C. Schilleriana, and pieces of Miltonia vexillaria.

Flowering and Foliage Plants, &c.

In tent number five at one end Messrs. Wills & Segar, Onslow Crescent, South Kensington, staged a group of stove foliage plants in a most effective and tasteful manner. Well grown specimens of Cocos Weddelliana, C. Dutenii, Verschaffeltia splendida, Seaforthia elegans, and numerous other Palms formed a suitable background for the neat little clumps of such well-known foliage plants as Strobilanthes Dyerianus, Alocasia Thibautiana, Zinziber variegata, Dracaena Goldieana, and D. Bergmannii, which were to be seen in the front of the group, whilst the edging of Selaginella Kraussiana, Gymnostachyum Verschaffeltii, Cyperus laxus variegatus, and other dwarf growing subjects imparted a finishing touch to a charmingly arranged group. Messrs. J. Waterer & Sons, The American Nursery, Bagshot, exhibited a quantity of Rhododendrons in pots in first-class style. The group literally blazed with colour, and contained many of the best and newest varieties, Chionoides, Sir Henry Mildmay, Marchioness of Lansdowne, Blandyanum, Minnie, and Princess of Wales appearing to special advantage. Messrs. Wm. Cutbush & Son, Highgate, N., contributed a bright and pretty group, in which Azaleas and Carnations figured conspicuonsly. Amongst tbe latter were to be seen some superb blooms of Souvenir de la Malmaison and of its rose variety. From Mr. Charles Turner, The Royal Nurseries, Slough, came a magnificent collection of Roses in pots. Not only did the group contain the best of material, but its setting up evidenced the employment of not a little taste. Dotted here and there, and standing well out from the dwarfer plants were tall standards, with large spreading heads of the wonderful floriferous Crimson Rambler, whilst in the background some still taller specimens of the same variety were tied to the supports of the tent. The foliage of the plants throughout was clean, healthy, and of good substance, and a greater profusion of bloom than they carried it would be well nigh impossible to obtain. The group occupied a considerable area, and many of the best varieties for pot work were represented, amongst which Mrs. J. Laing, Camille Bernardin, Celine Forestier, and Juno were well deserving a special mention. The examples of

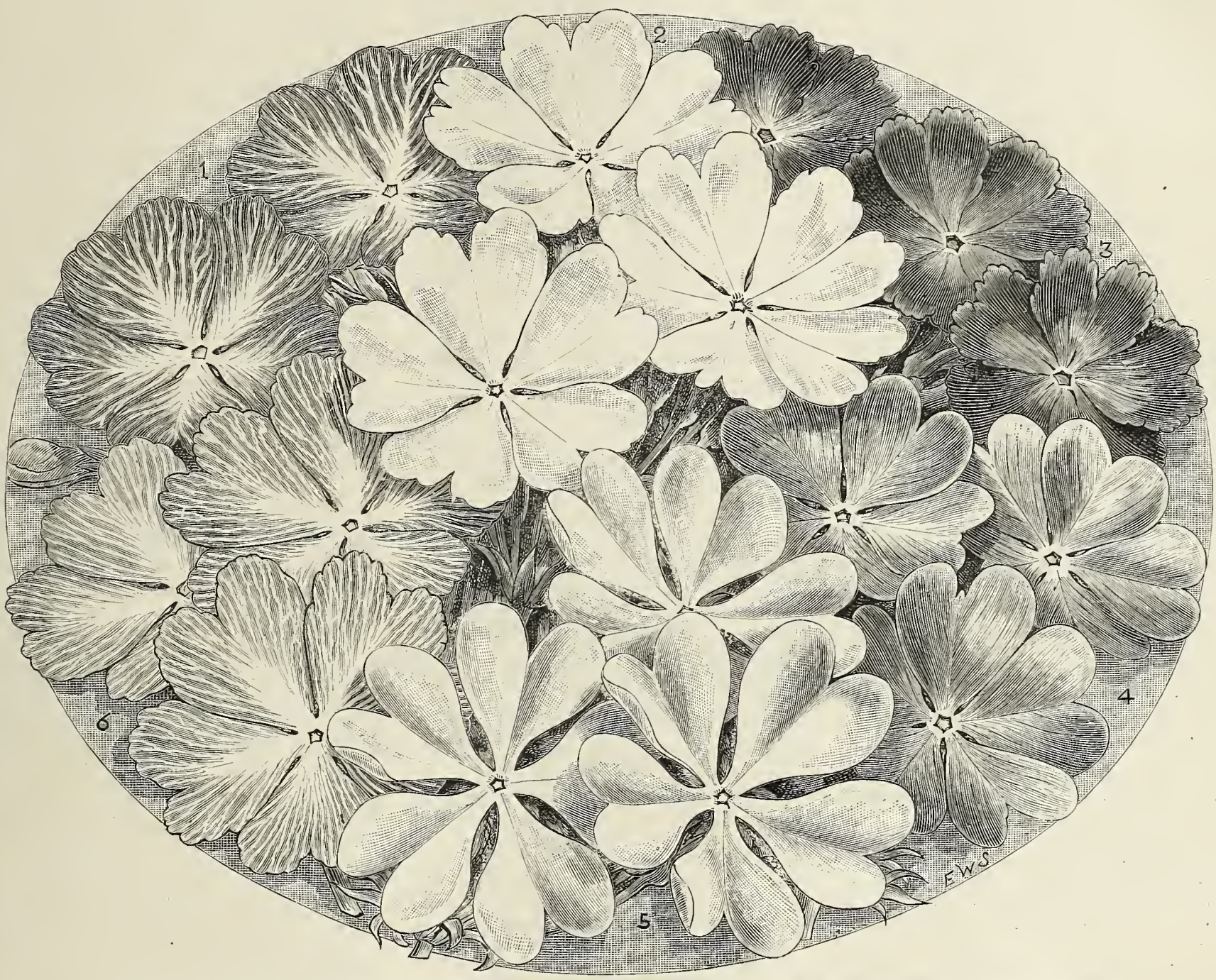
Pyramidal Azaleas which were also exhibited by Mr. Turner were not less noteworthy than the exhibit of Roses, such sorts as Madeleine, Charmer, Roi d'Holland, and Duc de Nassau being covered with a profusion of flowers.

Messrs. T. Rivers & Son were again well to the fore with Nectarines in pots. The trees were carrying heavy crops of fair sized, nicely shaped, and well coloured fruit, and bespoke excellent cultivation. A superb display of some of the best varieties of the Caladium in all its glory, for which Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., were responsible, was deserving of all praise. Gorgeous decorative subject as the Caladium is it is seldom that we see a finer display than that made by the plants shown by this firm. Among the best varieties Excellent, Candidum, afforded by Heaths, Saxifragas, and Liliums, as well as by well-coloured pieces of Eurya latifolia variegata, Dracaena Bergmanni, D. Lindenii, Caladium Argyrites, etc.

At one corner of the tent appeared a remarkably good display of Roses in pots furnished by Messrs. Paul and Son, the Old Nurseries, Cheshunt, several dwarf plants of Crimson Rambler also appearing here, together with meritorious examples of Marechal Niel, Ulrich Brunner, Early Blush, Merveille de Lyon, and Heinrich Schultheis. The group of Caladiums staged by Messrs. J. Veitch & Sons, Chelsea, was composed of material that in point of excellence was unsurpassed by anything we have yet seen. The plants of Cardinale Baron Adolphe de Rothschild, Alice Van Geert, Mrs. Harry Turner, Madame John Box, Gaspard Crayer, Lord Rosebery, and La Lor-

of great praise. Immediately outside tent number five a group of various kinds of the beautiful Japanese Maple in pots was arranged upon the grass. These popular decorative plants were represented in great variety; A. palmatum dissectum, A. p. d. purpureum, A. p. d. ornata, and A. p. roseum marginatum being especially noticeable from their finely cut and delicately tinted foliage. The group was sent by Messrs. John Waterer and Sons. Some splendid examples of Malmaison Carnations were contributed by Mr. Jennings, gardener to Mr. L. de Rothschild, Ascott. The blooms were of extra large size and good substance, the bulk of the group being composed of the rosy-pink variety, although a few plants of the old Souvenir de la Malmaison were also to be seen.

In tent number four one half of the large central table was devoted to the exhibition of Orchids, but



Varieties of Primula Sieboldi:—1, Rosea striata; 2, Grandiflora alba; 3, Magenta Queen; 4, Purple Queen; 5, Rosea alba; 6, Lilacina. See page 612.

Souvenir de Madame Bernard, Gaston Chandon, Mrs. Harry Veitch, John Peed, Madame Mitjana, Raymond Limonier, and Rose Laing took a foremost place. Messrs. Richard Smith & Co, Worcester, exhibited some grand examples of Clematises in pots. The plants were trained balloon shape, and so well furnished were they that they appeared to be literal masses of flower and foliage Of the single varieties Fairy Queen, Beauty of Worcester, Madame Van Houtte, and Princess of Wales were particularly fine, the semi-double flowered section being represented by excellent examples of Belle of Woking, Lucy Lemoine, and Excelsior. A delightful group of stove, foliage, and greenhouse flowering plants came from Mr. William Iceton, Putney, S.W. Palms of various kinds formed a suitable background, and the light graceful fronds of several of the Cocoses threw into agreeable contrast the touches of colour in the front ranks that were raine bore leaves of large size and of magnificent colour. By the side of the Caladiums was a fine collection of hardy trees and shrubs, also furnished by Messrs. J. Veitch and Sons. The flowering element was strongly represented, and comprised fine pieces of Clethra alnifolia, Viburnum plicatum, Azaleas, Spiraeas, Moutan Paeonies, and Hydrangeas in fine order. Nor was the ornamental section lacking, for Acers in variety were exceedingly handsome. An extensive exhibit of Roses, both of cut blooms and plants in pots, came from Messrs. Wm. Paul and Sons, Waltham Cross, Herts. Clio, Duke of Edinburgh, Margaret Dickson, Star of Waltham, Alfred Colomb, La France, White Lady, Mrs. John Laing, Captain Christy, Crimson Queen, Spenser, Mme. Montet, Enchantress (new), and Bouquet d'Or were among the list of the numerous good varieties which were shown, for the collection was in fact a most comprehensive one, and the display deserving the rest and by far the larger portion of the tent was filled with groups of flowering plants, chiefly those requiring a greenhouse temperature. Mr. Charles Turner showed a number of large and well-flowered show and decorative Pelargoniums, some of the plants measuring between 3 ft. and 4 ft. in diameter. Very bright were the specimens of Gold Mine, Ambassadress, Iona, Statesman, Spotted Beauty, Prince Leopold, and East Lynn. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, N., was, as usual, very much in evidence with a superb exhibit of tuberous Begonias, both single and double flowered sections being worthily represented. The form, size, and substance of the flowers throughout were of a higher order of merit, and left little to be desired in the way of improvement. Of singles, Moravia, Bexley White, Pride of Bexley, Challenger, Zanda, Alba marginata fimbriata, and Beauty were grand, and among the doubles, Miss Jennie Fell,

Bexley Gem, Princess May, Mrs. John Fowler, Miss Florie Dear, Leviathan, Miss Linnaker, and Duchess of Teck were exceedingly handsome.

Mr. Hunt, gardener to P. Ralli, Esq., Ashtead Park, Epsom, showed a number of Caladiums in praiseworthy style. The plants were large vigorous specimens of their class, although from the way in which the labels were placed out of sight mnch of the interest that would have been attached to them was lost, as the public were utterly unable to obtain their names. A very interesting and meritorious exhibit of Ivy-leaved Pelargoniums was made by Mr. H. J. Jones, Ryecroft Nursery, Lewisham. The plants were of dwarf habit and carried quantities of large trusses of bloom. They were very prettily arranged with small Ferns and pieces of Asparagus plumosus nanus, and comprised such good sorts as Ryecroft Surprise, Surcoat, Liberty, Jersey Beauty, Galilee, La France, Castle Hill, Cuvier, and Madame Mongoot. Messrs. J. James & Son, Woodside, Farnham Royal, Slough, deserve all praise for their magnificent examples of herbaceous Calceolarias. So remarkably dwarf in habit were the plants and so heavily laden were they with huge trusses of large and brilliantly marked and mottled flowers that the plants appeared to be almost crushed beneath the weight of bloom. Some of the examples shown were quite two feet in diameter and were certainly not more than from ten inches to a foot in height from the rim of the pots in which they were growing. Mr. W. J. Godfrey's new decorative Pelargonium, Glory of the West, should prove a decided acquisition if we may judge from the batch of it exhibited by him. The plants were of good habit and very free-flowering qualities.

A small group of Roses in pots contriboted by Mr. Frank Cant, Braiswick, Colchester, contained some fairly good material, Maman Cochet and Ulrich Brunner, being the best sorts shown. A highly interesting contribution came from Messrs. Geo. Jackman & Sons, Woking Nursery, Surrey, in the shape of several new Clematises in pots. Like the variety known as Countess of Onslow, which was awarded a First-class Certificate by the Royal Horticultural Society last year, they have been obtained by crossing C. coccinea with the ordinary garden forms. It is claimed for them that they are absolutely hardy, and, if so, they should prove of great service, inasmuch as they are very free flowering. Messrs. F. Sander & Co., St. Albans, staged a considerable number of new plants in their usual thorough style. In this group numerous pretty subjects were forthcoming, of which Dracaena Sanderiana, D. Godseffiana, Maranta Sanderiana, Heliconia illustris var., rubricaulis, Eriocnema Sanderae, and Begonias Mrs. Barron, Rajah, and Lady Annesley, were some of the most remarkable. A number of well-grown pot Roses also came from this firm, containing among others, Madame Lachaune, and Duchess de Morney in fine order. A glowing patch of colour marked the place where Mr. H. J. Jones had staged his show, decorative and regal Pelargoniums. All the plants were praiseworthy, although the examples of Pearl, Mrs. W. Wright, W. C. Boyes, May Queen, Princess May, Mrs. H. M. Stanley, and Rosebard were exceptionally fine. Mr. Jones also staged a neat little group of single flowering tuberous Begonias in a most tasteful manner. The plants themselves were dwarf and vigorous, the flowers were of large size and good form, some fine crimson, salmon and yellow shades being present.

Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick, had a neat little group of Japanese Acers in pots, amongst which some exquisitely pretty varieties were to be seen, the tints of colouring and form of the leaves as exemplified in the different varieties being rich and varied. Some plants of Lilium Harrisii had been used to lighten the general character of the group with singularly happy effect. The magnificent mass of the lovely blue Leschenaultia biloba major, sent by Messrs. W. Balchin & Sons, Hassocks, Hove and Brighton, attracted a great deal of attention. Immediately in front of this batches of Erica coccinea minor, Boronia heterophylla, Erica perspicua nana, and Boronia serrulata were placed, relieved by small plants of Adiantum cuneatum. This was one of the most fascinating groups in the show, and great praise is due to Messrs. Balchin & Sons for its production. Of tuberous Begonias Messrs. H. Cannell & Sons, Swanley, Kent, had a really wonderful display. The plants, dwarf and profusely flowered, presented a bank of richly glowing colours, round which the visitors thronged in outspoken admiration. The double flowered section was most conspicuously in evidence, large and fine blooms of Jeremiah Lyon, Mr. Walter Phipps, Lady Mary Wood, Hon. Mrs. Goschen, Lady Carter, Mrs. C. West, and Miss Edith Wynne being dotted here and there. Cannas were also shown in fine style by the same firm, such varieties as Alphonse Bouvier, Mme. Crozy, and Duc de Mortemart being really good. A collection of Gloxinias, also coming from Swanley, contained some showy and well-flowered plants in first-class condition. An exceedingly pretty little group of herbaceous and Alpine plants was contributed by Messrs. Paul & Son. The plants were arranged upon a miniature rockery, where, from their natural appearance, they appeared to great advantage.

In tent number three the hardy herbaceous element preponderated, several bright and attractive groups of this class of material being forthcoming. One of the finest exhibits of this kind came from Mr. T. S. Ware, who occupied one end of the tent and part of the side stages with a comprehensive and brilliant collection, amongst which Spiraea japonica multiflora compacta, S. palmata, S. astilboides, Moutan Paeonies Heuchera sanguinea, Aquilegias, Irises, Cypripedium Calceolus, C. pubescens, and C. montanum occupied prominent positions. Some bunches of cut bloom of the Carnation Pink Malmaison Improved were really magnificent. Messrs. Wm. Cutbush & Son, Highgate, N., were not a whit behind the rest in their exhibit of hardy herbaceous and Alpine plants. The group contained much that was worthy of praise, and the arrangement of the plants was remarkably good. The flat bank-like appearance so often seen in groups of the kind was superseded by pretty little mounds, which breaking as they did the monotony of regular lines added a greater charm and variety to the whole. Mr. John Box, nurseryman, Croydon, showed bunches of hardy cut flowers in fine order. Also blooms of Carnations Blush Malmaison, Mrs. Leopold de Rothschild, Germania, and Uriah Pike.

From Mr. B. Ladhams, Shirley Nurseries, Southampton, came a superb display of hardy cut flowers, Heucheras, Aquilegias, Irises and Trollius being remarkably brilliant. Messrs. Kelway & Son, Langport, Somerset, showed some splendid blooms of Paeonies, both single and double, Iris Florentina, Cannas in variety, Aquilegia caerulea, Thermopsis Montana, and Lupinus polyphyllus. This was a magnificent exhibit, and occupied fully one half of one of the side stages. Uriah Pike Carnation was shown by Mr. James Pike, Park Road Nurseries, South Acton, W. The plants were healthy and vigorous, and the blooms they bore large and fine. Another very extensive and notable collection of hardy herbaceous cut flowers was contributed by Messrs. J. Carter & Co., 237, 238, and 97, High Holborn; Narcissi, Tulips, Violas, Gladioli, and Irises were the principal features of this group. A brilliant show of Tulips, Irises, Primula Sieboldi Pluto, and the usual run of hardy herbaceous plants came from Messrs. Barr & Son, King Street, Covent Garden, whilst Mr. M. Pritchard, Christchurch, Hants, made a similar exhibit in neat and praiseworthy manner, although the Tulips which were the chief features of Messrs. Barr's collection were not here to be seen.

Messrs. J. Veitch & Sons occupied nearly one-half of the central table with large quantities of their new hybrid Streptocarpus. Many varieties of these beautiful plants were staged and excited throughout the day deep and wide spread interest and delight amongst the visitors. Next to the Streptocarpus came a neat little batch of Gloxinias in excellent order, several rare shades of colour being observed in the flowers. A number of cut blooms of Tulips of the Darwin section and some splendid examples of exotic Ferns in pots, which were really all that could be desired in the way of health, completed Messrs. Veitch's grand display. Mr. W. Rumsey, Joynings Nursery, Waltham Cross, had Roses in pots and cut blooms of the same in splendid condition. Good flowers of Niphetos and Marechal Niel were very conspicuous here. The whole show owed one of its most interesting features to Messrs. James Backhouse & Son, York. This contribution took the form of a miniature Alpine garden, the plants growing between the crevices of large stones in a most realistic manner. Some fine specimens of the graceful Arundinaria falcata were very conspicuous in the background. Great praise is due to those who were entrusted with the arrangement of this group. In some large glass cases on the left of the Alpines were displayed some remarkably well-grown filmy Ferns, those aristocrats of the Fern family. Judging from the specimens on view, Messrs. Backhouse & Son experience but little difficulty in growing a large portion at least of these beautiful, but somewhat erratic plants. Messrs. Dobbie & Co., Rothesay, N.B., showed a large number of Violas in excellent condition. This was a comprehensive collection, Quaker Maid, Sweetheart, Picotee (violet scented), Duchess of Fife, Colleen Bawn, Rothes (sweet scented), Iona and Ceres being very pretty and distinct. Fresh flowers are to be sent from Scotland each day of the show in order that the exhibit may be kept up to its present high standard of merit.

In the tent number two some excellent material was to be found. Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, sent a very fine collection of stove foliage plants, amongst which were Coleus Decorator, C. Crimson Gem, C. Surprise, some good Gloxinias, and a number of Crotons, Dracaenas, and Ferns. Groups of Carnation Uriah Pike were arranged on either side of the doorway. These also came from Edmonton. Messrs. Hugh Low & Co. staged a group of foliage plants in a most effective manner, Caladiums playing an important part. A considerable quantity of named Cannas that were sent by the same firm were really as good as could be desired. Here also was to be seen the perpetual flowering Mignonette, Bush Hill White, which has become such a favourite of late. Mr. Coomber, gardener to J. H. Johnson, Esq., Bignor Park, Pulborough, exhibited some fine trusses of bloom of Rhododendrons. Mr. William Iceton had well grown and highly coloured Caladiums in pots. Messrs. Sutton & Sons, of Reading, exhibited largely both flowers and vegetables. The herbaceous Calceolarias sent by this firm were really marvels of perfection, and a finer strain than they undoubtedly are could scarcely be desired. Amongst other fine varieties, the splendid yellow known as Cloth of Gold was truly magnificent. The specimens of prize Gloxinias, too, were really fine, the plants being exceptionally vigorous and very floriferous. The lovely little Saintpaulia ionantha must likewise not be forgotten: it was here in all its beauty.

The Hon. F. W. D. Smith, Greenlands, Henley-on-Thames, (gardener, Mr. H. Perkins), showed a number of Amaryllis which, lightened as they were by the use of Palms, Dracaenas, Isolepis, &c., looked exceedingly attractive. A batch of examples of Streptosolon Jamesoni, which came from J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gardener, Mr. Downes), was worthy of all praise, as it is seldom that this handsome plant is seen in such good condition. Exotic Ferns in great variety were exhibited by Messrs. W. and J. Birkenhead. The plants throughout were well grown, clean, and healthy, and gave evidence of skilled cultivation. Mr. George Mount, Canterbury, showed cut blooms of Roses in his usual excellent style; such sorts as Mrs. John Laing and Catherine Mermet being remarkably good. Messrs. J. Cheal & Sons, Crawley Sussex, sent sprays of hardy trees and shrubs and cut blooms of some fine hybrid Rhododendrons and some of the best of the bedding Violas. R. Wallace & Co., Colchester, had a neat little collection of cut blooms of several good varieties of Iris germanica, flowers of the type being also shown with them for comparison.

In tent number one Mr. Septimus Pye, Catterall, Garstang, Lancashire, contributed a very comprehensive collection of Violas; most of the best and newest varieties being represented. Countess of Hopetoun, Goldfinch, Sylvia, Dawn of Day, H. W. Stewart, Butterfly, Dorothy Stokes, Ariel, Wave and William Niel are a few of the best sorts which here found a place. Messrs. B. S. Williams & Son sent a few neat little examples of Amaryllis, Distinction and Empress Frederick being the two most noticeable varieties. In the floral decoration department some exceedingly pretty designs were to be seen. Some epergnes, baskets and crosses which came from Messrs. Perkins & Sons, of Coventry, bespoke both taste and skill in construction. Messrs. Chard & Co., Brunswick Nurseries, Stoke Newington, had a great variety of floral designs; a prettily dressed triumphal arch and screen being

light and elegant in design. Two large bouquets were sent by Messrs. Phelps & Co., Queen Street, Cardiff, Orchids entering very largely into their construction. Mr. L. H. Calcutt, Fern Bank Nursery, Stoke Newington, had a number of excellent designs for baskets, epergnes and sprays that were worthy of all praise, so light and yet so effective did they appear.

FRUIT AND VEGETABLES.

As previously stated the fruits and vegetables, but especially the latter in a growing state, were quite a novelty at the Temple Show, and seldom do they indeed appear anywhere in public at this early period of the year. Messrs. Sutton & Sons, Reading, deserve all honour and credit for importing this feature of novelty into the show. Besides the flowers already mentioned as exhibited by the firm, there were Tomatos fruiting in pots, including Princess of Wales, Sutton's Perfection, Sutton's Dessert, Sutton's Best of All the dark red fruits of which are very thin-skinned and the plants dwarf, also Tomato Sutton's Sunbeam, Golden Nugget, and Tender and True, all very heavily fruited and certainly marvels of fertility. The Peas growing in pots were also well fruited and fit for use. One of the varieties was a seedling Marrowfat with pods 2 in. to 3 in. long, and dwarf stems like those of American Wonder. Sutton's Bountiful was a much taller variety, but equally forward; there was some quantity of this in pots as well as Sutton's A1, Sutton's Favourite, Empress of India, and May Queen. All were wonderfully cropped considering that they had been grown in pots; but May Queen was certainly the earliest in the order of coming in for use. The new climbing French Bean Tender and True stood 6 ft. or 8 ft. high in pots and bore a splendid crop of well shaped pods that have been fit for use for some time past.

Mr. H. W. Ward, gardener to the Right Hon. the Earl of Radnor, had Cucumber plants growing in pots and trained over frameworks of wire in the form of pyramids and standards. Carter's Earliest of All was the variety grown, and constituted a somewhat novel form of exhibit. He also had Lettuces, Carter's First Crop Pea, Endive, and Radishes. Mr. R. J. Steel, Boston Gardens, Brentford, exhibited Cucumbers, Rhubarb, and various small salads. A tastefully arranged collection of vegetables was set up by Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill. The Potatos, Tomatos, Asparagus, Broccoli, and Strawberries were fine. Mr. C. J. Waite, gardener to Col. the Hon. W. P. Talbot, Glenhurst, Esher, showed beautiful Asparagus and Cucumbers. Black Hamburgh and Foster's Seedling Grapes were shown by Thos. Statter, Esq. C. H. Berners, Esq. (gardener, Mr. Messenger), Wolverstone Park, Ipswich, had some fine bunches of Grapes, also Melons and Figs. L. J. Baker, Esq. (gardener, Mr. Osman), Ottershaw Park, Chertsey, also exhibited Grapes. Mr. Featherby, The Vineries, Gillingham, Kent, had Grapes, Cucumbers, Peaches, and French Beans. Mr. J. Friend, Rook's Nest, Godstone, exhibited stands of black and white Grapes.

Messrs. George Bunyard & Co., Maidstone, exhibited a large collection of Apples and St. John's Figs, the latter as well as finely flowered plants of Spiraea Houttei being grown in pots. The Apples were still in fine condition and highly coloured, some of the most notable being King of Tompkin's County, Withington Fill-basket, Wadhurst Pippin, Waggoner, Calville Rouge, Cornish Aromatic, Hoary Morning, &c. The Earl Percy had some fine Grapes, Peaches, Figs and Melons. His exhibit of vegetables, including dwarf Beans, Potatos, Asparagus and others, was also noteworthy for variety. Besides the fruit trees in No. 5 tent, Messrs. T. Rivers & Son also had two baskets of ripe fruits of Nectarine Cardinal for comparison with a tree of Lord Napier, the fruits of which were about the size of plums and green. Melons were shown by the Rt. Hon. Lord Foley (gardener Mr. J. Miller), Ruxley Lodge, Esher; Tomatos by Mr. Geo. Mount, Canterbury; and Melons, Peaches, beautiful Nectarines, Lemons of large size, and Tomatos by Sir J. Pease, Bart., M.P., (gardener Mr McIndoe), Guisborough.

LIST OF AWARDS.

GOLD MEDAL.

To Messrs. T. Rivers & Son, Sawbridgeworth, for Nectarines in pots.

SILVER CUPS (IN ORDER OF MERIT).

To Messrs. J. Veitch & Sons, King's Road, Chelsea, for Streptocarpus; Phyllocacti, Gloxinias; Trees and Shrubs; Caladiums; new and rare Ferns; cut flowers, &c.
,, Messrs. Sander & Co., St. Albans, for Orchids and new plants.
,, Baron Schroder, The Dell, Egham, for Orchids.
,, Sir Trevor Lawrence, Burford Lodge, Dorking, for Orchids.
,, Messrs. Paul & Son, Cheshunt, for pot Roses, Cannas, Alpine Plants, &c.
,, Mr. C. Turner, Royal Nurseries, Slough, for Roses, Pelargoniums, Azaleas.
,, Sir Frederick Wigan, Clare Lawn, East Sheen (gardener, W. H. Young), for Orchids.
,, Messrs. Sutton & Sons, Reading, for Saintpaulia ionantha, Gloxinias, Begonias, Lilies, Tomatos, Cucumbers, &c., &c.
,, Messrs. J. Backhouse & Son, York, for Filmy Ferns; Alpine and Herbaceous Plants.
,, Messrs. Richard Smith & Co., St. John's Nurseries, Worcester, for specimen Clematis.
,, Mr. Wm. Iceton, Putney Park Lane, Roehampton, S.W., for Palms and Caladiums.
,, Messrs. Wills & Segar, Onslow Crescent, South Kensington, for decorative Palms.
,, Messrs. G. Bunyard & Co., the Old Nurseries, Maidstone, for Kentish Apples.
,, Mr. Pantia Ralli, Ashtead Park, Epsom (gardener, Mr. G. Hunt), for Caladiums.
,, Messrs. J. James & Son, Woodside, Farnham Royal, Slough, for Calceolarias.
,, Messrs. H. Low & Co., Clapton Nursery, London, N., and Bush Hill Park, Enfield, for Orchids, Caladiums, and choice stove plants; Ericas, and greenhouse plants.
,, Messrs. Perkins & Sons, Coventry, for bouquets, wreaths, floral designs.

SILVER-GILT FLORA MEDAL.

To Messrs. W. Balchin & Sons, Hassocks Nurseries, Sussex, for Leschenaultias, Ericas, Palms, Boronias, Coprosmas.
,, Messrs. P. Barr & Son, Covent Garden, London, for cut flowers.
,, Mr. J. T. Bennett-Poë, Holmewood, Cheshunt, for Streptosolen Jamesoni.
,, Messrs. W. & J. Birkenhead, Sale, Manchester, for stove, greenhouse, hardy, exotic and British Ferns.
,, Messrs. H. Cannell & Sons, Swanley, Kent, for Begonias, Gloxinias.
,, Messrs. James Carter & Co., 237, High Holborn, for cut flowers.
,, Messrs. Charlesworth & Co., Heaton, Bradford, for Orchids.
,, James Cypher, Queen's Road, Cheltenham, for Orchids.
,, Mr. J. Gurney Fowler, Glebelands, S. Woodford, for Orchids.
,, Messrs. W. Fromow & Sons, Chiswick, for Japanese Maples.
,, Messrs. Geo. Jackman & Son, Woking, for pot Roses.
,, Messrs. J. Kelway & Son, Langport, Somerset, for Paeonies, Irises, hardy flowers, etc.
,, Messrs. W. L. Lewis & Co., Chase Side, Southgate, N., for Orchids.
,, Messrs. William Paul & Son, Waltham Cross, for Roses, cut Rhododendrons, Lilacs.
,, Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., for Caladiums.
,, Mr. Leopold de Rothschild, Ascott, Leighton Buzzard (gardener, Mr. J. Jennings), for Carnations.
,, Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for Begonias, hardy herbaceous plants, and cut flowers.
,, Messrs. B. S. Williams & Son, Upper Holloway, for Orchids.
,, Messrs. John Waterer & Son, Bagshot, Surrey, for Acers and Rhododendrons.

SILVER-GILT KNIGHTIAN MEDAL.

To Mr. C. H. Berners, Woolverston Park, Ipswich (gardener, Mr. W. Messenger), for black Grapes.
,, Mr. Welbore S. Ellis, Hazelbourne, Dorking, for Orchids.
,, The Right Hon. Earl Percy, Sion House, Brentford (gardener, Mr. Geo. Wythes), for Figs, Peaches, Grapes, Melons, vegetables.
,, Mrs. Wingfield, Ampthill House, Beds. (gardener, Mr. W. J. Empson), for vegetables.

SILVER FLORA MEDAL.

To Mr. L. H. Calcutt, Fairholt Road, Stoke Newington, N, for table decorations.
,, Messrs. Chard & Co., for cut flowers.
,, Mr. Malcolm S. Cooke, Kingston Hill, (gardener, Mr. Buckell), for Orchids.
,, Messrs. W. Cutbush & Son, Highgate Nurseries, London, N., for Azaleas and cut flowers.
,, Messrs. Dobbie & Co., Rothesay, N.B., for Violas.
,, Mr. H. J. Jones, Ryecroft, Lewisham, for Pelargoniums.
,, Mr. B. Ladhams, Shirley, Southampton, for cut flowers.
To Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, for Ferns.
,, Mr. G. Mount, Canterbury, for cut Roses.
,, Sir J. W. Pease, Bart., M.P., Hutton Hall, Guisborough (gardener, J. McIndoe), for Melons, Nectarines, Peaches, Tomatos.
,, The Right Hon. Earl Percy, Syon House, Brentford, for Orchids.
,, Mr. W. Rumsey, Joynings Nurseries, Waltham Cross, for pot Roses.
,, The Hon. W. F. D. Smith, M.P., Greenlands, Henley-on-Thames (gardener, H. Perkins), for Hippeastrums (Amaryllis).

SILVER KNIGHTIAN MEDAL.

To Mr. L. J. Baker, for Grapes.
,, The Rt. Hon. the Earl of Radnor (gardener, Mr. H. W. Ward), Longford Castle, for Cucumbers, &c.

SILVER BANKSIAN MEDAL.

To Mr. John R. Box, Derby Road, Croydon, for cut flowers.
,, Messrs. J. Cheal & Sons, Crawley, Sussex, for cut flowers.
,, Horticultural College, Swanley (Principal, F. G. Powell), for table decorations.
,, Mr. M. Prichard, Riverslea Nursery, Christchurch, Hants, for cut flowers.
,, Messrs. Phelps & Co., Queen Street, Cardiff, for bridal bouquets.
,, Mr. S. Pye, Catterall, Garstang, Lancashire, for Pansies and Violas.
,, Messrs. Wallace & Co., Colchester, for Calochorti, Irises, &c.

GARDENING MISCELLANY.

THE GREEN DAFFODIL.

THE above epithet may not convey a true impression of the facts of the case, but it is as correct with regard to the artifically induced article as in the case of the green Carnation. The "green craze" is evidently spreading in this country as on the other side of the "silver streak" or channel, but I hope it will never take root very deeply in British soil. The love of novelty is a sufficiently good excuse and incentive to improvement, but the so-called green Daffodil is no improvement at all in my opinion, but a burlesque upon the original. The variety recently or just now being subjected to this form of degradation is Narcissus poeticus recurvus or the best double and Gardenia-like form of the Poet's Narcissus. Some of the flowers are tinted with green all over, but in the majority of cases the bluish-green colouring is mostly confined to the margin so as to imitate a green-edged Picotee. Where the sense of taste can be in those who admire such a flower it would be difficult to say. The normal and chaste snow-white form is usually exposed for sale alongside of the green one, and anyone with a love for natural flowers could hardly admire such an unlikely combination of colours. A scarlet Daffodil is a more likely acquisition in the future if those concerned continue their labours. Daffodils, owing to the porous nature of their flower stalks, readily absorb colouring matter of various kinds when cut and placed in a solution. In any case colouring of this kind should be left to the manufacturers of artificial flowers, and nature would not be dethroned.—*Ad rem.*

THE ELECTRIC PLANT.

The Phytolacca electrica, is stated to be a plant capable of giving electric shocks of somewhat startling severity. Animals rigorously shun it, and neither birds nor insects will settle in the vicinity. The true magnetic nature of the plant is clearly indicated by its action on a magnetic needle, which is sensibly affected at a distance of six yards. It has been noticed that the energy of this electrical vegetable is increased during the day time. The Castor Oil Plant and the Tobacco Plant, moreover, are both looked upon by the animal world with almost unanimous disapproval.

HARDINESS OF TRANSPLANTED ROSES.

It is affirmed by a large grower of Roses that those which were transplanted last autumn withstood the frost better than those which were left in the ground undisturbed, while both lots were otherwise precisely under the same conditions and unprotected in any way beyond the light fall of snow provided by nature, and which was quite insufficient to afford anything like adequate protection against the amount of frost which penetrated the ground in different places to a depth of 2 ft. or 3 ft. The reasons advanced for this apparent greater hardiness on the part of transplanted Roses were that the lifting caused a check to the rampant growth which was induced by the mild wet weather, and thus caused

the wood to ripen better than in the case of plants that had not been moved, and which the mild weather kept in a state of activity up till Christmas. It may have been due to this latter cause that untransplanted Roses have fared so badly during January and February last. On former occasions I have been assured by those who grow Roses on an extensive scale that the lifted ones suffered most, and that, too, at the surface of the ground where the stems entered the ground, more especially where no mulching had been given previous to the advent of frost. Not being under the necessity of doing much transplanting my observations and experience lead me to believe that the mortality amongst Roses is very much a question of variety and position. Teas are more liable to suffer than hybrid perpetuals, but when the former are planted in low wet situations the weaker varieties get very much cut up.—*Ad rem.*

THE CHINESE CRAB.

THOSE who possess this fine old tree cannot but be delighted with it at the present time, for seldom or never has it been seen so profusely laden with blossom. In this it accords with fruit trees of most kinds, but particularly Apples, Pears and Cherries. What will fruit growers say about the ripening of the wood in order to be well set with flower buds? The latter part or three parts of last summer was comparatively sunless and wet enough in all conscience to blight the chances of a crop, if sunshine were necessary to the production of one. It seems to be a question of moisture at the roots as much as sunshine overhead. Observers have long been aware of of this fact in the case of Peaches under glass, and whose roots used to be kept dry after the crop was gathered or at least when the leaves were falling in order to hasten their falling and the ripening of the wood. To return to the Chinese Crab (Pyrus spectabilis) it will be noticed that its conspicuous character is in a large measure due as much to the great size of the semi-double blossoms as to their absolute numbers. When on the point of expansion the buds are of a warm deep rose, tinted with red or crimson more or less, but as they become fully developed they assume a soft rosy pink hue, as in the case of many other ornamental species of the Apple tribe. It is more than a hundred years since it was first introduced, yet is anything but so common as it might be in the parks and pleasure grounds of private estates. The crabs or fruits are greenish yellow and like those of the Medlar and Service Tree are edible only when they have become bletted. That is no drawback however to the tree as an ornamental subject.—*Ad rem.*

HERBACEOUS CALCEOLARIAS.

THE herbaceous Calceolaria is one of our best plants for conservatory decoration, and when one has the chance of seeing such a splendid batch as was my privilege last week in the nurseries of Mr. John Forbes, Hawick. They are all the more impressed with the fact that they ought to be represented in every establishment, no matter how small it may be. Mr. Forbes's strain was, if not perfection, as near it as anyone could wish to see, the plants being of a compact leafy habit, with dwarf, bushy heads of flower of many rich and varied shades of colour, a few selfs, amongst which might be seen yellow, orange, crimson, and maroon; others finely blotched and mottled, such as yellow, blotched crimson or maroon, orange spotted maroon, and crimson spotted yellow, and no sign of those washed-out colours so common amongst inferior strains. The individual blooms were large, of grand form and splendid texture, in magnificent clusters thrown well up above the foliage, and measuring not more than 18 in. from the top of the pot.—*Visitor.*

SCHIZOCODON SOLDANELLOIDES.

THE introduction of this little Japanese evergreen herb in a live state about three years ago was a matter of exceeding interest to the botanist as well as every one interested in hardy plant culture. It may still be fresh in the memory of our readers that Captain Torrens, Baston Manor, Hayes, Kent, brought it from the Sulphur Mountains in Japan, carrying it in short pieces of Bamboo by way of pots. A few only of his plants survived the journey, (two if we rightly remember) and they have been kept in a cold frame where they have been flowering every year. One of the plants was sent to Kew, where we hear it has since died, but some pieces having been taken off and established separately, one of them was planted on the rockery at Baston Manor where it stood out the whole of last winter, thus proving its perfect hardiness notwithstanding the fact that it was exposed to 41°, 42° and 39° of frost on three successive nights during last February. This small plant bore three expanded flowers last week, and in all probability it is the first plant ever flowered in the open air in England, or even grown in the open air. Mr. William Pascoe, the gardener who has the plants in charge, showed the mother plant in a pot at the Drill Hill, Westminster, on the 14th. It had just finished flowering, but bore thirty-three flowers the second week of May. It had grown well and looked healthy, but it is difficult to propagate. Though closely resembling our European Soldanella, especially in the flowers, it is related to the equally interesting Shortia galacifolia.

THE CAMASSIA.

A BOLD and stately bulbous plant was exhibited at the Botanical Gardens, Regent's Park, on Wednesday last, by Messrs. Barr & Son, Covent Garden, that promises to be a worthy addition to the summer flower border in the bulb garden. It was Camassia esculenta alba, and had large star-shaped white flowers, with a raceme bearing from twelve to twenty well expanded blooms about 2 in. in diameter. Flowering at this season indicates that it is earlier to bloom than C. esculenta and others. The Camassias are useful subjects for grouping in garden borders, and very effective. They should be planted say from twelve bulbs or more in a group in deep, rich, sandy, moist soil. C. Leichtlini has numerous large creamy-white flowers, C. Fraseri pale blue, very beautiful, and C. esculenta has deep blue flowers, and is one of the most useful for cutting for vases. The Camassias grow from 1½ ft. to 3 ft. high, and are hardy.—*W. L.*

SOLOMON'S SEAL.

WE have a very old garden favourite in the Solomon's Seal (Polygonatum), P. multiflorum, a native of Great Britain. Its elegant and graceful habit renders it one of the most attractive objects in the garden, and it certainly deserves a prominent position in every collection of hardy plants, producing as it does from the axils of the gracefully recurved leaves numerous white flowers with emerald green tips in twos, threes, and fours which are very fragrant. Strong crowns may be lifted and planted in pots and grown in the conservatory, where they make a lovely contrast with foliage plants. A sandy loam is the most suitable soil for them.—*W. L.*

HERBACEOUS PAEONIES.

THE herbaceous Paeonies are pushing forward with rapid strides, and will soon be a glare of colour in the gardens. At the recent show held at Regent's Park, one of the single European varieties was very noticeable and attractive, viz., P. officinalis, var. Sabini, exhibited by Messrs. Barr & Son, Covent Garden. Its handsome, globular-shaped, rich deep crimson flowers upon its light green foliage stood out well mixed with such kinds as P. Northern Glory, a soft rose; P. officinalis Anemoneiflora, flowers crimson with twisted crimson stamens edged yellow, very handsome; and the miniature P. tenuifolia, with crimson flowers and feathery-like foliage. When seen in the herbaceous borders no plants could be more beautiful, for the combined stateliness of growth and beauty of colour, and easy culture, are essential qualities for large gardens. They will thrive luxuriantly in almost any good ordinary garden soil, enriched with decomposed cow manure. They prefer a partially shaded position from the hot sun's rays.—*W. L.*

SOCIETIES.

Royal Botanic, *15th May.*—The summer exhibition of this Society was held on the above date under far more favourable auspices with regard to weather than on several previous occasions, and there was a large attendance of people in the afternoon, crowding the large marquee, notwithstanding the fact that the band was playing on the grass outside, instead of in the marquee as it has frequently been obliged to do. With exception of Azaleas the trained specimens of stove and greenhouse flowering plants had given place to groups of a more modern style. In the nurserymen's class for a group of Azaleas, the first award was made to Mr. C. Turner, Slough, who had the best plants in the exhibition. Reine de Pays Bas, Apollon and Grandis were the best flowered of his large specimens and M. V. Savart was a notable new one of a brilliant dark red colour. In the open class for a group of Azaleas Mr. W. Barrell, gardener to Mrs. Thornton, The Hoo, Sydenham Hill, took the first award with a varied lot of small plants. He was followed by Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park. The same order of sequence was maintained in the amateurs' class for Azaleas, those of Mr. Barrell being well-flowered globular bushes. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was awarded the first prize for a splendid group of tuberous Begonias. Double and single kinds were well mixed as were the colours, many of which were charmingly beautiful. Some of the finest kinds were Lord Rosebery, scarlet, Baroda, terra-cotta, Miss Fanny Joseph, rose, Claribel, orange-scarlet, and Miss Dolly Fell, white, all double. Mr. George Cragg, gardener to Walter C. Walker, Esq., Percy Lodge, Winchmore Hill, was awarded the first prize for a group of Orchids effectively arranged. S. T. Fischer, Esq. (gardener, Mr. Geo. Bond), The Grove, Streatham Hill, had the first prize for Gloxinias, which were of large size, and a second prize for a group of stove and greenhouse plants. Mr. R. Scott was second for Gloxinias. Mr. C. Turner had the first award for a splendid group of Pelargoniums both show and fancy, the former being represented by Lady Isabel, Spotted Beauty, Joe, Martial, and the new Mrs. Coombs, a white variety. The fancy varieties were most profusely flowered, especially Princess Teck, Delicatum, The Shah, and Fanny Gair. Mr. T. S. Ware again came to the front with herbaceous plants and his Lilies, Spiraeas, Irises, Trollius, Cypripediums, and others, were much admired by crowds of people. Messrs. Paul & Son, Cheshunt, were second, but the firm was awarded the first prize for a group of Roses in the nurserymen's class, showing large and well-flowered plants of Celine Forestier, Ulrich Brunner, and Edward Morren, and a second prize for Roses in another class. In this case Mr. Turner was first with dwarfer and floriferous specimens, including the gorgeous Crimson Rambler.

The miscellaneous class was well represented, and n this Messrs. John Laing & Sons, Forest Hill, were awarded a Silver-Gilt Medal for a magnificent group of Palms, Caladiums, Orchids, Dracaenas, Gloxinias, tuberous Begonias, Nepenthes Mastersiana, and various other subjects all arranged in a most effective way on a sloping bank near the centre of the marquee. Messrs. Wm. Paul & Son, Waltham Cross, received a similar award for a large group of dwarf, standard, and cut Roses arranged on another of the four sloping banks. Messrs. B. S. Williams & Son, Upper Holloway, occupied a third bank in the centre with a group of stove plants such as Palms, Dracaenas, Caladiums, Anthuriums, Crotons, and others, interspersed with Amaryllis and other flowering subjects. They were accorded a large Silver Medal. Messrs. T. S. Rivers & Son, Sawbridgeworth, Herts, showed an imposing group of pyramid and bush specimens of Nectarines in pots, the fruits of which were superbly coloured. Peaches, Cherries, and Roses were interspersed amongst them, and the firm was accorded a Large Silver Medal. A similar award was made to Mr. Wm. Rumsey, Joynings Nurseries, Waltham Cross, for a large and imposing group of Roses arranged all over a convex bank of grass. Souvenir de S. A. Prince, also known as the Queen, Niphetos, Mrs. John Laing, Ulrich Brunner, and Marechal Niel were conspicuous in his collection. Messrs. J. Veitch & Sons, Chelsea, received a Silver Medal for a gorgeous exhibit of parrot Tulips, as well as florists' varieties and breeders. Messrs. Dobbie & Co., Rothesay, exhibited a charming display of Violas of all the leading as well as new kinds, which we had a difficulty in approaching on account of the crowds of people that would linger to admire them (Small Silver Medal). Messrs. B. S. Williams & Son had an attractive collection of wreaths, bouquets, and baskets of

Irises and Orchids (Small Silver Medal). Mr. T. S. Ware had a group of Tree Paeonies, Spanish Irises, Gladiolus Colvillei, and The Bride (Large Bronze Medal). He also had a collection of breeder and rectified or florists' Tulips on a grassy bank making a good display (Large Bronze Medal). Messrs. Barr & Son, King Street, Covent Garden, had a most representative collection of Tulipa Gesneriana spathulata, Darwin or Breeder Tulips, Parrot Tulips, and the old English Amateur Tulips (Small Silver Medal). Mr. R. Scott arranged a group of stove and greenhouse plants on a bank (Small Silver Medal). J. C. Tasker, Esq. (gardener, Mr. P. Perry), Middleton Hall, Brentwood, showed a group of Roses, including Crimson Rambler and others in a well-flowered condition. He also had a group of Cannas (Large Bronze Medal.) Mr. Geo. Mount, Canterbury, exhibited cut flowers of hybrid perpetual and Tea Roses which were of large size and showy (Large Bronze Medal). Mr. C. Turner had some new Pelargoniums including the Duke and Duchess of York and Miss Louisa Coombs, all light and pretty colours. Ludwig Mond, Esq. (gardener, Mr. J. V. Clarke), The Poplars, Avenue Road, Regent's Park, had a group of Dendrobiums (Bronze Medal). Messrs. Paul & Son had a group of Lilacs (Large Bronze Medal). Mr. A. Knowles Horsell, Birch Nursery, Woking, showed boxes of Daphne Cneorum. A Certificate of Merit was accorded Mr. W. Barrell for six specimens of Mignonette in the form of standards.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Damask Rose, &c.—*Rubens*: The Damask Rose varies greatly in colour from white to red though the hues as a rule are light. Many flowers could therefore be named imitating some or other of the colours. Carnation Souvenir de la Malmaison, and its pink variety would closely resemble some of the lighter varieties. The Common Thrift (Armeria vulgaris) varies with pink, rosy red, soft lilac and white flowers, but we should hardly think magenta would correctly describe it. The Masdevallias are grown purely for ornamental purposes, and we do not know that they have any special characteristics. The word sport is more often used by gardeners than by botanists, but in any case it is most correctly used when applied to shoots that arise on plants bearing flowers in a different hue from the normal ones. Thus a Chrysanthemum usually bearing white flowers may develop a shoot bearing yellow ones. Young plants are raised from this shoot and the new variety is therefore termed a sport. A strain of flowers refers to those that have been selected from certain types for a number of years till good colours or characteristics have been fixed and can be perpetuated by seeds. Various workers may be engaged on the same class of plants and some may be more successful than others. Thus we might have Mr. A., Mr. B., and Mr. C's strains.

Portugal Laurel.—I notice it stated in one of your contemporaries that the Portugal Laurel (Prunus lusitanica) is not a Laurel at all and not a native of Portugal. Furthermore, the correspondent states that it was probably brought from Madeira or some other of the Portuguese possessions in the sixteenth or seventeenth centuries. I have always been under the impression that it came from Portugal, and can you say whether I am right?—*W. J.*

[It is acknowledged by the best of modern authorities to be indigenous to South Europe, and presumably including Portugal. At any rate other good authorities state that it was introduced from Portugal in 1648. The variety P. lusitanica azorica is of a more vigorous habit than the type and was imported from the Azores. Possibly this is what the correspondent refers to when speaking of some other islands belonging to the Portuguese. To say that Prunus lusitanica is not a Laurel is simply to deny its name; for instance, besides the Portugal Laurel, we have the Cherry Laurel (Prunus Laurocerasus) the Alexandrian Laurel (Danaë Laurus) and the Common Laurel or Sweet Bay-tree (Laurus nobilis). The latter is no doubt the plant to which the correspondent made reference, but he might have been more definite.—Ed.]

Roses and artificial manure.—*W. Jones*: The artificial manures that are beneficial to Roses are potash, nitrogen, phosphorus and lime. The first named may be applied in the form of kainit at the rate of 3 to 5 cwt. per acre, and may be dug into the ground in winter. The nitrogen may be applied in the form of nitrate of soda at the same rate; but we would give it in at least two applications to the surface of the ground, say at the end of March and again about the end of May. It will not hurt the flower-buds though showing themselves. Never give too strong doses of this manure at any time because it is very strong and quick acting. Sprinkle it on the top during showery weather, or you may turn on the hose or use a coarse-rosed watering pot. Phosphorus may be applied in the form of superphosphate at the same rate as the kainit, and both may be dug or pointed into the soil early in March. Instead of using either kainit or superphosphate you might give the Roses a good dressing of wood ashes just before digging; they make an excellent manure, if you can get them, being rich in potash. A dressing of lime may be given every three years or thereby and lightly pointed into the soil in spring.

Watering Transplanted Evergreens.—*H. Warwick*: Good-sized trees of various Conifers, Laurels, Box and Hollies can be transplanted with great advantage in April and May, just before they commence growing or before they have made much progress, but you should select a showery or dull time for it if possible, otherwise it will be necessary to syringe or hose them every day until you have evidence that they have taken fresh root. In warm or mild early seasons it will be necessary to effect the transplantation at an early date accordingly. The latitude also affects the question considerably, because the farther north you go or to greater elevations, so the plants will be later in starting into growth, and transplanting need not be begun so early. These points would also apply to Aucubas, Pernettyas, Arbutus, and those members of the Heath family generally, which are spoken of as American plants. Large plants of Rhododendrons would also come into this category, but it depends upon the size of the ball of soil attached to the roots. We have seen moderate-sized plants lifted and conveyed 50 to 60 miles by rail and planted with great success just when the flower buds were on the point of expansion. The flowers were scarcely checked at all. The fine roots of Rhododendrons hold the soil about them.

Bermuda Lilies.—*Alex. Robertson*: The name refers to the Bermuda Islands where the bulbs are grown in enormous quantities, and therefore cheaply. It would have been more correct to have said Lilies from the Bermudas, but it is impossible to get growers to adopt long names where it is possible to avoid it. In gardens these Lilies are best known under the name of Lilium Harrisi, but that is also erroneous speaking from a botanical point of view. The correct name is L. longiflorum eximium, a variety imported from Japan as long ago as 1834. It would be quite as correct to say Japan Lilies as Bermuda Lilies; but then it must be remembered that the Japan Lily is Lilium japonicum. In the present case all you have to remember is that the Bermuda Lilies are so named because cultivated there.

Names of Plants.—*B. J.*: 1, Berberis Wallichii; 2, Anemone sylvestris; 3, a variety of Ghent Azalea we cannot undertake to name; 4, Rhododendron flavum, formerly known as Azalea flava; 5, Prunus sinensis; 6, Pieris floribunda; 7, Aesculus rubicunda.—*E. M.*: 1, Trollius europaeus; 2, Trollius asiaticus Fortunei; 3, Saxifraga Aizoon; 4, Dodecatheon Media; 5, Scilla hispanica.—*An amateur*: 1, Iris germanica; 2, Saxifraga rotundifolia; 3, Primula japonica alba; 4, Sedum Sieboldi variegatum; 5, Pelargonium tomentosum; 6, Pyrus japonica.—*H. W.*: 1, Veronica gentianoides alba; 2, Centaurea montana; 3, Stachys lanata; 4, Saxifraga granulata flore pleno.—*H. Sadler*: 1, Aubrietia deltoidea violacea; 2, Armeria vulgaris; 3, Saxifraga trifurcata; 4, Dracaena rubra; 5, Lantana, a garden variety; 6, Streptocarpus, a garden hybrid between S. Rexii and S. lutea; 7, Cypripedium barbatum; 8, Monarda sp., send when in flower; 9, Euonymus japonicus.—*W. Y.*: Odontoglossum Hunnewellianum.—*Omega*: Prunus divaricata.

Means of Protecting Strawberries.—*On the Outlook*: We trust you will act up to your motto and take time by the forelock by making preparations at once to protect the Strawberry blossom against a night's frost which might yet happen; who knows? Loose straw, dry bracken, or anything of that sort might be laid down between the rows at once, so that should a night's frost be imminent all you should have to do would be to get the help of a man or two with a fork, and in an hour you could cover a large plantation with a loose coating of straw. Very little would ward off all the frost we are likely to get now till summer is again past. They could be uncovered in the morning by the same means, so that sun, air and insects can get at the blossoms to set them; when once fairly set the coverings can be taken clean away. On the other hand should no destructive frost happen, the time wasted will be a small matter, and more than compensated for by the security it will give you, and the consequent freedom from anxiety.

Communications received.—*H. Sadler*, next week.—Omega—H. J. H.—A. McMillan.—A. P., Wolverhampton.—C. S. Fuidge.

TRADE CATALOGUES RECEIVED

John Laing & Sons, Forest Hill, London, S. E.—Tuberous Begonias.

Andrew Potter, Wolverhampton.—Hose, netting, water-proof goods &c.

LONDON SEED TRADE.

May 25th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, & 39, Seed Market, Mark Lane, report a small demand for clovers and grasses, prices unaltered. Mustard and Rape higher. Canary seed owing to speculative enquiry in London realises advanced prices.

COVENT GARDEN MARKET.

May 22nd, 1895.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples..... per bushel	3 0 9 0	Grapes, per lb.	1 0 4 0
Nova Scotia Apples per barrel	12 0 21 0	Pine-apples. —St. Michael's each	2 6 6 0
Cob Nuts and Filberts, per 100 lbs.	10 0	Strawberries, Nobles, per lb.	1 0 2 0
Tasmanian Apples, per case	8 0 11 0	Other varieties, per lb.	2 0 4 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes Globe doz.	3 0 6 0	Horse Radish, bundle	2 0 4 0
Asparagus, per bundle	1 6 4 0	Lettuces ...per dozen	2 0
Beans, French, per lb.	1 0	Mushrooms, p. basket	1 0 1 6
Beet..... per dozen	2 0 3 0	Onions.....per bunch	0 4 0 6
Cabbages ... per doz.	3 0 4 0	Parsley ... per bunch	0 6
Carrots ... per bunch	0 6	Radishes... per dozen	1 6
Cauliflowers.....doz.	3 0 6 0	Seakale...per basket	1 0 1 6
Celery.....per bundle	1 6 2 0	Small salading, punnet	0 4
Cucumbers .....each	0 3 0 9	Spinach .....per lb.	0 6
Endive, French, doz.	2 6 3 0	Tomatos..... per lb.	1 0 2 0
Herbs .....per bunch	0 2 0 6	Turnips .....per bun.	0 6

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d s. d.
Arum Lilies, 12 blms.	2 0 4 0	Peonys, doz. bchs. ...	6 0 9 0
Azalea, doz. sprays	0 6 1 0	Primula, double, doz. sprays	0 6 1 0
Asparagus Fern, bun.	2 0 3 0	Pyrethrum doz. bun.	2 0 4 0
Bouvardias, per bun.	0 6 1 0	Roses (indoor), doz.	0 6 1 0
Carnations doz. blms.	2 0 3 0	" Tea, white, doz.	1 0 2 0
Eucharis ...per doz.	3 0 5 0	" Yellow, doz. ...	2 0 3 0
Gardenias ...per doz.	3 0 4 0	" Safrano (English), doz. ...	1 3 2 0
Geranium, scarlet, doz. bunches	4 0 6 0	Red Roses.....	3 0 6 0
Lilac, English, doz. bchs.	4 0 6 0	Pink Roses	5 0 7 0
Lilac (French) per bch.	5 0 6 0	Roses (French), yellow, doz. blooms	1 6 2 0
Lilium longiflorum per doz.	2 0 5 0	Roses (French) red, doz. blooms. ...	2 0 2 6
Lilium candidum, per doz.	1 6 2 0	Smilax, per bunch ...	4 0 6 0
Lily of the Valley, doz. bchs.	6 0 15 0	Stephanotis, doz. sprays	4 0 6 0
Marguerites, 12 bun.	1 6 3 0	Tuberoses, doz. blooms	0 4 0 6
Maidenhair Fern, 12 bs.	4 0 6 0	Violets (English) doz. bun.	1 0 2 0
Narcissus, doz. bchs.	1 0 2 0	Violets (French) bun.	1 0 1 6
Orchids, doz. blooms	1 6 12 0		
Pelargoniums, 12 bun.	6 0 9 0		

Plants in Pots.—Average Wholesale Prices

	s. d. s. d.		s. d. s. d.
Arbor Vitae (golden) per doz.	6 0 12 0	Fuchsia, per doz.....	6 0 9 0
Aspidistra, doz.....	18 0 36 0	Heliotrope, per doz.	6 0 8 0
" specimen plants	5 0 10 6	Hydrangea, per doz.	9 0 18 0
Azaleas, each	1 6 2 6	Ivy Geraniums, per doz.	6 0 8 0
Calceolaria, per doz.	6 0 9 0	Lobelia, per doz.....	4 0 6 0
Cinerarias, per doz.	6 0 10 0	Lycopodiums, doz.	3 0 4 0
Dracaena, various, per doz.	12 0 30 0	Mignonette, per doz.	5 0 6 0
Dracaena viridis, doz.	9 0 18 0	Marguerite Daisy doz	6 0 12 0
Erica, various, doz....	9 0 18 0	Myrtles, doz.	6 0 9 0
Euonymus, var. doz.	6 0 18 0	Palms in variety, each	1 0 15 0
Evergreens, in var. doz	6 0 24 0	Palms, Specimen ...	21 0 63 0
Ferns, invar., per doz.	4 0 18 0	Pelargoniums, per doz.	9 0 15 0
Ferns, small, per 100	4 0 6 0	Primulas, doz.	4 0 6 0
Ficus elastica, each	1 0 5 0	Scarlets, per doz.....	3 0 9 0
Foliage Plants, var., each	2 0 10 0	Stocks, per doz.	4 0 6 0

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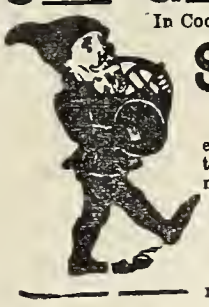

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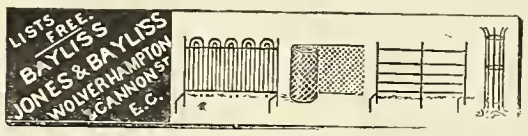

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FLOWER SHOW FIXTURES, 1895.

MAY.

29, 30.—Birmingham Pansy and Viola Show.
31.—Whitsuntide Exhibition at Manchester opens.

JUNE.

3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
12, 13.—Southend-on-Sea Horticultural Show.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Southampton Spring Show.
3.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25. Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.

(*Continued on next column.*)

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 1st, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, JUNE 3rd.—Southampton Spring Show. Exhibition of Plants, Flowers, and Horticultural Implements at Manchester.

TUESDAY, June 4th.—Great Sale of Orchids by Mr. John Cowan, at Talbot House School, Old Trafford, Manchester.

WEDNESDAY, June 5th.—Sale of Orchids by Mr. John Cowan at Old Trafford.

THURSDAY, June 6th.—Sale of Orchids by Mr. John Cowan at Old Trafford.

FRIDAY, JUNE 7th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

SALIENT FEATURES OF THE TEMPLE SHOW.—Now that the great annual event of the Royal Horticultural Society is a thing of the past, it may be of interest to our readers who have not seen the show, nor have had time to sift out the leading features of the same from the general mass of information detailed in our pages last week, to pick out a few of the salient features of interest and those giving evidence of progress. The tents were arranged somewhat differently to what they had been at the seven previous exhibitions, and we think to the advantage of the general public in the greater facility afforded for inspecting the exhibits without being excessively crowded. The relatively low temperature and absence of drying winds enabled the plants to pass through the ordeal of a three days' exposure with less injury than on several previous occasions. It was the general opinion as well as ours that the quantity of material exhibited was greater than ever and the show the best that has been held. If there was a falling away in some instances, it was more than compensated in others. There was more finish and artistic effect displayed in the make-up of many of the groups and collections than has hitherto been the case, although an accusation of flatness might be brought against a few of them, and which might be due to the character of the plants themselves, to a great extent. The uniformly high quality of the exhibits was due to the fact that every exhibitor, whether amateur or professional, made a feature of their own specialities, so that what we miss in the large specimens of bygone exhibitions, is more than counteracted by the less formal appearance of the plants and a more gorgeous display of bloom.

The Orchids were undoubtedly the aristocrats of the floral display, and created an unbounded amount of interest. To the botanist and connoisseur there was little of actual novelty beyond the influx of new varieties, but there were several good examples of cultural skill. For instance the Epidendrum Stamfordianum, shown by Sir Trevor Lawrence, the E. Wallisii, shown by J. Gurney Fowler, Esq., Laelia Hippolyta, by M. Jules Hye, and the Masdevallia benedicti, in Baron Schroder's collection, and bearing a grand total of 300 flowers, were triumphs of horticultural skill, and, we may presume, of "the Art that does mend Nature." The specimens protected by bell glasses were the objects of special attention, and chief amongst these was the famous Cypripedium Stonei platytaenium, shown by Sir Trevor Lawrence. Many were the enquiries for it, and much disappointment prevailed on the third day of the show, when it became known that the plant had to be taken home to more congenial quarters in the Orchid house. One old gentleman knew Sir Trevor when the latter was a boy, and at the time when the flowering of Amherstia nobilis was the leading cause of excitement in the plant world, both to botanist and the enthusiastic gardener. This first flowering took place in the hot-houses of Lady Lawrence, at Ealing, so that the love of flowers still runs strong in the family. The old gentleman's sore place on this occasion was that the famous Cypripedium, the very plant he wished to see, had been removed from the show before he could afford to attend it. What applies to the Cypripedium is also applicable to the magnificent Odontoglossum crispum apiatum exhibited by Baron Schroder, and whose value was stated to run into four figures. We hope that these valuable and interesting plants will become more democratic, or, in other words, more common and less fastidious in their requirements in the near future, so that every enthusiastic visitor may have an opportunity of seeing them. Some of the ladies present wished that christian names should be given the Orchids, but on being told that such was already the case, they seemed to think that the practice was more often honoured in the breach than in the observance.

Amongst foliage plants the Palms were good but not so numerous as we have seen them, and Cycads were absent or nearly so. The latter, though suggestive of a pre-adamite vegetation, serve, in conjunction with large Palms and tree Ferns, to give boldness of contour to the general display, to relieve the monotony of dwarf plants, and to soothe the eye when dazzled and wearied with the blaze of masses of bright colour. Here, also, the Caladiums are noteworthy as sustaining the reputation of their class and the new varieties of fine foliage plants showed that novelties may still be looked for in this direction.

Some of the tents, but particularly the large marquee, were redolent with the scent of Roses, bearing evidence of the quantities present, and furnishing a reflection of their widespread popularity and cultivation by a large section of the community. It was too early for Carnations in bulk and variety, but that popular class was well represented by the Malmaisons, by Uriah Pike and the new Blenheim Beauty, with flowers as large as the first named, but belonging to a different race. Other flowering plants were well represented by fine masses or collections of Gloxinias, Hybrid Streptocarpus, large flowered Cacti and tuberous Begonias. The flowering trees and shrubs, and Japan Maples were also conspicuous and effective. The specimens of rock-work were better than we have seen them here

before, and created considerable interest amongst lovers of that class of plants. Nor can we overlook the filmy Ferns. Herbaceous plants were present in great quantities, nor do we consider them overdone, when we bear in mind the large section of the community which can grow them, and to whose pleasure they administer. An interesting acquisition and addition to this class of plants was the new Incarvillea Delavayi, from China, flowered and exhibited by Sir Trevor Lawrence, and said to be perfectly hardy in this country. The great increase of the old florists' Tulips is remarkable, and the increasing interest in Pansies and Violas is another sign of our times. The floral decorations were finer and altogether better displayed than hitherto; but we did not see any of the artificial flowers which a reporter declared were so like real ones that he detected people smelling them by mistake; he should have added that they were visited by swarms of bees! Fruit and vegetables showed an advancement, the Nectarines being particularly fine. The vegetables, but particularly the Peas, Tomatos, and Cucumbers growing in pots, and fit for use, were unusual for this early period of the year.

Mr. George Ormiston, late of Gatton Park, Reigate, has been engaged as gardener and forester to the Rt. Hon. Lord Montagu, Ditton Park, Slough.

Mr. James Inglis, foreman in the gardens of Sir Thomas Erskine, Bart., Cambo House, Fife, has been appointed gardener to Major Taubman, The Nunnery, Douglas, Isle of Man.

Mr. Alexander Farquhar, Craigerock Castle, Midlothian, has been engaged as gardener to R. Graham Murray, Esq., M.P., Stenton, Dunkeld.

Royal Botanic Society of London.—Professor George Henslow, on Friday, the 24th ult., gave the first of two lectures, at the Gardens, Regent's Park, upon "The Origin of our Cultivated Vegetables."

A Royal Appointment.—We have much pleasure in announcing that the Lord Steward has appointed Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, Nurserymen and Seedsmen to Her Majesty the Queen. The warrant conferring the appointment is dated May 8th, 1895.

Cricket: Hurst & Son v. Hoddesdon C.C.—A cricket match was played between these teams on the ground of the Hoddesdon Club on Saturday last, which resulted in a win for the Seedsmen. One innings each were played, the score being, Hurst & Son, 116, and Hoddesdon 76. For the winners Mr. Simpson made the capital score of 67.

International Horticultural Conference in Paris.—The International Horticultural Conference was opened in Paris on Saturday. Among the foreign delegates invited to join the officers of the congress as secretaries was Mr. F. W. Moore, Curator of the Royal Botanic Gardens, Glasnevin, Dublin. Resolutions were unanimously adopted giving expression to the following wishes:—1. "That the French Government should associate itself with the request addressed by the Italian Government to the Swiss Confederation with a view to obtaining the revision of the Berne International Convention, and the free circulation between all countries signatory to the convention of all vegetables and vines accompanied by a certificate of origin;" 2. "That the postal administration should return to the old reduced tariff, of which periodical publications on horticulture have hitherto had the advantage."

National Co-operative Flower Show.—The Co-operative Flower Show, which has grown from the smallest of beginnings into the proud position of being the largest of the year, is not likely to lose its attractiveness in 1895. The schedule of the tenth show just issued, repeats the offer of about 800 prizes, including £300 in cash, many bronze, silver and gold medals, special awards and consolation chances. Most of the prizes are, as usual, offered for the produce of workmen's gardens and labourers' allotments, each section of the Kingdom having separate offers, so that exhibitors in the North will not have to compete with South, East, West, or Midlands. The Council of the Agricultural and Horticultural Association seeks this year to enlist art students in the improvement of town gardens, by offering prizes of £10 for designs of the "Workman's Garden of Taste," contrasted with the "Workman's Garden Run to Waste." The competition designs are to be exhibited at the Crystal Palace on the 23rd and 24th August, when the Flower Show takes place, in conjunction with the Great National Co-operative Festival. Schedules of the show can be obtained without charge from Edwd. Owen Greening, the Hon. Sec., 3, Agar Street, Strand, W. C.

Errata.—We regret to say that, owing to a mistake in last week's issue, Mr. H. B. May, was credited with contributing the two fine groups of Carnation Uriah Pike which appeared in tent number two and which really came from Mr. G. May of Teddington. A similar error resulted in the group of pot Roses—staged by Messrs. Jackman & Sons, Woking Nursery, next to Messrs. F. Sander & Co.'s exhibit of new plants—being attributed to the latter firm instead of to their rightful contributors.

Early Strawberries in Cornwall.—With a continuance of favourable weather the Strawberry crop in the Tamar Valley will be early and plentiful this season. Several ripe fruit were picked by Mr. Joseph Start, of Kelly Gardens, Calstock, on 20th May. Children attending Geoffrey's Endowed School, Landrake, gathered several bunches of fine wild Strawberries from the hedges around the village last week, and on Sunday wild fruit quite ripe were picked on the railway between Probus and Truro.

Shirley Gardeners' Mutual Improvement Association.—A meeting was held at the Parish Room, Shirley, Southampton, on the 20th inst., when the President, W. F. G. Spranger, Esq., presided over a good attendance of the members. Mr. J. Jones, The Gardens, Terrace House, Polygon, Southampton, read a paper on the "Cultivation of the Melon," and there was a lively discussion on the various points of culture recommended. A question arose as to the desirability of raising plants from seed two or more years old, it being asserted that such plants were less vigorous in growth, but more fruitful than plants grown from quite new seed. A member said he had seen a gardener who always made it a practice to carry his Cucumber seed in his waistcoat pocket for six months, with the same object in view, and another member has seen the same practice carried out, but no one present could vouch for the usefulness of the practice. A hearty vote of thanks was accorded Mr. Jones for his interesting paper, and, in replying, Mr. Jones addressed a few words to the younger members of the Association on the value of putting their ideas and practice into writing, and recommended that prizes be given for essays on a given subject, to be competed for by the younger members. The proposal will receive consideration before the next half session. There was a fine display of cut blooms of Rhododendrons, Azaleas, and hardy flowering shrubs sent by Mr. W. H. Rogers, J.P., Red Lodge Nursery. Cut blooms and hardy perennials from Mr. B. Ladhams, and twenty-four varieties of cut blooms and hardy flowers from Mr. J. E. Wilcox, gardener to Col. W. S. Sinkins. A vote of thanks to the exhibitors closed the proceedings.

Proposed Battle of Flowers.—Hastings seems to be in a fair way of emulating the splendid success which Eastbourne achieved in its Battle of Flowers. The approval and co-operation of the Town Council have been secured, the borough officials have heartily expressed their wish to give all possible assistance in the arrangements, a strong and influential Committee has been formed, and everything promises to go well. In an affair of this kind the weather is of course an all-important factor, and in the strange hotch-potch, which, for want of a better name is termed the English climate, no reliance can be placed on the state of the elements at any given period. But this will not discourage the stout-hearted Hastings folk in their endeavour to provide a great summer attraction for visitors, and even if they should be unfortunate enough to experience a wet day or two, they have before them the example of Eastbourne, which triumphed over the most unpromising circumstances in regard to weather. As far as money is concerned, the success of the fête week seems to be almost assured. Very liberal promises of support were received from a number of gentlemen at the meeting on the 21st ult., and if the general body of townspeople rise proportionately well to the occasion there need be no fear of the project failing for want of funds. Equally satisfactory were the offers made by others to provide decorated carriages and in other ways add to the attractiveness of the show. Altogether, the outlook is distinctly encouraging, and Hastings promises to be not far behind her younger rival.

Linnean Society.—The anniversary dinner of the Linnean Society of London took place last night at the Grand Hotel, Charing Cross. Mr. C. B. Clarke, the President, occupied the chair, and the company included the Marquis of Ripon, Sir Charles Wilson, Sir Hugh Low, Sir Joseph Lister, Sir Henry Collett, Professor Judge, Dr. St. George Mivart, Dr. John Anderson, Professor Charles Stewart, Mr. Carruthers, Mr. F. Crisp, Mr. B. Daydon Jackson, Mr. W. Percy Sladen, Mr. J. E. Harting, Colonel F. Henderson, Professor G. B. Howe, Sir James G. Maitland, Mr. W. Thistleton Dyer, Dr. D. H. Scott, Professor J. B. Farmer, Dr. D. Morris, Dr. John Lowe, Mr. A. D. Michael, Dr. John Murray, Mr. H. N. Ridley, Mr. George Murray, Dr. James Oliver, Mr. H. Monckton, Mr. H. Druce, Mr Arthur Lister, Mr. Thomas Christy, Mr. John Young, and Mr. J. C. Galton.—Responding to the toast of "The Colonies," proposed by Sir Hugh Low, the Marquis of Ripon said he could speak as a member of the Society of very long standing, though as one who had been able to find little time of late for the scientific pursuits which had possessed so powerful an attraction for him in days gone by. Addressing the members of the Linnean Society, he could not forbear a reference to the valuable work that Mr. Thiselton Dyer had done by introducing new plants into the Colonies, and by developing the cultivation of those that naturally belonged to them. Some ten or more years ago China supplied 66 per cent. of the tea consumed by the world, whereas now it only supplied 12 per cent. Thanks to the exertions of men of science, and particularly of those associated with Kew, India, and Ceylon had displaced China to that extent. The development of Cinchona afforded another example of the valuable results of science, and for his part he might mention that he was never without quinine, and that he had consequently been able to keep influenza at bay. (Laughter and applause.)—Proposing "The Board of Agriculture," Mr. Thiselton Dyer spoke of the excellent results which, thanks to care, skill, and science, attended the cultivation of wheat in this country, and expressed the confident opinion that agriculturists, though, of course, they could not contend against inexorable economic laws, would triumph in the end.—Sir C. Wilson responded.—Sir J. Lister acknowledged the toast of "The Royal Society," and Mr. Percy Sladen proposed "The Geological Society," a toast with which was coupled the name of Professor Judd.

BEGONIAS AT FOREST HILL.

Tuberous Begonias are again in full swing, in fact they have been flowering for weeks past in the nursery of Messrs. J. Laing & Sons, Forest Hill, and we were surprised that they did not put in an appearance at the Temple Show last week. Their exhibits for the past seven years have always occupied a considerable amount of space in the large marquee and the tents in the Inner Temple Gardens, independently of all the other London shows. The exhibits that ought to have turned up on the occasion mentioned were the Begonias, Caladiums, Gloxinias, Streptocarpus and fine foliage plants generally. The collection of Caladiums is very extensive and includes such standard exhibition sorts as Baron Adolphe de Rothschild, Candidum, Charlemagne, Barrone James de Rothschild, Ferdinand de Lesseps, Duchess of Portland, Gaspard Crayer, Mithridate, Triomphe de l'Exposition, Mrs. Harry Veitch, Ornatum, Clio and others, besides a host of fancy or decorative sorts that may be utilised in various ways. Our object in going to Forest Hill, however, was to see the Begonias and note the new varieties that come to light annually. Of course the new varieties flowering now are seedlings selected from last year's sowing from the open ground in most cases, and which require a second trial in pots to fully test their capabilities, and show their qualifications for public

approval. The double sorts are most esteemed at present amongst cultivators and admirers generally. The reasons for this are, no doubt, due to their decorative value for pot work indoors, and the fact that they are undergoing more rapid evolution than the single kinds; in other words they annually give rise to a greater amount of novelty.

DOUBLE BEGONIAS.

Large flowered varieties still find great favour with cultivators and the community at large; but we are not a little suprised that it should be so; nor do we want to quarrel with public taste in the matter, yet cannot help thinking that blooms of moderately large size are the best, provided they are of distinct and beautiful colours and of good shape. A new one named Invincible is large enough in all conscience to please the most fastidious in this respect. The bloom is bright crimson-scarlet and perfectly upright on a short stout stalk. A free-flowering variety is Duchess of Northumberland with bright salmon flowers. The blooms of Alfred de Rothschild are glowing crimson with a maroon shade in the centre, and moderate in size, yet we consider it an exquisite variety of its colour. In this same class we would place Prince Adolphus de Teck, which is glowing scarlet and of neat Camellia shape. Laing's Triumph is deep salmon, large, free flowering, and effective. The flowers of Lady Dorington are blush pink or delicate peach blossom, but vary according to the season, becoming much darker in the autumn. The soft yellow flowers of Lady Knill are of good size and shape, and are seen to great advantage against the dark green foliage. The Marchioness of Salisbury is a primrose variety of dwarf and bushy habit; but the best yellow in the collection is a seedling as yet unnamed. It is of very dwarf habit with dark green leaves and the large flowers are bright clear yellow. Mrs. Regnart used to be the best yellow, but is now superseded.

Several of the seedlings are yet unnamed, but the greater portion of them are bound to receive that distinction for they are quite realising the promise they gave last year. In one case the blooms are rosy salmon, very attractive and pleasing. Another dating from 1893 has wavy petals of a bright scarlet and is very full in the centre. One with Camellia-shaped scarlet flowers is notable for the great depth of the bloom and this increases with further development. A seedling of bushy and densely branching habit has glowing scarlet flowers of medium size; it is one of last year's raising. Another of equally dwarf and bushy habit has rose flowers well set off against the dark green leaves. The scarlet gives place to cerise in some of them, and we noted one of this colour with rosy guard petals. Still another noteworthy seedling had orange-scarlet flowers and broad, not crowded petals. Good seedlings increase at a rate which makes it difficult to supply them with a name without interfering with those of bygone times.

A handsome variety is Countess of Warwick with bright salmon-scarlet flowers which become darker later in the season, for several Begonias vary with the season, like Violas and Chrysanthemums. Several are cherished for their beautiful and regular shape, though only of medium size. Amongst these we would name the Duke of Fife with salmon-rose flowers and slightly wavy petals, but regularly disposed like those of a Camellia. Rosebud is well named, both on account of its form and colour, the latter being of a soft rose, and so neatly disposed round a single centre that few can fail to admire it. The Premier is of neat rose-bud shape, medium size, but of a glowing scarlet colour. The blooms of Duchess of York are orange shaded with peach, and have large guard petals, which render them conspicuous. The Cactus Begonia is rather an innovation in this class of flowers, but a fair imitation of a Cactus Dahlia does not seem to be an impossibility. The flowers of Cactus have long but bluntly pointed petals of a beautiful rose with a darker edge. They are large, pendulous, and suitable for basket work, because their beauty can only be seen to advantage when above the level of the eye. The moderate sized flowers of W. Cliffard are of regular Camellia form and dark rose with broad overlapping petals. The dark green foliage of Mrs. Hudson sets off the rosy-cerise flowers to the fullest advantage; though moderate in size their fullness and neat form are great recommendations. The soft creamy-white flowers of the Countess of Dudley have crimped petals and are very neat and pretty.

BEGONIA ROSEBUD.

SINGLE VARIETIES.

The chief advancement that has been made in this class is the enlarging of the flowers and their development into regular circular form. Sir Charles Pigott is bright orange-scarlet, the best of its class, and no complaint can be made as to its shape. The same may be said of Mr. Benson, which has soft, scarlet-red flowers. Countess Cowper is circular, of great size, and pure white. The Duke of Richmond and Gordon is a very telling sort in a collection by reason of its large glowing, maroon-crimson flowers. Even larger perhaps are those of Countess of Brownlow, which are buff-orange, and highly esteemed for decorative purposes.

The unnamed seedlings are more numerous amongst the single than the double sorts as far as the new varieties are concerned. The fact is, the standard is now so high that fine things may be expected from a packet of seed. The want of names makes them more difficult to refer to, but a short description will serve to indicate their leading characters. A seedling of last year is notable for having two distinct shades of colour, at least occasionally. The two outer petals are orange-scarlet, but the two inner are several shades darker. A pretty soft shade is represented by a salmon-pink variety, the outer petals of which are more or less fimbriated. Another has bright orange-scarlet flowers. As in the doubles, so in the singles we have bright cerise flowers. The outer petals in another case are rose, while the inner ones are more decidedly scarlet, with crenate edges; the pale margin reminds one of a Shirley Poppy. One variety with very large and bright crimson flowers is notable for the great cluster or tassel of yellow anthers in the centre. Again, we noted one with the outer petals pink, and the two inner ones rosy pink. Close by was another with similar, though not quite the same, shades of colour. Both varieties may be compared to the Abutilons or Hibiscus with rose or rosy-purple flowers. A bicolor variety is notable for the extent and intensity of colour on the large outer petals, and which is deep rose; the inner petals are not so highly coloured, while the centre is white. Farther on was a magenta-pink sort with huge flowers. We were particularly taken with a seedling in a 32-size pot, and which had huge leaves and large rosy-scarlet flowers. The plant itself was 2 ft. high, perfectly pyramidal in shape, and evidently possessed of great vigour. Different in its way was a scarlet variety with paler inner petals, with an arrangement of colour that might be described as crushed strawberry.

The above will indicate the more recent developments in the matter of colour amongst the single sorts, but the infinity of shades must be seen to have any exact idea of their distinctions, and one can better judge of their value by seeing them. Since the Messrs. Laing gave up the idea of showing at the Temple Gardens, a great quantity of the bloom was removed to ease the plants, so we suppose they intend to blossom out somewhere else. In any case the vigour of the plants and the healthy dark green colour of the foliage, and the ample size of the individual leaves shows that something must have been placed at the roots of the plants, and that the plants will flower again later on in greater abundance and with flowers of great size.

ORCHID NOTES AND GLEANINGS.

BY JOHN FRASER, F.L.S., KEW.

THE undermentioned Orchids received awards according to merit from the Royal Horticultural Society at the Temple Show held on the 21st, 22nd, and 23rd ult.

Cypripedium Stonei platytaenium.—The bold and handsome character of this Cypripedium as well as its great rarity, and the high estimation in which it is held, are all well known to Orchid growers as well as those interested in the same, but the plant seldom appears in public. Only one plant was introduced amongst an importation of the type from Sarawak, Borneo, in 1863. It differs from C. Stonei chiefly in the very much broader petals, which are nearly an inch wide at the broadest part, and in being blotched with reddish crimson from an inch above the base to near the apex where the blotches become confluent in a more solid mass. It was the object of great interest at the show. First-class Certificate and Silver Flora Medal. Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking.

Cattleya Mendelii dellensis, *Nov. var.*—The flowers of this new variety are of huge size and pleasing light colours. The petals are wavy and crisped upwards, and of a soft rosy pink, closely netted with a shade or two darker. The lip is also very large with a roundly oblong lamina, much waved, crisped and rich purple; the side lobes are white, and the tube internally is striped with purple. A large plant of this would have an imposing effect on account of the size and attractiveness of the flowers. First-class Certificate. Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham.

Miltoniopsis Bleuiana virginalis, *Nov. var.*—The flowers of this variety are of great size measuring $4\frac{1}{2}$ in. in length, and 3 in. across the lip. The sepals are white, but the petals have a small purple blotch at the base derived from Miltonia Roezli, one of the parents of the original hybrid. The other parent was M. vexillaria. The lip is also white with a large drab-coloured blotch at the base having three purple lines in its centre. The varietal name refers to

the pale, almost white colour of the flowers, which are effective and telling on account of their great size. First-class Certificate. M. Jules Hye Leysen, Belgium.

Cattleya Mosslae Prince of Wales, *Nov. var.*—The sepals and very wavy petals of this variety are of a warm rose-purple. The lip is oblong-orbicular, very deeply bifid, wavy, crisped, rich purple, netted with darker veins, and fading to pink at the margin. On each side of the throat is a golden blotch joining in the centre and forming a large Y. To say the least it is a hold and handsome variety. Award of Merit. Messrs. F. Sander & Co, St. Albans.

Cattleya Mendelii Grandis, *Nov. var.*—The sepals in this case are blush. The petals are of huge size, triangular, white, and faintly tinted with blush. The tube of the lip is white, hut the large, deeply bifid lamina has a large purple hlotch around the apical sinus. The blotch in the throat is pale yellow, and the interior of tbe tube is lined with purple. The variety will find admirers on account of its size and chaste pleasing colours. Award of Merit. Messrs. Hugh Low & Co., Clapton.

Odontoglossum Wilckeanum Lowianum, *Nov. var.*—The sepals of this variety are of a clear soft yellow, with two large hrown blotches on each, or the lower hlotch may be divided through tbe middle, making tbree in all. The ground colour of the petals is also clear yellow, with a small brown blotch occasionally on one of them. The finely fringed lip is similar in colour, witb a blotch in front of the crest, while the latter is lined with brown. On the whole it is a well proportioned flower of light but decided colours. Award of Merit. Messrs. Hugh Low & Co., Clapton.

Laelia purpurata Bella, *Nov. var.*—The sepals, petals, and the greater part of the lip of this variety are pure white aud beautiful. Tbe lip is suffused with the faintest pink, and on each side of tbe base is a large purple blotch, from whicb numerous slender purple lines run down tbe interior of the tube. It is a chaste, pretty, and distinct variety. Award of Merit. Messrs. W. L. Lewis & Co., Chase Side, Soutbgate.

Cattleya Mossiae Lady F. Wigan, *Nov. var.*—Amongst the numerous light coloured varieties now in cultivation this merits no small amount of praise, for the soft colours even of the lip are wonderfully chaste and attractive. The sepals and wavy petals are pure white. The tuhe of the lip is also pure white; and the lamina is white-washed and netted with soft purple, except at tbe margin. A deeper purple band runs along tbe centre, and on either side of the throat is an orange-yellow blotch. Award of Merit. Sir F. Wigan (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

Masdevallia Shuttryana, *Nov. hyb.* — The name of this hybrid may startle some, being a compound of the first portion of M. caudata Shuttleworthii and tbe second part of M. Harryana, the two species being the parents. The progeny is intermediate in stature as well as structure and colour. The small upper sepal is obovate, yellow, with five purple lines and ends in a yellow tail 2 in. long. The lateral sepals are oblong-ovate, yellow, and thinly washed over with a soft red; there is a scarlet band at the place wbere they join the upper sepal, and they terminate in yellow tails 1½ in. long. The wbole plant is only 6 in. to 8 in. high. Award of Merit. Sir Trevor Lawrence, Bart.

Masdevallia Harryana miniata, *Nov. var.*—The flowers of this variety are larger than those of the type, or at least than is commonly tbe case and of an intense glowing scarlet, particularly when the sun is shining upon it. The small upper sepal is mucb paler and reflexed with a tail 2 in. long. It is one of the best, if not the best, variety of this species In cultivation. Award of Merit. Sir Trevor Lawrence, Bart.

Odontoglossum Pescatorei La Perfection, *Nov. var.*—Tbe wbite sepals of this variety are heavily shaded on the hack with purple which shines through on the face, and they are adorned with a large dark purple hlotch near the apex. The petals are white with one or a few small purple blotches along the centre. The lip has a dark purple blotch in front of the crest with some small ones round the edges, especially the anterior edges; and tbe side lobes are lined with crimson-purple. The flowers of tbe plant shown were of large size. Award of Merit. M. Jules Hye Leysen, 8 Le Coupure, Gand, Belgium.

Cattleya Lawrenceana atrorubens. *Nov. var.*—The sepals of this magnificent variety are soft purple, but the petals are of a rich dark purple, fading a little towards the base. The tube of the lip is dark purple but tbe intensity of the bue culminates in the orbicular, wavy lamina. For want of a hetter term it may be described as intense crimson-purple, but tbe particular hue would be difficult to match in any other species of Cattleya. Award of Merit. M. Jules Hye Leysen.

Brassia Keiliana tristis.—Tbe sepals of this Orchid are mucb longer than the petals, and in the type botb sepals and petals are yellow, ultimately changing to brownish orange. These parts of the variety under notice are brown, and tbe petals bave a small, triangular yellow blotch at the base. The lip is oval, suddenly narrowed into a long point and creamy yellow with a horse-shoe-shaped brown blotcb surrounding the anterior side of the crest. There were two spikes on the plant shown. Botanical Certificate. Messrs. B. S. Williams & Son, Upper Holloway.

Vanda concolor.—Seldom is tbis species seen in cultivation compared with several others. The sepals and petals are obovate and yellow, sbaded with brown and netted with darker lines. The small lateral lobes are nearly white, witb a red hlotch at the hase and the terminal one is straw-yellow. The flowers are produced in drooping racemes. Botanical Certificate. Messrs. B. S. Williams & Son.

THE VEGETABLE GARDEN.

Planting of Celery.—If the trencbes have been got in readiness according to instructions previously given, no time should be lost in putting out the plants into their permanent quarters. They will have been planted out in a warm sbeltered corner on an outside border, or better still beneath the shelter of a cold frame, where, if proper attention bas been paid to the watering of the plants as occasion requires, they should by this time bave made nice stocky little stuff whicb, if proper caution is exercised in shifting, sbould grow away without a check and come in early in the season. If the plants appear to he at all dry, as will most likely he the case, no rain having fallen of late, a good soaking must he given them the day hefore that on which it is proposed to lift them, for if the soil is dry it will be almost impossible to take them up without a great deal of it crumbling away leaving many of the tender fibrous roots exposed, to tbeir no small detriment. Tbe plants should therefore be lifted with as good balls of earth as possible. Carefully remove any suckers which may be observed springing from the hase of the plants. A hand-barrow is tbe best medium of transportation, for if a wbeelbarrow be used much shaking that might otherwise be avoided will ensue. It is also important to avoid baving too many plants out of the ground at once.

The distance between the plants in the rows will vary according to the purpose for which the Celery is intended. For ordinary purposes from ten incbes to a foot of space will admit of very fine sticks being grown, although for exbihition purposes a little more room must be allowed. These large examples are but of comparatively little value, however, for in most cases the extreme size is only attained at tbe expense of the quality, which is after all tbe chief consideration for the private gardener. Planting must be conducted by means of the trowel, whilst the soil must be made nicely firm in the trenches, a good watering being given soon after, except on very beavy soils, when it may be deferred for a day or two with advantage. We bave now very mauy fine varieties from whicb to pick and choose, altbough the following are sorts tbat we can confidently recommend as tboroughly trustworthy and reliable :—Colonel (Major), Clarke's Solid Red, Veitcb's Early Rose, Standard Bearer, and Sutton's Sulbam Prize amongst red varieties, whilst of white sorts eitber Sutton's Solid White and Veitcb's Superb or Sandringham Dwarf will be found all tbat could be desired.

Vegetable Marrows.—Seed which was sown in a gentle heat at the beginning of last month will have produced plants which, potted on as growth has advanced, will now have made nice little stuff in 48-sized pots. Preparations must therefore be made at once for planting these out in the positions destined for them as it is not advisable to allow them to remain in their pots until they become root-bound, and the leaves begin to assume that sickly yellow appearance so characteristic of starved plants. As marrows are essentially deep feeders, the ricber the soil in which they are placed the better. Accordingly, the ground must be well trenched and manured previous to planting. It will be advisable to cover the plants with hand-lights for a few weeks after they are put out, tbat is to say until all danger of frost is past. Immediately after planting the lights may be kept pretty close and considerable assistance will tbus be given tbe plant to start away freely. A light shading will also be necessary until they recover tbemselves somewhat After they have got hold of their new quarters tbe shade may be dispensed witb and plenty of air given, only closing the lights at night should frost threaten to supervene. Two or three varieties should be grown, and among tbem Sutton's Long White, Veitcb's selected Long Wbite, Pen-y-Byd, a well-known free fruiting variety of excellent flavour sbould find a place, wbile for a custard sort Sutton's Improved will be found a gem.

General Work.—Continue to ply tbe boe amongst all growing crops and the work of thinning the various crops must he looked after. Seedlings of this kind have made hut little progress of late owing to their wanting rain very badly. Once tbe much needed showers do come, however, they will soon make up for this delay. Succession crops of Lettuce must be sown at suitable intervals. The quantity of seed sown will of course depend upon the demand there is for this important salading, but it will be necessary to make a sowing, bowever small, at least every three weeks tbroughout tbe summer if a continual supply is needed, as the plants do not remain in condition very long but soon run to seed.—*J. G.*

FRUIT UNDER GLASS.

Vines.—Where these are in full swing the ordinary course of summer treatment will now have to he adopted. With the advent of warmer weather but little fire heat will he necessary, and that as a rule only at night time, excepting of course on very dull or wet days, when a moderate beat in the pipes will serve to render the atmosphere brisk and buoyant. Ventilation is next to watering the most important cultural detail now requiring attention. A little air must now be left on hy botb top and bottom ventilators all througb the night. This will greatly assist in giving colour and substance to the foliage. Tbe pinching out of laterals at tbe first leaf must he constantly practised, as it is not to be recommended to allow them to get too long before they are stopped.

Insect Pests.—In well managed Vineries, where winter cleaning of both the canes tbemselves and the house in which they are growing is well looked after, insect pests witb tbe exception of Mealy Bug should not give a great deal of trouble. Bug, however, often will make its appearance, no matter what precautionary measures are taken, and the Vines will need to be constantly looked after for its first appearance, for if neglected and allowed to creep into and infect the branches it becomes a matter of great difficulty to dislodge them. Thrips too, sometimes cause trouble and any affected leaves should be sponged with tobacco water. Red Spider may be kept in check easily enougb if proper attention is paid to damping down, for it is usually in Vineries wbich are neglected in this respect and in which a dry arid atmosphere is allowed to ohtain that the mischief caused by Red Spider has usually to be deplored.

Ripe Peaches and Nectarines.—In the earlier house wbere the fruit is pretty well ripe some measures must be taken to prevent it from falling from the trees, its own weight proving too much for it, and being spoiled by the fall. One method which is generally adopted is to fasten nets so that they have about a foot or so heneath the trees any fruits that may drop being then caught in them. This plan is, however, far from being a perfect one, for very soon tbe nets hang in large pockets as it were, and the fruits falling into these naturally roll into the middle and are spoiled by heing bruised against eacb other. By far the better plan is to cover the horder witb a good thickness of clean straw and to go over the trees each morning and pick all that will not hang tbroughout the day, any tbat are missed and dropping into the straw heneath receiving but little damage in the fall. In picking the fruit a great deal of caution is necessary for it often happens tbat some parts are

soft while others are quite hard, and as every gardener knows a slight squeeze is fatal to the good appearance of the fruit. The only safe plan is to let the fruit lie loosely in the palm of the hand, the fingers gently clasping it near the point of its attachment to the tree, when by a gentle sideward pressure it may easily be ascertained whether it is ready for picking, for if so it will part very readily from its stalk. The flavour of the fruits will be greatly improved if they are laid for a day or two on a shelf where the sun's rays can reach them, protecting them of course from birds as well as from two-legged creatures without feathers that evince a liking for their juicy lusciousness.—*A. S. G.*

HARDY FRUIT GARDEN.

Apricots.—The final thinning of the fruit, which should by this time have reached a good size, may now take place. The removal of unnecessary or fore-right shoots will need constant attention, also the tying or nailing of those that are to be left. In any case overcrowding of the shoots is a mistake, for it is far better to lay in less wood and to have it in a healthy condition than it is to tie in a lot of growths that only succeed in spoiling each other.

Peaches.—The same remarks anent the laying in of woods as were made concerning the Apricot will apply to Peaches on walls with equal force. Attend to the tying in of growths as soon as they have attained a sufficient length, or they will be very very liable to be torn or broken at the base, that is to say, at the point of junction with last year's wood, an injury that is far too often a fruitful cause of gumming. Where the soil is well drained and rather light in character, it will be necessary to to take all care to see that the roots of the trees are supplied with sufficient water. We have now been without rain for some time, and when we couple this with the fact that vigorously growing healthy wall trees soon exhaust any moisture that may be in the soil, we shall readily grasp the necessity for the caution.

Mulching.—Too much can scarcely be said in recommendation of this practice; for apart from the nutriment that is supplied to the soil, a good mulching is of great service in preventing the rapid evaporation of water from the soil by the sun. A good dressing of short well-rotted stable manure may, therefore, be given with advantage to the borders in which all wall trees, whether Plums, Apricots, Peaches, Pears, or Cherries, are growing.

Strawberries.—As there is a great deal of strain upon these at this time of year occasional waterings will be an absolute necessity on dry soil if good sized fruit is to be obtained. Where the mulching of manure was given early in the spring a great deal of its goodness will now be exhausted, consequently applications of liquid manure will be of great service. For this purpose farmyard manure is as good as anything if it can be obtained when fresh. Where the plantations were mulched a short time ago clear water will be all that is necessary.

Grafted Trees.—As soon as it is seen that the grafts are making headway and that a perfect union between stock and scion must thus have taken place, the clay may be carefully removed, and any ties that appear to be too tight loosened. It will also be very necessary to afford these young scions some support, as a moderately rongh wind will often play great havoc with them. A light stake may be lashed to the stock and the scion tied to this. All shoots which are observed to come from the stock itself must be rubbed off as soon as seen, so that the scions may get the full benefit of the energy of the tree.

THE FLOWER GARDEN.

Bedding Out.

In the majority of gardens whether they be large or small the operation of transferring the summer bedding plants to their flowering quarters will now be actively in progress. Many who were tempted by the fine tropical weather which visited us during the second week in May, have been discouraged by the late spell of cold, raw weather, and planting out has in most cases been greatly hindered, and in not a few stopped altogether. Now, however, that we are once again being favoured with warm sun strenuous efforts should be made to get the work well in hand. Although rain is sadly wanted everywhere there is this advantage pertaining to dry weather that the soil will work much easier, and this facilitates operations where thousands of plants of all kinds have to be put out. To do so in wet weather is, as every practical gardener knows, a task attended with considerable difficulty; the soil sticking to the feet of the workmen is very liable to be carried over gravel paths, etc., a proceeding that is not calculated to improve their appearance.

Where the plants are in pots the labour of bedding out is, of course, greatly diminished, for they may then be transferred to their new abodes without much fear of a check arising from undue root disturbance. It often happens, however, that owing to lack of a sufficient number of pots the plants have had to be accommodated in boxes. In this case every precaution must be taken to see that they are taken out with good balls of earth attached. Any boxes, therefore, containing Pelargoniums Lobelias, or any of the ordinary bedding annuals must be well watered the day before their contents are to be transferred to the flower garden.

Watering.

Where the flower garden is of large size, and the number of beds it contains numerous, it is manifest that the labour of keeping everything well supplied with water during a dry spell must be exceedingly great. The present period of drought will, therefore, cause not a little extra work, for it is very necessary that plants which have been newly put out, and have from that cause not had sufficient time to become established, should not be allowed to suffer for lack of moisture. In establishments where the water supply is ample and a sufficient length of hose on hand to convey the water from the taps to the sphere of operations but little difficulty will be experienced, although in places where the water has to be carried in cans, the work is rendered much more laborious. But whether water be applied by the hose or with cans care must be taken that it is not allowed to fall in an unbroken stream or much washing of the soil will result. Either a rose or a water spreader, either of which may be obtained at a very small cost, should be affixed to the hose or can and the force of the stream thus broken.

Dahlias.

While these beautiful plants are favourites everywhere, we have usually to deplore the brevity of their brilliant career, for in very many cases an early autumn frost puts an effectual stop to the brilliancy of their beauty. Last autumn was, it is true, a marked exception to the rule, for although in some districts Dahlias were cut down early in the autumn, in the majority of cases they kept blooming away well in November. It is advisable to plant them outdoors the moment that danger of severe frost is past so as to allow them as long a blooming season as possible. The position they are to occupy will have been well manured either during last autumn or early in spring. The plants meanwhile which have been struck from cuttings obtained from plants started soon after the turn of the year, as well as the larger specimens which were started a month or two later by placing the tubers in baskets, covering them with leaf mould or any light soil and standing them in a Vinery that is being forced, will have been hardened by degrees and should now be ready to fill their allotted place outside. In planting them, a good hole should be made with the spade and the earth made firm around the tubers, afterwards giving the plants a neat stake to support them against storms of wind and rain. Treated thus, it is often astonishing to see the rate at which the plants grow, making large specimens in no time.

Gleanings from the World of Science.

A Comparison of Forest Floras.—There are many points of resemblance between the forest floras of Japan and North-East America—a fact which has been known for many years, and seems to indicate a common origin. Professor Sargent, the well-known American botanist, has written a book entitled the *Forest Flora of Japan*, and the following quotation taken from his work expresses some of his views on the points of resemblance between the floras of the two countries above mentioned: "The floras of Japan and Eastern America have, it is true, some curious features in common, and the presence in two regions of certain types not found elsewhere show their relationship. But these plants are usually small, and are rare or grow only on the high mountains. Diphylleia, Buckleya, Epigaea, and Shortia show the common origin of the two floras; but these are rare plants in Japan, as they are in America, with the exception of Epigaea, and probably not one traveller in ten thousand has ever seen them, while the chief elements of the forest flora of Northern Japan, the only part of the empire where comparison is possible—those which all travellers notice—do not recall America so much, perhaps, as they do Siberia and Europe. . . . The forests of the two regions possess in common Magnolia and Aesculus, which are more abundant in species and individuals in America than Japan. The Rhuses or Sumachs are very similar in the two regions, and so are the Witch Hazel and the arborescent Aralia. Cornus macrophylla of Japan is only enlarged Cornus alternifolia of Eastern America and the so-called flowering Dogwoods of the two countries are not unlike. The Japanese Walnut is very like the American Butter-nut, while, rather curiously, the Japanese Thuya and the two Chamaecyparis, the Piceas and Abies, resemble species of Pacific North America, a region whose flora has little affinity with that of Eastern Asia. Tumion is common to the two regions: in Eastern America it is one of the most local of all our trees, while in Japan it is abundant in the mountainous regions of the central and southern parts of the empire."

The Walking Leaves of Australia.—Among the stories told about the wonderful things to be found in Australia there is one of crawling leaves. English sailors first brought an account of this phenomenon. They were roaming along the coast when a sudden breeze shook down a number of leaves, which floated gently to the ground. The sailors were surprised at this shower because it was not the fall of the year, but midsummer, and the falling leaves looked fresh and green. But this was nothing to what followed. After a short rest these leaves began crawling along the ground towards the tree from which they came. The sailors were too much frightened to stop and investigate, and one of the men said, in relating the adventure, that he expected every minute to see the trees step out and dance a hornpipe. Fortunately other travellers were not too much frightened to stop and examine the matter. It was discovered that these queer leaves are really insects which live upon the trees, and are of the same colour as the foliage. They have very thin, flat bodies, and wings shaped like large leaves. When disturbed by a breeze they fold their legs under their bodies, and then the leaf-like shape, with stem and all, is complete. Not only are they bright green in summer, like the foliage of the trees at that time, but they actually change like the leaves do to the dull brown produced by frost. Another peculiarity of these insects is that when shaken to the ground they seldom use their wings. After lying there for a few minutes, as though they were really leaves, they crawl to the tree and ascend the trunk without seeming to know that they have the power to get back to their quarters in a much easier and quicker way.—*New Orleans Picayune.*

A New Vegetable Fat Tree.—The *Deutsches Kolonialblatt* says that Dr. Stuhlmann, while travelling in Uluguru, has ascertained the frequency of the tree called Mkani by the natives, from the fruit of which is derived a tallow-like fat that is sent to market in Bagamoyo. Some leaves and fruit of this tree have been sent by Dr. Stuhlmann to Dr. Engler, director of the Berlin Botanical Gardens, for scientific examination, who asserts that the tree belongs to a hitherto undescribed species of the Guttiferae, and to which he (the director) has now given the name of Stearodendron Stuhlmanni. The late Professor Holst observed this tree growing wild in quantities at Nguelo, in Usambara, and described it as one of the largest of the tropic forests of that region. The fruit is big and heavy, measuring a foot long by half a foot thick. When pierced, the ripe fruit yields a thick golden juice. The branches have a strange twisted appearance. The tree is doubtless closely related to the butter-and-tallow tree of Sierra Leone and Nun River. The latter tree has egg-shaped fruit, containing in its sections only one or two seeds each, while the Stearodendron contains more than twenty seeds in each section.

HINTS FOR AMATEURS.

The Cucumber.

It is very true that during the summer season Cucumbers may be obtained in the market at a fairly reasonable price, which brings them well within the reach of most, and on this account many amateurs are inclined to trust to their greengrocer to supply them with the coveted salading, being of opinion that large heaps of manure and elaborately constructed houses are necessary to grow Cucumbers properly. This, however, is by no means the truth, for as far as cultivation goes Cucumbers may be grown as easily as the Vegetable Marrow, although it is of course rather more tender in constitution than it. Now to the householder who lives in close proximity to large towns, and whose garden is, as the natural result, rather limited with regard to area, the question in consideration, whether any particular fruit or vegetable shall have a portion of the valuable space allotted to it, is "will it pay," or in other words can the same fruit or vegetable be bought in the required quantities at a less cost than it can be obtained for by growing it at home? There can be no doubt, we should imagine, that the Cucumber does pay to grow, or there would not be so many people who make a speciality of its cultivation for market. Surely if it pays these men to grow it to sell to middlemen, who have to make their profit on the transaction, it must give a remunerative return to the amateur gardener who has a few feet of glass at his disposal, and who cultivates it for his own consumption.

Culture in Frames.

In most cases a cold frame is the only means of accommodation for Cucumbers that the amateur possesses, but this, if properly managed, will come in very handy. Although for early Cucumbers it is necessary that the frame should be placed on top of a moderately sized hot-bed, in order to afford sufficient heat throughout the months of early spring, for those that are planted about this time of year, however, such elaborate preparations need be made. If a load or so of fresh stable manure is obtainable so much the better. This must be turned several times before it is used, and if at all dry should be watered to assist fermentation. A bed some 2 ft. or 3 ft. deep may then be made, upon which the frame may be placed. A barrowfull or two of good loam mixed with a little leaf soil should then be put in the frame, forming a nice mound of soil in the centre of each light, afterwards putting the lights on and keeping the frame fairly close for a day or two, only giving a crack of air to allow the rank vapours to escape until the soil has got thoroughly warmed through.

The plants will be the next consideration, as it is important to obtain good ones to start with, it being a great mistake to expect good returns from coddling up weaklings. As considerable heat is necessary to cause the seed to germinate it is by far the better plan to purchase the required plants rather than to attempt to raise them from seed, unless of course the requisite conveniences are forthcoming. Although one plant will soon cover a large amount of space, it is better to have two in each light if speedy results are looked for. In planting these out they should not be placed erect in the hole as it is usual to do with ordinary plants but must be laid down so that the stems are lying along the ground. Make the soil nicely firm around them but do not water them for a day or two if the soil is moderately moist. A dewing over with the syringe must be given them morning and evening shading them carefully from hot sun which soon scorches and disfigures the leaves. Air must also be given cautiously for a few days after the planting.

As soon as it is evident that the plants have become established in their new quarters, and that they have begun to start away freely, they must be stopped, pinching out the tops with finger and thumb, in order to induce them to break, that is, to send out shoots from the axils of the leaves at intervals along the stem. These growths as they become long enough must be fastened down in their allotted places by means of neat wooden pegs. All shoots must be stopped as soon as they reach the sides of the frame. All male flowers must also be removed as soon as seen, for these are of no use and only tend to enfeeble the plants if left. As soon as the plants get well established, and the roots have pretty well run through the soil, the water supply will need to have very careful consideration, and occasional applications of liquid manure when they are carrying heavy crops of fruit will also be of very great service. Shade from the direct rays of the sun will in all cases be necessary throughout the whole of their career, for if the fruit is allowed to be exposed to the sun it invariably acquires a bitter taste, that, to say the least of it, does not enhance its value. For cultivation in frames, according to the manner suggested, the following varieties may be thoroughly recommended as being everything that could be desired, the plants growing vigorously and fruiting freely, the fruit, moreover, being of admirable flavour:—Rollisson's Telegraph, although this is an old variety it will be hard indeed to beat it as a reliable sort; Tender and True, and Lockie's Perfection.

Culture in the Open Air.

Supposing that no pit or frame is available, several varieties of Cucumbers may be successfully grown in the open air. Some of the ridge varieties produce exceedingly good results when treated in this way, and are very sweet eating, some of the small Gherkins, moreover, coming in very handy for pickling purposes. A warm corner in the garden should be chosen, the size of the proposed bed or ridge marked out, and the soil dug out to a depth of at least a foot. This hole may then be filled up with well rotted manure, treading it down firmly and covering the soil over it. Upon the ridge thus formed the young plants may be put out, covering them until they get established with bell-glasses or hand-lights, shading them from the sun and dewing them over with the syringe as advised for the more tender varieties grown in frames. As soon as they have started to grow freely, both shade and hand-lights may be dispensed with, for the leaves themselves will form a sufficient shade for the fruit. It is manifest that with the sun and air having free access to the plants in this way that additional care must be taken to see that they do not suffer from lack of water, and therefore in the evenings of hot days copious waterings may be given overhead with a rose can.

Insect Pests.

These are very likely to cause trouble if not watched carefully, more especially with plants growing outside, for if allowed to get dry at the root attacks of black-fly will be almost sure to cause trouble. Any affected leaves that may be noticed should therefore be dusted with Fowler's Tobacco Powder, washing this off after about an hour has elapsed from the time of application with clear water. Red spider, too, will sometimes cause a little bother. In this case the best plan is to pick off badly affected leaves and to keep the syringe well at work amongst the remainder. Indeed, it is only where the plants are allowed to become dry at the root or an arid atmosphere allowed to exist that red spider gives trouble. Mealy bug will sometimes make its appearance upon plants in frames, but as a rule not in sufficient quantities to do any great amount of harm.—*Rex*.

ONLY A FEW WILD FLOWERS.

Bent on snatching a few hours of recreation and repose from the petty worries of everyday life, I thought I could not do better than turn my attention to rural joys, which, to the town worker, more than anything else—presupposing a love for Nature—brings so much refreshment and delight. So, on the morning of the 12th of the "merrie" month, I proceeded by the early train to Watford, in Hertfordshire, in search of "fresh fields and pastures new," where I arrived some time before bright Phœbus has dissipated the dewdrops from the grass.

Having called on an old colleague and *fidus Achates*, and exchanged domestic salutations, we set out together to court Flora and to pay her those paeons of praise to which she is so fully entitled, for the lavish and lovely prospect over which she is thought to preside. The morning was very fine, the weather quite superb, the insects full of vigour, the trees of colour, the fields of joy, the birds of song: while the odours of many flowers contributed to fill the ambient air with the sweetness and freshness peculiar to the vernal year.

We took the St. Albans road, but were soon glad to get away from the dust and noise; so we turned into one of those quiet paths which cross the fields in the direction of Brickett Wood. What a contrast! What a garden of flowers! Here were the Buttercups, the true Buttercups (Ranunculus bulbosus), in all their golden sheen—the Buttercups which the farmer looks upon with far from friendly eyes because they are of no economic value and usurp the place of other herbage which, if less ornamental, and floriferous, is at least more useful from a utilitarian point of view. But Nature wills it otherwise. She has given the Buttercup such a hardy constitution that it seems fitted to survive all time. A companion of the Buttercup is the Lady's Smock (Cardamine pratensis), which also has a distinct though less showy effect upon the landscape. It is sometimes called Bitter Cress and Cuckoo Flower. The latter name, however, is misleading, as other plants are also known by the same name. The cuckoo's call, however, which resounds through the woods, reminds one that it would not be inappropriate to the flower if it were confined to the Lady's Smock, as the arrival of the bird and the blooming of the plant are more or less synonymous.

The Lady's Smock has very graceful foliage, while the flowers are of a soft pale purple tint. But there seems to be much difference of opinion in respect to colour, for Shakespeare wrote—

> "Daisies pied, and Violets blue,
> And Lady-smocks all silver-white."

What wonderful progress the grass and the flowers have made since Easter! Everywhere the fields are clothed in the garb of luxuriance; and the trees, too, have put on such rich tints in response to the abnormally warm weather that fields and trees and flowers alike are redolent of early summer. Moreover, all these things speak to one of cheerfulness and vigour; they breathe poetry, for it is only in the country that one can appreciate the beauties of nature and give free scope to his natural feelings.

Over another stile and through another field, and we are on the precincts of a homestead, where the Lilac pours forth its perfume; the Chestnut lifts its noble panicles of bloom; the rich Laburnum is encircled with its golden chains; the Apple, the Pear, and the Plum contribute to the exuberance of spring; while the sombre Pine and the purple Beech assist very largely to break up the monotony which might accrue even of such arboreal wealth. We pass round this garden of beauty and prospects until we come to the railway, where, strange to say, many wild plants, which ordinarily seek the shade, are found in great abundance. The wild Strawberry, with its pretty white flowers and stoloniferous roots, is here in myriads. Its generic name (Fragaria) is indicative of the sweet-smelling—aye, and sweet-tasting, too—character of its pulpy fruits. What a study the wild Strawberry affords! Whether we regard it botanically, historically, or horticulturally, we shall find much philosophy in it. To the gardener it is an interesting subject, as being the species from which the luscious one of the table has been derived. To the botanist it is not a fruit at all, but a "juicy torus." "Not a fruit," I hear my friend exclaim, "then what is it?" We will see. If it be a fruit it should contain seeds. Cut it open; there are no seeds; therefore it is not a fruit. Botany will explain—hence the value of botany.

Another plant which is in very good form is the common Bugle (Ajuga reptans). It is a curious flower, although a striking one; its colour is difficult to fix, for it is composed of many hues—purple, blue, green. It is a member of the Labiata, hence its corollas are irregular, while its inflorescence is whorled in the axils of the upper leaves. Its specific name suggests its creeping nature. Its generic is not so easily defined. Like its vernacular name it is not "understanded of the people." It is said, however, to come from *bous*, an ox, and *glossa*, a tongue, because the rough tongue-shaped leaves were fancifully supposed to resemble that lingual appendage in the bovine order.

The Cowslip, too, was here; the Cowslip with its bright yellow, sweet-scented, pendulous blossoms, which was discussed recently. There were many other blossoms also, but hardly anything fresher or sweeter than these self-same

> "Cowslips wan that hang the pensive head."

The railway embankment seems to permit of much variation, for, as it is kept comparatively free from rank herbage, many of our British wildings are able to obtain a footing, and thus to exhibit more robustness and beauty than otherwise obtains in more crowded sites and situations. But my companion desires to go forward, so we will leave the Cowslips and sing with old Herrick—

> "Gather ye rosebuds while ye may,
> Old Time is still a-flying,
> And this same flower that smiles to-day,
> To-morrow will be dying."

—*C. B. G., Acton, W.*

(*To be continued*).

THE HABENARIAS.

THE three British species of Habenaria can give no conception of the variety of form and colouring to be met with in the genus, which is of vast extent, running to something like 400 species, but two at least of them are both pretty and interesting when one is fortunate enough to fall in with them in their native habitats, which get so plundered in the vicinity of towns and other populous districts. They are known as the Butterfly Orchis, for the term would apply equally to both kinds owing to their close similarity, and the fact that one may be mistaken for either by the general public. The more common species is H. bifolia, the specific name being given from the fact that the plant never has more than two leaves, as is the case with the Tway Blade. The accompanying illustration of H. chlorantha will give a conception of the plant as seen in the grassy meadows and damp upland pastures in the hilly districts, where it is most plentiful. Those who go in quest of wild flowers consider themselves lucky to find it in many rural districts where it used to abound, while in other districts, especially on cool moist meadows, it is still very abundant. The flowers have long narrow segments, and being only of a pale yellow hue, have not much attraction compared with Cattleyas, Odontoglossums, and other exotic Orchids; but all the same it is pretty, and considered a choice find by those who go plant collecting. The flowers are also strongly scented, particularly when a light dew is upon them, and many would be highly delighted with them on this account alone. The light-coloured flowers and their odour are doubtless of great economic importance to the plant itself in attracting the moths that fertilise the blooms during the dusk of the evening.

Rarer and even more interesting is H. chlorantha, which has even larger flowers of similar colour. Some authorities consider it only a variety of H. bifolia, but the structural differences of the flowers are so great that Darwin considered that different moths were necessary to fertilise them. It may sometimes be found in fine condition in damp spots or wet meadows at the foot of the chalk downs of Surrey. In such places it attains a height of 18 in. or 2 ft., and constitutes a conspicuous feature of the grassy vegetation around it during the month of June. For some reason or other the cultivation of British Orchids, with few exceptions, has been anything but a marked success. Some of them are very easily grown, however, when placed in situations offering conditions similar to that of their native habitat. Moisture is the chief requisite, and next to that, shade in the southern parts of England, but they must not be overhung with trees nor other tall vegetation. Another thing to be remembered is that those who make an attempt at their cultivation never think of looking for nor digging up the plants till they are in full bloom. Then all the soil drops away from the roots, and the latter to a certainty are more or less injured, and the stronger descending ones broken off. A better plan would be to look for the plants soon after the leaves appear above ground, or mark the old plants after the foliage dies down, and remove them to the garden in the resting condition. A patch of the native soil about them would be an advantage, and give more security for the safety of the roots.

Several of the exotic species have been introduced from time to time, but at the present none are more interesting nor beautiful than H. militaris and H. carnea, remarkable for the wide contrast of colours which they present us. The first-named has been brought before the public in quantity on several occasions by Sir Trevor Lawrence, Bart. The species is a native of Cochin China from whence it was introduced as recently as 1886. The plant is about a foot high, erect, and confined to a single stem bearing a long raceme of flowers. The sepals and petals are green and unattractive, but this is more than compensated for by the large size of the bright scarlet and four lobed lip. The contrast of colours is in itself remarkable and gives the whole plant character not soon forgotten by those who can appreciate terrestrial Orchids at their true worth. Being a native of a warm country it, of course, requires relatively warm treatment to bring it out in its true character. A small batch of plants is a cheerful and attractive sight.

The more recent introduction above named was introduced from Singapore and flowered for the first time in 1891. H. carnea well describes its colour, for the flowers are of a beautiful and delicate flesh colour in the typical or normal form. The deeply four lobed lip is here again the most conspicuous feature of the flower, but all parts are coloured pretty much alike. A pure white and equally interesting variety has turned up amongst importations, and has frequently been brought before the public. H. militaris, H. carnea and its white variety have all been honoured with certificates, which is more than can be said of any of our native species, but the latter will always command our interest independently of such awards of horticultural societies. What is of greater importance in the case of native species is to take all possible care that they do not get exterminated; but in the case of H. bifolia, which we illustrate, that is not likely to happen for another century at least, judging from the wild localities in which we have seen it.

HABENARIA CHLORANTHA.

IVY-LEAVED PELARGONIUMS AT RYECROFT NURSERY.

FROM the comparative easiness with which they may be grown Pelargoniums of all classes are held in great esteem by all who love flowers or who take an interest in their cultivation. If any one section has been neglected more than the other it is undoubedly the Ivy-leaved. This is singular enough, but still it is true; for it is only a very few years since florists woke up to the fact that the Ivy-leaved Pelargonium was capable of vast improvement, and, as such, was well worthy of their attention. Nor has their confidence been misplaced, as resulting circumstances have triumphantly proved; for among the ranks of this section to-day may be found many gems of the first water, plants of exceeding great decorative value. Among others who make a specialty of these beautiful subjects Mr. H. J. Jones, of Ryecroft Nursery, Hither Green, Lewisham, takes a foremost place, as those who saw his meritorious exhibit of them at the late Temple Show can abundantly testify. At Ryecroft the plants are accommodated in a light span-roofed house some 130 ft. in length, amongst a number of zonals of some of the best varieties. None of them are more than a twelvemonth old, but they are marvels of health and vigour in thirty-two sized pots, and as full of flower as could possibly be wished. Doubtless the fine display of bloom that greeted us upon entering the house owed much to the judicious use of Ichthemic guano, an artificial manure to which Mr. Jones attaches a good deal of value, and it would seem advisedly so to judge from the results achieved.

Amongst many good sorts which were represented the under-mentioned double varieties were especially noteworthy at the time of our visit:—Ryecroft Surprise, obtained by crossing Madame Thibaut and Souvenir de Charles Turner about two years ago. Besides being of vigorous habit this variety is exceedingly floriferous, and the flower trusses are of immense size, the blooms being of a delightful salmon-pink shade. Galilee is another sort that is worthy a place in any collection. It has flowers soft pink in colour, and the plant is of rather dwarf habit, as well as a most profuse bloomer. Very telling is the effect produced by the rich coloured blooms of the seedling known as Ryecroft Scarlet, whilst Percy Surman, which came from the same sowing is not less meritorious, bearing large magenta coloured flowers. One of the finest of the pink flowered varieties is Beauty of Castle Hill. Very charming indeed is Surcouf, carrying large bold trusses of deep rich pink flowers. Souvenir de Charles Turner, although an older variety than some, must yet still find a place in all modern lists. Its blooms are of a deep pink hue, prettily feathered with maroon.

The large bold flowers, rosy-scarlet in colour, shaded magenta, of H. Cannell are not behind the others in beauty and effectiveness. Liberty has blooms of a light magenta shade, and is of sturdy and robust habit withal. Somewhat similar to this is Cuvier, both varieties being of great value, producing as they do flowers of a colour that is at present all too rare among this class of plants. Mention must likewise be made of La France, the blooms of which are of a delicate mauve-lilac hue, very pretty and distinct. Jersey Beauty is also an acquisition, and should find a place in any collection. Its blooms are of large size and rich purple in colour, whilst the huge trusses of orange-scarlet flowers which distinguish Lamartine are very striking and effective.

Although it may not be within the reach of every cultivator to obtain the whole of the varieties which have been mentioned, each and all of them are thoroughly deserving of a trial; for, whether grown in beds in the flower garden, or in pots in the greenhouse, or in the cottage window, Ivy-leaved Pelargoniums are always handsome plants, and seldom fail to give complete and entire satisfaction, more especially when a little care is exercised in looking after them.

ROSE BELLE SIEBRECHT.

THIS is a new and beautiful Rose, and one of the sensation plant novelties of the year. It was raised in England some years ago, where (at Chester) under the name of Mrs. W. J. Grant, it received the highest award possible to a Rose, namely, the National Rose Society's gold medal; and also several First-class Certificates at various other exhibitions in the country. The whole stock of the Rose was then bought by Messrs. Siebrecht & Wadley, florists, New Rochelle, N.Y., and brought to this country, and since then it has been held and propagated by them alone till this season, when they are offering it for sale. As they owned the complete stock of the Rose they have changed its name to Belle Siebrecht.

Although we have never seen it growing we have had the pleasure of examining the flowers on two or three occasions: for instance, some months ago at the dinner given by some of his florist friends to Dean Hole in New York, when a vase of splendid blossoms of this Rose graced the table; at a Chrysanthemum exhibition in New York; and a week or

two ago when the owners sent us a box of these lovely Roses. The flowers were very fine, large, full, long in the bud, glowing rich pink, and powerfully fragrant, and they lasted well, retaining their fragrance to a remarkable degree. The stems were stout and sturdy, and the foliage clean, bright and leathery. It is a seedling of La France crossed with Lady Mary Fitzwilliam.—*Gardening, American.*

PLANTS RECENTLY CERTIFICATED.

Royal Horticultural.

SAMBUCUS RACEMOSA PLUMOSA FOL. AUREUS, *Nov. var.*—The leaves of this particular variety are pinnate and the leaflets are again cut down into linear or lanceolate segments and the whole are of a light yellow. Award of Merit, R.H.S., 14th May. Messrs. K. Wezelenburg & Son, Hazerswonde, near Leiden.

TULIPA ELEGANS ALBA, *Nov. var.*—The type of this has brilliant crimson-red flowers, but in this case they are white with a narrow red edge to the satiny ssgments. Altogether it is a beautiful variety and an excellent companion to the ordinary one. Award of Merit, R.H.S., 14th May. Messrs. Barr & Son, King Street, Covent Garden.

LILAC LA TOUR D'AUVERGNE.—While in the bud state the flowers of this variety seem of a decided purple, and even for some time after they are expanded, but finally they become tinted with lilac. They are imperfectly double with a varying number of segments and sometimes almost single. Award of Merit, R.H.S., 14th May. Messrs. Paul & Son, Cheshunt.

Royal Botanic.

AZALEA HEXE.—This variety has small dark green leaves, and small flowers very freely produced. The latter have a coloured calyx nearly as large as the corolla and similar in colour, so that the variety would seem to belong to the Azalea amoena rather than the A. indica type. Floricultural Certificate of the Royal Botanic, 15th May. Messrs. Paul & Son, Cheshunt.

AZALEA M. V. SAVART.—The rich dark green and medium sized leaves of this variety are almost hidden by the large and brilliant dark red flowers, which are spotted at the base of the upper segments. They are inclined to be semi-double, but in any case they are very telling by their colour alone. It will be very useful for decorative purposes. Floricultural Certificate of the Royal Botanic, 15th May. Mr. C. Turner, Slough.

BEGONIA LORD ROSEBERY.—Here we have a double variety of beautiful and regular Camellia form, and brilliant scarlet. All the outer petals are broad and regularly imbricate, while the leaves are long and of a rich dark-green hue. On the whole, it is a beautiful and refined variety. Floricultural Certificate of the Royal Botanic, 15th May. Mr. T. S. Ware, Hale Farm Nursery, Tottenham.

CALADIUM ROSE LAING.—The leaves in this instance are very large, shield-shaped, and of a soft pink with green veins and have a broad margin tinted with pale green on a white ground. It is a beautiful and showy strong-growing type. Botanical Certificate of the Royal Botanic, 15th May. Messrs. J. Laing & Sons, Forest Hill.

CALADIUM PREFET BERGER.—Here again we have a variety suitable for exhibition purposes on account of its large size. The leaves are of a rich carmine or crimson-red variegated with green towards the margin. It is bold and handsome. Botanical Certificate of the Royal Botanic, 15th May. Messrs. J. Laing & Sons.

CALADIUM IGNATII.—The large soft, pinkish-red leaves of this variety seem subtransparent, and have a narrow green edge. Ultimately they become netted and splashed with green. Botanical Certificate of the Royal Botanic, 15th May. Messrs. J. Laing & Sons.

CALADIUM PAULINE GUICHARD.—The large and massive leaves of this sort are bright red with a narrow bronzy-green margin, and ultimately more or less marbled with green all over. Botanical Certificate of the Boyal Botanic, 15th May. Messrs. J. Laing & Sons.

CARNATION BLENHEIM BEAUTY.—The plants of this variety stands about 3 ft. high in pots, and bear huge blooms of the size of those of the Malmaison type, and are white striped with heliotrope. The narrow glaucous leaves show that it is not actually a Malmaison. It is therefore a great acquisition and an improvement amongst the Carnations. Floricultural Certificate of the Royal Botanic, 14th May. Mr. Whillans, gardener to the Duke of Marlborough.

CROTON LATIMACULATUM.—The leaves of this variety are of medium width and length, and dark green, with a large and very irregular bright yellow blotch running along the lower half or two-thirds of their length. Altogether it is very distinct, reminding one of the Caricature Plant on a larger scale. Botanical Certificate of the Royal Botanic Society, 15th May. Messrs. B. S. Williams & Son, Upper Holloway.

DRACAENA LINEATA AUREA VARIEGATA.—The ensiform leaves of this variety are dark green with pale yellow stripes and bands ascending from the midrib towards the margin. It will make a useful decorative plant. Botanical Certificate of the Royal Botanic, 15th May. Messrs. B. S. Williams & Son.

GLOXINIA LEOPARD.—The flowers of this variety are of large size, erect, beautifully and densely netted, and spotted with purplish-red on a white ground. Floricultural Certificate of the Royal Botanic, 15th May. Messrs. J. Laing & Sons.

PANSY CERES.—In this we have a bold Pansy of the fancy class with large flowers having three velvety-black well defined blotches almost covering the three lower segments. All the rest of the flower is deep yellow. Floricultural Certificate of the Royal Botanic, 15th May. Messrs. Dobbie & Co., Rothesay, Scotland.

PELARGONIUM MISS LOUISA COOMBS.—This variety belongs to the show class, and has large and showy flowers. The two upper petals are crimson surrounded by a red line, while the extreme margin is rose. The three lower petals are of a soft rosy-pink, except at the base, which is white forming a white eye. Floricultural Certificate of the Royal Botanic, 15th May. Mr. C. Turner, Slough.

TULIPA GALA BEAUTY.—There are frequently eight instead of six segments to this variety, and they are flamed and variegated with crimson-red on a yellow ground. The segments are more pointed than those of Tulipa Gesneriana. Floricultural Certificate of the Royal Botanic, 15th May. Messrs. Barr & Son.

TULIPA STRIPED BEAUTY.—The segments of this Tulip are pale purple along the centre, and variegated on each side of this with crimson, red and white in varying proportions. Floricultural Certificate of the Royal Botanic, 15th May. Messrs. Barr & Son.

Temple Show.

The following subjects were accorded certificates by the Royal Horticultural Society, on the 21st, 22nd, and 23rd ult., at the show in the Inner Temple Gardens:—

INCARVILLEA DELAVAYI.—New species of plants continue to be introduced from China as travellers and collectors penetrate more and more into the interior. This handsome species of Bignoniaceae is declared to be perfectly hardy in this country, but a little more time may be necessary to test it fully. The fact that it is perfectly deciduous and lived in a cold frame last winter is good evidence in its favour. The pinnate leaves all rise from the root, and vary from 1 ft. to 2 ft. in length, and have serrate leaflets. The large Bignonia-like flowers are produced singly from the rootstock on long footstalks. They consist of a long tube that is yellow and tinted with rose externally, and a large unequally five-lobed spreading lamina of a beautiful rose colour. The mouth of the tube is bounded with a violet-purple line that becomes darker with the age of the flower, and the interior of the tube is yellow. It is a great acquisition to the list of herbaceous plants, and if perfectly hardy we may expect to see it in every garden of any pretensions. It is quite unlikely any plant now grown in the herbaceous border, which has no representative of this particular family, which, however, is represented by Catalpa amongst trees, and by Eccremocarpus and Tecoma amongst climbers. First-class Certificate. Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

DRACAENA GODSEFFIANA.—Fine foliage plants are not yet played out, as was evidenced by the fine plant of this shown by Messrs. Sander & Co., St. Albans. The plant is closely related to D. surculosa in habit and foliage, and has slender twiggy stems branching very freely while yet in a small state as compared with the older and better known kinds grown for decorative purposes. The leaves are not crowded in one tuft at the end of each branch, but are scattered in whorls of three or four, or are arranged in pairs on the smaller spreading twigs. They are oval, about 3½ in. long, leathery and dark green, thickly spotted or blotched all over with pale yellow, changing to creamy white after the leaves are fully developed. Now the contrast of the two principal colours is not of a washy kind, but remarkably distinct and effective. The stems of the plant shown varied from 1 ft. to 3½ ft. in length, and the smaller ones assume a spreading habit. First-class Certificate.

BEGONIA LADY ANNESLEY.—This belongs to the Rex section of Begonias, grown chiefly or solely for the sake of fine foliage. The leaves are large, obliquely heart-shaped, lobed round the edge, and gray with a small olive-green centre and a narrow margin of the same hue. It is very handsome when well grown so as to present a good surface of foliage, and this is not difficult to do, for its cultural requirements are very easily satisfied. Award of Merit. Messrs. F. Sander & Co., St. Albans.

BEGONIA REX SANDER'S MASTERPIECE.—The leaves in this case are smaller and produced in great profusion; they are of a bronzy metallic red, with a narrow, green, more or less broken band just within the margin. They are firm in texture, handsome, and very ornamental in the mass. Award of Merit. Messrs. F. Sander & Co., St. Albans.

PHYLLOCACTUS EXCELLENT.—This is one of the very many recent new hybrids of a class of plants whose peculiar beauty is very fascinating and gorgeous, increasing in proportion to the size of the plant and the number of flowers upon it. The sepals and petals are very numerous and all highly coloured. The outer ones are the narrowest, and the inner ones the largest; all are of a glowing bright orange slightly tinted with rose at the margin. So many enquirers were after it that the plant had to be taken home owing to the want of stock. Award of Merit. Messrs. J. Veitch & Sons, Chelsea.

CALADIUM HENRY IRVING.—The shield-shaped leaves of this variety are moderate in size, and porcelain-white in the centre, with a broad, marbled-gray margin. For decorative purposes it will find many admirers, and the relatively small size of the leaves will enable it to be used for table decoration, where it cannot but prove a welcome change to the well-known subjects all too frequently utilised for that purpose. Award of Merit. Messrs. J. Veitch & Sons.

CALADIUM LORD DERBY.—The moderate sized leaves in this case are of a soft reddish pink and to the eye sub-transparent. The principal nerves form narrow dark green lines traversing the more delicately coloured tissue, which is bounded by a similarly narrow dark green margin. It is a charming and pretty variety of sub-transparent texture, only slightly obscured by a pale shade of some reddish colouring matter, and must find many admirers in this class of plants yearly becoming more popular. Award of Merit. Messrs. J. Veitch & Sons.

BEGONIA SAMUEL POPE.—Here we have a charming tuberous Begonia of the double Picotee type. The blooms are of a great size, with broad wavy petals arranged round a common centre, and creamy white with a bright rose edge. In these characters it really imitates both the Hollyhock and the Picotee. In any case it is a charming addition to this popular class of plants. Award of Merit. Mr. T. S. Ware, Hale Farm Nurseries. Tottenham.

BEGONIA WHITE CAMELLIA.—This is well named, for at certain stages of the development of the blooms the latter resemble those of the old Camellia alba plena pretty closely. The broad, rounded, and imbricated petals are very neatly arranged round a single centre. The dark green and healthy looking foliage is tinted with bronze. There seems no limit to the developments of this beautiful class of plants. Award of Merit. Mr. T. S. Ware.

CLEMATIS DUCHESS OF YORK.—Last year a variety named Countess of Onslow was honoured with a First-class Certificate, and was characterised by having four sepals of a rich purple with a scarlet band along the centre. The sepals are upright in the lower half and reflexed above the middle, giving the flower a well marked and distinct appearance. The variety under notice belongs to the same race or strain, and, no doubt, has a closely related pedigree. The flowers are of the same form, but differ in having four to six sepals of a delicate and pleasing soft pink. The variety is an acquisition to the list of hardy climbers. Award of Merit. Messrs. George Jackson & Son, Woking.

Caladium Rose Laing.—The leaves of this Caladium are of large size, rendering it particularly suitable for exhibition purposes, and their soft colours contrast well with those of the darker sorts. The greater portion of the surface is creamy yellow marbled with soft red along the centre, and bounded with a narrow green margin. It is easily grown, and seems to withstand the atmosphere of the exhibition tent very well. Award of Merit. Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood.

Paeony Lord Iveagh.—The number of beautiful varieties of Tree Paeonies continues to be increased; that here named is semi-double, with very long scarlet petals, intensified to crimson at the base, and when fully expanded show a great brush of yellow stamens and a red ovary in the centre. It will constitute an acquisition to its class, which adorns the garden in a most conspicuous way during the months of April and May, earlier or later according to latitude and local surroundings. Award of Merit. Messrs. Kelway & Son, Langport, Somerset.

Sibthorpia europaea aurea.—Now that the cultivation of this native plant is better understood we may expect to see its distribution in gardens greatly extended. Messrs. J. Backhouse and Son, York, showed how this yellow-leaved variety could be most effectively displayed by contrast with the silvery-edged variety, S. e. variegata. The golden one was planted in the centre of a large pan, and the variegated sort round the circumference of the same. We have never seen the Cornish Moneywort do better anywhere than in the moist atmosphere of a cool Orchid house in shady situations, where the sun will not strike fiercely upon it. Shade and moisture are the principal elements of success in the growth of this dwarf and interesting subject; and, by observing them, no bell glasses or other covering is needed. Award of Merit.

Gloxinia Prince of Wales.—The flowers of this choice variety are of large size, flunnel-shaped, and erect, as are those of the most favoured strains of the present day. The wide lamina is of an intense scarlet, deepening towards the throat, and fading to a paler or almost rose hue at the extreme margin. It is of the same type as Monarch, and though paler at the very margin like an Alpine Auricula, yet it may be correctly described as self-coloured. Award of Merit. Messrs. H. Cannell and Sons, Swanley, Kent.

Pelargonium Duchess of York.—A new tricolour Pelargonium has been a rather rare phenomenon for some years past, at least as far as London shows are concerned. The leaves of that under notice are moderate in size, with a green centre often broken up or variegated with creamy blotches. This is surrounded by a bright red zone of greater or less intensity and more or less bronzed with a dark hue in places. The margin is creamy yellow, so that there are four pretty well marked colours instead of three, and the variety is certainly beautiful. Award of Merit. Mr. J. Prewett, Swiss Nursery Hammersmith.

ALPINE HOUSE AT KEW.

This little house is always particularly interesting during the spring and early summer months, for it usually then contains so varied a collection of Alpine plants in flower that apart from the intrinsic beauty of the plants themselves with their vividly tinted flowers the charm of variety is so great that one could scarcely weary of the feast of good things so charmingly displayed to appreciative eyes. But while the interest attaching to this little house and its contents during the time that it is open to the public is exceedingly well sustained throughout, at no one period perhaps may so comprehensive a collection of floral gems be seen as at the present. The plant that first catches the visitors' eye upon entering the house is Saxifraga cotyledon pyramidalis, for here it is in all its glory dotted here and there amongst other dwarfer subjects on either side of the house, the silvery sheen of its huge pyramids of white flowers being conspicuous enough. S. C. pyramidalis differs from its type in being of a much stronger growing habit. We turn from these gorgeous trusses of dazzling white flowers to see the lovely little Lithospermum prostratum meekly inviting our attention. What a vivid blue the flowers of this humble little plant exhibit, and yet when we take a closer peep at them, and notice the reddish-violet stripes or markings which might pass unnoticed to the careless eye how beautiful they are, the prostrate stems trailing over the surface of the soil in all directions. This plant is also sometimes met with under the name of L. fruticosum. Dianthus coesius, too, makes up what it wants in its height by the showiness of its bright rosy flowers, which are very large in proportion to the height of the plant itself. We look at some pots filled with fine specimens of Ornithogalum umbellatum, and admiring the large umbels of white flowers striped green and white on the outer side of the segments do not wonder that the name of "Star of Bethlehem" has been applied to them, so star-like are they. This plant is now naturalised in Great Britain, and may now and again be met with growing wild in all its beauty, nathless the fact that the hand of man has not attended to its wants. Last year a beautiful little clump of it was found growing apparently wild in a hedgerow close to the towing path at Teddington Lock, and this although scores of people were passing it hourly, and yet it had apparently until then escaped discovery.

But as it is not with British wildlings that we intend particularly to deal we must e'en revert to our test again and notice a few other pretty pot plants. Several fine varieties of the Dodecatheons or American Cowslips, as they are popularly called, are worthy of all praise. Certainly our own Cowslips are quite put in the shade by the gorgeous blooms of the American. D. Meadia spendidum and D. M. macrocarpum well sustain the credit of the genus. The rich yellow flowers of Erysimum ochroleucum are very striking and effective, and we may well tarry a moment to observe the curiously two coloured blooms of Cheiranthes mutabilis a native of Madeira. When first they open, the flowers are cream coloured, but as they age they change to purple. Armeria juncea, barely three inches in height has small erect pointed leaves and bright rosy pink flowers whilst A. maritima var. alba is more vigorously growing and produces rather large flowers. One of the most interesting inmates of the house is Campanula thyrsoidea. The plants are about a foot in height, the dense flower spike being at least seven or eight inches in length. The leaves and inflorescence are crowded with long silky like hairs from amongst which the green stigmas peep in a curious manner. The corolla is of a peculiar sulphur-like colour, and the plant is altogether a most distinct and interesting one.

The first flowers of Ramondia pyrenaica are also making their appearance, being thus somewhat earlier than their friends, which have had to brave the long cold winter outside. This subject does not, however, appear to nearly such great advantage when grown in pots as it does when it inhabits some snug little corner in the hardy rockery. Of Orchids, quite a little collection met our gaze, amongst which the broad-leaved Marsh Orchis O. latifolia is well represented, several of the plants carrying large spikes of the reddish-purple flowers. A comparatively little known plant, Cypripedium macranthum, a native of Siberia, is likewise now in bloom. The flower is of a rich dark purple colour, and the lip large and much inflated. C. montana, a more commonly met with species, is also to be seen. This plant has of late years become exceedingly popular, and is a regular attendant in the groups of hairy spring flowers of more than one leading nurseryman. What a pretty little thing is Oxalis enneaphylla with its large white or pinkish-white flowers. Lychnis Lagascae is likewise a gem among its kind with its bright rose flowers and exceedingly dwarf habit, it usually being not more than 3 in. in height. L. pyrenaica, which, like L. Lagascae, hails from the Pyrenees, is also very dwarf in stature, although the flowers, a very pale pink or flesh colours, are considerably smaller, generally being about three eighths of an inch in diameter.

The scapes of Achillea rupestris are from three to four flowered, the bright yellow anthers being bright and pretty against the pinkish-white corolla. Wahlenbergia Kitailbelii has nothing in its appearance to warrant it being burdened with such a jaw-breaking name; for it is a most unpretentious looking little plant, barely 6 in. in height, with large Bluebell-shaped flowers that seem out of all proportion to the size of the plant. Symphyandra Warneri, another Campanulaceous subject, should be of not a little horticultural value to judge from the Kew specimens. It is from 6 in. to 1 ft. in height, forms a symmetrical bushy little specimen, and produces its bright blue flowers very freely. Indeed, at first sight, it might well be taken for a Campanula, and is, in fact, met with under that name at various times. Viola pedata is another curious and pretty little thing of which mention must be made. As the name signifies, the leaves are pedate, usually divided into seven linear-lanceolate segments. The flowers are rather large, bright blue in colour, and the corolla is furnished with a very short spur. V. pedata is a native of North America, being introduced from thence as early as the year 1759.

Other plants that largely contributed to the display in addition to those already mentioned, are Anthemis carpatica, Crepis aurea, Asperula suberosa, Erigeron Roylei, Linum capitulum, L. arboreum, Cytisus decumbens, Calamintha alpina, Veronica taurica, Siléne octopetala, and a host of others of which a great deal more might be written in commendation, for they furnish a wealth of floral variety among them that might be sought for in vain in any space of similar size devoted to the culture of other classes of plants.

ATTAR OF ROSES.

Although the art of making attar of Roses was originally discovered in Persia, its manufacture is now mainly confined to a tract of land about seventy miles in length and ten in breadth, in the immediate neighbourhood of the famous Shipka Pass. On this ground it is estimated that from five to six thousand millions of Rose blossoms are grown annually, nine-tenths of them coming from a bushy variety of the Damask Rose. In order to obtain the precious perfume in the largest quantity and best condition, the flowers must be cut while the dew is still on them. Every morning, therefore, during the season of bloom, which lasts from about May 20th to June 20th, troops of boys and girls climb the mountain slopes, long before sunrise, to gather the freshly-opened flowers, which are thrown into baskets and immediately taken to the distillery, it being important to finish the operation on the day that the flowers are gathered. As the baskets are received, their contents are piled in cool, dark store-rooms, from which they are taken for distillation.

The stills are made of tinned copper, and of the simplest construction. About twenty-five pounds of Roses are put in each still, which is then filled about three-quarters full of water. The top is then put on and the fire lighted. The worm is cooled with running water, and in forty-five minutes, when about one-fifth of the contents of the still has been drawn over, the distillation is stopped, the still emptied, and the process repeated with a fresh charge until all the morning's crop of Roses has been treated.

The product of this first distillation is Rose-water, and in order to separate the attar a second distillation is necessary. The Rose-water is put again into the stills, and about one-third its bulk of what is called "second Rose-water" is drawn over. This is now a highly-perfumed liquid, turbid with suspended globules of an oily substance, which gradually become filled with the essence. When the separation is complete the attar is removed with a spoon, having a small hole in the bowl. Through this the water runs off, leaving the oil, which is now put into the well-known ornamental bottles in which we see it offered for sale.—*Cassell's Saturday Journal.*

GARDENING MISCELLANY.

TIDY'S WATER SPREADER.

Seeing an article on p. 500 of the issue of The Gardening World for May 11th, in which very favourable mention was made of "Tidy's Water Spreader," I am very glad indeed to be able to add my testimony to its usefulness, as I have used it a good deal of late. Watering at this time of the year is heavy work, and, taking up so much time as it does, becomes a serious item in the labour bill. Anything, therefore, that will make the task of watering easier, as Tidy's Water Spreader undoubtedly does, can scarcely fail to be of great service. I find that it may be used to great advantage in applying water to any plants that will stand watering overhead.—*J. G. Pettinger.*

JADOO FIBRE.

I have been asked by several persons whether *washing* plants prior to transplanting them into Jadoo Fibre is a necessity, and should be glad if you would give me an opportunity of saying it is *not*; in fact I have decided not to recommend amateurs to attempt washing the plants at all, *but to use Jadoo just as they would ordinary soil.* I have myself usually washed plants when I transplanted them into Jadoo,

and prefer doing so, as it enables the roots to live more freely in the fibre, but I find there is a certain amount of risk in amateurs doing this, as the plants are susceptible to the cold for a few days afterwards, and it certainly should not be attempted either in any cold weather, or when a plant is beginning to throw out its new roots.—*C. Halford Thompson.*

SHIRLEY POPPIES.

These are some of the prettiest and most useful annuals in cultivation and should be grown by every gardener who has to manage establishments where house decoration to any extent is needed. The blooms exhibit the most varied and beautiful colours, although sad to say they are extremely fugitive and last only for a single day. The plants will grow in any open situation with exceptional freedom and will bloom with astonishing continuity all through the summer months. A pinch of seed may be sprinkled thinly over about a square foot of soil in any vacant spot taking care not to cover it too deeply with earth. As the seedlings advance in growth three or four light stakes should be inserted and a string passed around them for purposes of protection, for rough winds and storms play havoc with the young tender plants. These beautiful Poppies are well deserving of extensive cultivation and may be utilised with great advantage for furnishing barren spots where nothing else will grow, plenty of light being about the only thing needed.—*J. G. Pettinger.*

KERRIA JAPONICA FLORE PLENO.

For very many years the double flowered form of Kerria japonica has been accorded a place af honour amongst our hardy trees and shrubs, a position, moreover, to which its beauty well entitles it. In addition to its undoubted attractiveness it has the additional merit of possessing an exceptionally hardy constitution. Indeed, we now and again come across it adorning a cottage wall with its long, graceful sprays of orange-red flowers, that contrast so prettily with the shining dark green foliage. In positions of this kind it appears to thrive even under apparently adverse conditions with regard to root room, and blooms away with astonishing profusion. We lately noted a very fine form of it in excellent condition in the Royal Horticultural Society's Gardens at Chiswick, the flowers being of exceptionally large size, very double, and wonderfully bright in colour. The plant appeared to be in vigorous health to judge from the strength of the growths it was making as well as by the size and substance of the foliage. In this case its roots were free to ramble at will in a border that ran along the base of the wall against which it was trained, hence the exceptional vigour of growth and, perhaps, the large size of the flowers.

TWO GOOD WALLFLOWERS.

These old-fashioned flowers have a charm which is quite their own, and nothing is more delicious than their odour. It is much to be regretted that the severe frost had such a damaging effect on many of them. In our own garden all our plants of Blood Red, Harbinger, and Belvoir Castle are killed, and even on the walls there are none alive in this neighbourhood. When paying a visit to Bovey House, near Seaton, the other day, I was, however, charmed to see some well-filled beds in bloom on the lawn. The sorts were Veitch's Selected Red and Yellow, and they are the best I have seen, the blooms being large and the plants dwarf and very hardy. Anyone may safely try these strains.—*Con.*

RHAPHIS FLABELLIFORMIS VARIEGATA.

The segments of the fan-shaped leaves of this Palm have broad or narrow stripes of a pale yellow when first expanded, but after a time these stripes become creamy white. Occasionally a whole leaf will assume this character. A plentiful distribution of the ordinary striped ones over a well grown plant gives the whole a very ornamental character. The hard and leathery texture of the leaves together with their smooth surface enables them to be washed or sponged from time to time so as to maintain them in good and presentable order. It has to be propagated by suckers, and it may be remembered that few of the Palms can be increased in this way. The stems are always slender, in time becoming numerous, especially when planted out in a bed of soil, and the moderate size of the leaves permits room for a great number of them in a small area. Plants of great age can be tolerated in houses where space is limited. There are plants of the variegated form in the nursery of Messrs. J. Laing & Sons, Forest Hill.

MUSCARI LATIFOLIUM.

Most of the species of Muscari have very narrow leaves, but that under notice is a remarkable exception, having oblong or lanceolate, glaucous-green leaves as broad as those of a Tulip, which the plant resembles to some extent before it comes into bloom. The flower scape is also taller than is usually the case in the genus, being a foot high, bearing a spike-like raceme of flowers on the top, and which at the very apex are bright blue, but lower down are dark violet or plum-purple. In all these respects it is an interesting plant, especially by comparison with the better known kinds which are grown so numerously by Messrs. Barr & Son, Long Ditton, Surrey, and where we noted M. latifolium.

DAFFODILS AND TULIPS.

Professional writers are often accused of being technical in their descriptions and reports about plants with which they are familiar; and horticultural writers do of course stick so close to their text that in many cases their story is stiff and formal. Entomologists are even more severe in this respect than botanical and horticultural writers. The following from *Land and Water* shows some of the questions which interest those not actually engaged in the profession but yet are amateurs or lovers of flowers:—"It is my fate in many things in life to be just a little too late. It was so in my visit to Surbiton, or rather Long Ditton, last week. I had visited Sanders at St. Albans and Bull at Chelsea, and have revelled in their Orchids. Why not Barr with his Daffodils at Surbiton? I had read such glowing columns on their beauty. So one fine day, not knowing what to do—fine days are so rare in England that one has no knack to use them, no clothes to wear for them—I hied me to Surbiton. I arrived, as I have said, just a little too late, and, with my usual luck, just between seasons. The tassels of the Daffodils nodded sparsely across the broad acreage under bulbs; the cruel winds had cruelly nipped the stiff, heavily perfumed cylinders of the Hyacinths; and the breeze was playing havoc with the last remaining petals of the Tulips; and the magnificence of the Peony was to come. But there was still much to learn. If the tide was out of the golden sea, many a gleaming gem was left glittering like the soul of a shining jest on the foreshore; and as I walked the level road, the heir to the house of Barr strolled beside me, picking and explaining.

The Daffodil, it appears, is by no means the common-place, indigenous, every-day lady-flower we have thought her. Messrs. Barr have no less than five hundred and fifty different sorts of Daffodils growing to-day in their grounds, and only one of them is British by birth, the simplest and perhaps loveliest of them all, the flower with white petals and a yellow centre, which comes early in March, and which the poor call a Lent Lily. It is first mentioned as late as 1729 by John Parkinson. About Elizabeth's time flowers began to take their place in Society, and the cottagers took up the cultivation of the Daffodils, and through sailor friends, no doubt, in some small way imported them. That is why some of the more beautiful specimens bear such horrible names. There is a sulphur-and-yellow flower called "butter-and-eggs," from its obvious similarity in colour; another double bloom of primrose, with small orange bits of colour under the bigger leaves, "milk-and-eggs," and so on. But the many varieties, only a very few of which are ready, or ever will be ready for the market, are collected from Spain, Portugal—a great Daffodil centre its mountains—the Himalayas, China, North Italy, Turkey, and Greece. On the whole the Daffodil seems to be of somewhat Alpine tastes, though the higher it climbs the smaller it becomes. And when it comes to associate with the amazing blue Gentian it is of a size with it, and a yellow as brilliant as the other is blue. On the other hand it is very fond of shade, and does best of all growing freely in an orchard. All its varieties, by the bye, are hardy, and whether they come from an Indian plain or a Greek island, do well on the Surrey flats, and better on the Lincolnshire meadows. But here is a curious fact. After a few years in any one spot the Daffodil suffers from *ennui* and dies. Messrs. Barr send them to Lincoln, or bring them to Surrey, and the coquettish lady shakes her tassels amongst new friends, and becomes more than her former self.

The Tulip—some of loveliest strain, and some of colours so intense that I noticed that, with all their effects of artificial light, they could not match it in the scarlets of the Alhambra ballet—lives very much under the same climatic conditions as the Daffodil; but in Greece, Turkey, and Syria it is wont to grow its petals long, and twist them up in the most curious shapes, as though they were pipe-lighters for Venus to hand the patriarchal Jupiter or jealous Vulcan. Plants which impressed me greatly were dwarf Iris, white, mauve, yellow, and purple. They were quite new to me, and I am told that they are as yet *inedite.* They are intended for rockeries, and should have a great success. A week later the Barr acres will be splendid with the Peony, flesh colour and white, up through all the reds the darkest maroon. Mr. Barr's idea for a park is, first the Daffodil, yellow and bright, with spears of green foliage which rise around the flower like the steel of fairy knights ready to protect it; then the Peony, which in early spring throws up a a foliage of crimson mahogany, and bursts into flower just as the Daffodil has finished. The débris of the latter might then without harn be cut away; over all should flourish the Oak. Mr. W. H. Hitchcock should go down to Barr's. Then he would learn that the old Tulip about which men fought is extinct in Holland, and also that England can give him the varied orbs of colour his brush loves at their best. And let him wait till the Peony comes, when he shall look on landscapes of such splendour of colour that the Tulip shall seem a drab. Visit Barr's. It is just sufficiently remote from London to be in the sun and air—no perversion of meaning intended—and it is very Japanese to take one's pleasure in the flower garden.

AGRICULTURE IN THE YANG-TSE BASIN.

The general character of the country in China from Shanghai to Hankow, and for a hundred miles on each side of the river, is that of rich alluvial plains, traversed by ranges of hills having usually an east and west trend. The tops of the hills give the best tea, and where the ground is too stony for tea cultivation, Fir and oil trees are planted in regular rows, which yield oil, resin, timber and firewood. On the lands of intermediate height, or where the soil is too porous to hold the water during the growth of a Rice crop, Cotton, Wheat, Maize, Buckwheat, sweet Potatos, and culinary vegetables are made to grow in great profusion. It appears from the report in the *Agricultural Gazette*, of New South Wales, of a mining engineer lately in the service of the Chinese Government, that dairy-farming is quite unknown in these provinces, and milk is looked upon with disgust by the majority of the inhabitants. The water buffalo is the most useful animal for the cultivation of rice, as his immense strength enables him to do a long day's work knee-deep in mud, and he can feed well along the swampy borders of lakes where ordinary cattle would be lost in the bogs.

Three crops can generally be secured from the land in a year, though in some severe seasons the winter crop may become damaged by snow and frost for a week or two in January. In some districts indigo and opium are much grown, to the exclusion of other crops, but it is not the general rule. Most of the Chinese housewives like a few Indigo plants near at hand, sufficient to make a vat of dye for the clothes of the family. Any other colour is rarely seen in these provinces. The plants are macerated in wooden tubs, and the resulting indigo is reduced in order to make it soluble. The Bamboo is an article of considerable value to the Chinaman. Little labour is required to cultivate it, as once planted it continues to produce for generations, and the occasional stocking up of an old root is all that is required to keep the bed in order. In many respects the Bamboo takes the place of metals, and although the Chinese have been acquainted with iron, copper, and brass from very early times, yet the Bamboo has played an important part in preventing these metals from being so generally used as among Western nations. For coopering tubs, and other wooden vessels for joinery, the Chinaman can use Bamboo. The young shoots make an excellent vegetable, and

paper and twine of great strength are produced from its fibre. Although the agricultural implements used appear, at first sight, to be of rude construction, yet they are fairly well adapted to the needs, and the final results leave little to be desired. The fields are all cultivated like gardens, and the crops, when growing, are kept well hoed and clear of weeds. All the tools with cutting edges, such as hoes, picks, sickles, pruning hooks, &c., although of purely native manufacture, are all steeled and tempered on the edge. As regards the system of cultivation, in the case of two of the most important crops, namely, Cotton and Rice, the following are the details:—In Cotton cultivation the seed is first mixed with dry earth, to prevent their sticking together; slight cavities are then made in the ground, about two feet apart, between the rows of Wheat, and three or four seeds thrown in each, and lightly covered, and then a small teacupful of an emulsion of manure in water is poured over.

After the Wheat is cut, and the Cotton about 4 in. high, it is hoed and thinned out, so as to leave one or two plants at each setting, and then another dose of emulsion is applied round the roots. No more care is now needed until the Cotton is ready for gathering; and it is just at this time—from June to August—when everything is growing under tropical heat and moisture, that the farmer is at leisure to collect and make stores of manure for the next crop. Rice is more complicated, but may be roughly described as follows:—The seed, rolled up in straw bundles of about 50 lbs. each, is steeped for twenty-four hours in water, and then thickly sown on a patch of highly-manured ground, and the other fields ploughed up and water run to the depth of 2 in. When the Rice has grown in the bed to the height of 6 in., the fields are harrowed till they are worked into a thin mud, which settles in a few hours perfectly level. The Rice plants are then removed in handfuls from their birthplace and transplanted out singly, about 18 in. apart, in the fields that have been prepared for them. This operation of transplanting is usually accompanied by much beating of gongs and firing of crackers. In about a month the crop is 18 in. high, and it then begins to turn a sickly yellow colour; slacked lime is then sprinkled on, and in a couple of days it is turned dark green and flourishes rapidly. The supply of water must be kept up until the grain is thoroughly ripe; it is then run off, and two days after it is reaped with a sickle. At the time of Rice harvest the dry season has already set in, and the Yang-tse is rapidly falling, but the running of the water off the paddy fields is so simultaneous over the country that the river always rises, it is said, 2 ft. or 3 ft. for a week and then goes down again.—"*Society of Arts Journal*," 17*th May*.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Sowing Holly Seeds.—*L. Thain*: Holly seeds take a long time to germinate, so that it is waste of ground to sow them the first year after they ripen. Gather them in winter, say soon after Christmas or any other time that is convenient, provided the birds are not destroying them. Collect them into a box or basket and select a suitable corner in the soil yard or anywhere else that may be convenient or handy and out of the way. Spread a layer of berries on the ground, then a layer of soil above them, followed by another layer of berries, and so on till all of the berries are thus covered. This is the process of stratifying. They are left in this position for twelve months, and may be sown some time during the early part of the year, and a number of the seedlings will come up in spring or during the course of the summer, while the rest may be expected to come the summer after that. All the good seeds or most of them may be expected to germinate eighteen months to two and a half years after gathering the berries. We would not advise you to sow them at the foot of a hedge, as they would in all probability get forgotten, and the greater portion of the seedlings choked up with weeds and lost.

The Culture of Streptocarpus.—*H. Sadler*: Supposing you commence with seeds, sow them in a stove or warm greenhouse about the beginning of February. If the minimum night temperature does not fall below 60° they will come up all the more quickly. When the first leaf has begun to develop or has attained half an inch in length, prick off the seedlings into pans about an inch apart each way or slightly more. As soon as they begin to get crowded, pot them singly in thumb pots. Re-pot them as often as becomes necessary till in 48 or 32 size pots in which they may be flowered. The seedlings will come on all the more quickly if they are planted out in the borders of a greenhouse in an open position well exposed to light. All of them should flower from four to six months after the time of sowing. Their culture closely resembles that of Gloxinias, except that the Streptocarpus requires much less heat to bring them along after germination. Do not neglect them in the matter of watering, especially if you grow them in pots. Keep them cool and rather dry in winter, but re-pot them if necessary in spring, and they will commence flowering in April or thereby, if not earlier, and continue to do so with great freedom all the summer. It would be advantageous to sow a fresh batch at least every second year, and even better to have a batch coming on every year.

Address of Publisher.—*Omega*: The address you asked for is Messrs. William Rider & Son, Ltd., 14, Bartholomew Close, E.C.

Names of Plants.—*J. G.*: 1, Polemonium caeruleum; 2, Saxifraga Geum; 3, Iris germanica pallida; 4, Saxifraga granulata flore pleno; 5, Aquilegia chrysantha. *H. D.*: 1, Odontoglossum crispum Ruckerianum; 2, Cattleya Skinneri; 3, Cypripedium Lawrenceanum; 4, Oncidium pulvinatum. *A. W.*: 1, Streptocarpus Rex var.; 2, Begonia semperflorens carminata gigantea.

Various questions.—*Rubens*: Many of the Lilies have no special English name and Lilium bulbiferum is one of them. It would be more correct to call it the Bulb-bearing Lily rather than the Bulbous Lily, because the specific name is applied on account of the plant bearing bulbils in the axils of the leaves. The Spiraeas you mention have no special characteristics beyond being ornamental. The Scarlet Flax (Lilium grandiflorum) would doubtless contain a useful fibre in the stems like the other species but we have never heard of its being utilised in any way. The Souvenir de la Malmaison Carnation may be flowered during May, June and July at least and possibly at other times according to the skill of the cultivator. Some of the varieties of the Columbine (Aquilegia vulgaris) may be described as having magenta flowers or some shade approaching that. Many of the tuberous Begonias that flower from April or May till October or November have magenta flowers.

Dwarf and tall Box.—*L. Thain*; The average height of the dwarf Box (Buxus sempervirens suffruticosa) is 12 in, but old plants under favourable circumstances would attain a height of 18 in. It takes some years to attain this height, however, from cuttings. The tall or typical form of the Box (B. sempervirens) would grow only a few inches annually from cuttings, say two or three inches, but after it begins to develop vigorously the rate of growth would be more rapid, but we do not remember it grow more than 6 in. annually. A fair estimate for the shoots of various size and vigour would be from 2 in. to 6 in. annually.

Culture of Cypripedium barbatum.—*H. Sadler*: The flower of the specimen you sent us was very small and evidently had been grown in too low a temperature. It is an East Indian species and though some growers keep it in a greenhouse, it does not thrive very well. A stove temperature suits it best, and if you are to grow it with any degree of success you must keep it in a house that does not sink much below 60° at night through the winter, rising to 70° in summer. Give it good supplies of water during the summer more especially when making its growth, and at the same time the atmosphere should be kept moist by damping down all the paths and stages. Use a compost of fibrous peat, chopped sphagnum and broken potsherds, pressing it very firmly about the roots of the plant. The surface should be covered at all times with living sphagnum which will grow if used in a fresh condition, and at all times kept moist. You will have little or no difficulty in growing this species if you attend to it in the matter or heat and moisture as stated above.

Planting out Callas.—*Omega*: After the plants have finished flowering they go to rest for a short time then begin growing again. Harden them off and plant them out in trenches about this time or a little later. The trenches afford shelter and at the same time enable you to keep them very moist about the roots. All the water poured in the trenches sinks into the soil immediately surrounding the roots. Before planting dig some well rotted stable manure into the soil and the plants will grow all the more vigorously for it. Lift the plants early in September before there is any danger from frost so that the plants may be taken indoors at a moment's notice. Supposing the plants are grown in pots there will be a slight cessation of growth just after flowering and until the young roots commence to develop when the leaves will grow away again. The time at which this takes place will depend upon the temperature of the house in which the plants are kept, and the time they flowered.

Communications received.—A. D. W.—A. D.—W. L.—J. R.—A. S.

TRADE CATALOGUES RECEIVED.

The Acme Chemical Co., Ltd., Tonbridge, Kent.—"Acme" Weed Killer.

LONDON SEED TRADE.

May 28th, 1895.

Messrs. Hurst & Son, 153, Houndsditch, and 39, Seed Market, Mark Lane, report only casual orders for Clover and Grass Seeds at unchanged rates. Mustard steady. Rapeseed scarce and dearer. Canary seed higher.

COVENT GARDEN MARKET.

May 29th, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	3 0	9 0	Grapes, per lb.	1 0	4 0
Nova Scotia Apples per barrel	12 0	21 0	Pine-apples. —St. Michael's each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	10 0		Strawberries, Nobles, per lb.	1 0	2 0
Tasmanian Apples, per case	8 0	11 0	Other varieties, per lb.	2 0	4 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, per bundle	1 6	4 0	Lettuces ...per dozen	2 0	
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers.....doz.	3 0	6 0	Seakale...per basket	1 0	1 6
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 9	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 0	2 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Peonys, doz. bchs. ...	6 0	9 0
Azalea, doz. sprays	0 6	1 0	Primula, double, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0	Pyrethrum doz. bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Roses (indoor), doz.	0 6	1 0
Carnations doz. blms.	2 0	3 0	,, Tea, white, doz.	1 0	2 0
Eucharis ...per doz.	3 0	5 0	,, Yellow, doz. ...	2 0	3 0
Gardenias ...per doz.	3 0	4 0	,, Safrano (English), doz. ...	1 3	2 0
Geranium, scarlet, doz. bunches	4 0	6 0	Red Roses.....	3 0	6 0
Lilac, English, doz. bchs.	4 0	6 0	Pink Roses	5 0	7 0
Lilac (French) per bch.	5 0	6 0	Roses (French), yellow, doz. blooms	1 6	2 0
Lilium longiflorum per doz.	2 0	5 0	Roses (French) red, doz. blooms. ...	2 0	2 6
Lilium candidum, per doz.	1 6	2 0	Smilax, per bunch ...	4 0	6 0
Lily of the Valley, doz. bchs.	6 0	15 0	Stephanotis, doz. sprays	4 0	6 0
Marguerites, 12 bun.	1 6	3 0	Tuberoses, doz. blooms	0 4	0 6
Maidenhair Fern, 12 bs.	4 0	6 0	Violets (English) doz. bun.	1 0	2 0
Narcissus, doz. bchs.	1 0	2 0	Violets (French) bun.	1 0	1 6
Orchids, doz. blooms	1 6	12 0			
Pelargoniums, 12 bun.	6 0	9 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0	Fuchsia, per doz.....	6 0	9 0
Aspidistra, doz.....	18 0	36 0	Heliotrope, per doz.	6 0	8 0
,, specimen plants	5 0	10 6	Hydrangea, per doz.	9 0	18 0
Azaleas, each	1 6	2 6	Ivy Geraniums, per doz.	6 0	8 0
Calceolaria, per doz.	6 0	9 0	Lobelia, per doz.....	4 0	6 0
Cinerarias, per doz.	6 0	10 0	Lycopodiums, doz.	3 0	4 0
Dracaena, various, per doz.	12 0	30 0	Mignonette, per doz.	5 0	6 0
Dracaena viridis, doz.	9 0	18 0	Marguerite Daisy doz	6 0	12 0
Erica, various, doz....	9 0	18 0	Myrtles, doz.	6 0	9 0
Euonymus, var. doz.	6 0	18 0	Palms in variety, each	1 0	15 0
Evergreens, In var. doz	6 0	24 0	Palms, Specimen ...	21 0	63 0
Ferns, invar., per doz.	4 0	18 0	Pelargoniums, per doz.	9 0	15 0
Ferns, small, per 100	4 0	6 0	Primulas, doz.	4 0	6 0
Ficus elastica, each	1 0	5 0	Scarlets, per doz.....	3 0	9 0
Foliage Plants, var., each	2 0	10 0	Stocks, per doz.	4 0	6 0

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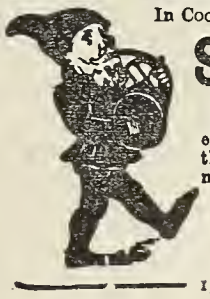

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FLOWER SHOW FIXTURES, 1895.

JUNE.
3.—Southampton Spring Show.
11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
12, 13.—Southend-on-Sea Horticultural Show.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.
3.—Southampton Spring Show.
3.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25. Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.
1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.

SEPTEMBER.
5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.
8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.
1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.

(*Continued on next column.*)

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23,—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.

DECEMBER.
3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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ESTABLISHED 1884.
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STRAND, LONDON, W.C.
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The earliest variety in cultivation and very prolific, solid fruit, good flavour, high perfume.

Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. *See Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16.

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For Index to Contents see page 654.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 8th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 11th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.

WEDNESDAY, June 12th.—Royal Botanic Society's Floral Fête at Regent's Park.

Southend Horticultural Show.

Sale of the Beechcroft Collection of Orchids by Messrs. Protheroe & Morris at 67 and 68, Cheapside, E.C.

THURSDAY, June 13th.—Southend Horticultural Show.

Sale of the Beechcroft Collection of Orchids by Messrs. Protheroe & Morris at Epgbaston.

FRIDAY, June 14th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

IS GARDENING HARD WORK?—This is no easy question to answer without details or the bearings of the situation. The occupation or profession of gardening, taken in its broadest sense, is a very comprehensive one, as most gardeners know who have been in different parts of the country, independently of their collective knowledge gathered from all sources, as to the requirements of various establishments. Both masters and men have irksome or disagreeable duties to perform, and, from a gardening point of view, some of the duties they are called upon to perform are really extraordinary. The quiet and submissive manner with which they put up with everything shows the quality of the metal of which gardeners are made, and every bit of hard or difficult work faithfully and successfully accomplished is a silent witness of their indomitable energy and mental capacity. Such men do indeed set a "stout heart to a stey brae," and make it their motto when called upon to do anything difficult, provided it is reasonably and evidently their duty. As a rule the hardest of the manual labour would fall upon the young men, while the mental capacity of the head gardener is more put to the test not only in keeping everything under control but in seeing his work weeks or even many months ahead.

In rural districts the young men are frequently called upon to do some work with the snow plough for an hour or two in the morning or even for a whole day after severe snow-storms, in order to open up the roads for the convenience of the establishment. On other occasions they have to fill the ice-house and even lie amongst the ice to complete the storage. This would always occur in winter, when there is a great lack of excitement in the ordinary routine of gardening, so that an extraordinary job like this is often accepted by way of a change, even if scarcely to be classified as an agreeable form of excitement. The gardening boy and the apprentice sometimes complain of the drudgery of the degrading operation of pot-washing or the filthiness of the job of cleaning out the flues and stokeholes of the heating apparatus, just as if they were not legitimate parts of a gardener's education. In the minds of most people the hardest part of gardening is associated with digging. An amusing discussion on the subject of digging took place recently at a meeting of the Bideford Board of Guardians. Some of the latter could not understand what attraction the casual ward of their district had for vagrants and tramps who turned up not only in considerable numbers, but many of the self-same gentlemen of the road repeated their visits pretty frequently, and even regularly for years. One of the members got the register and found that the tramps were put to do gardening, which was synonymous with digging, also pumping and sifting ashes. The chairman explained that it was sometimes necessary to put the vagrants in the garden, but they did not like it. Some years ago a strong fellow came to his house and asked for a job, and he directed his gardener to put the tramp to do digging in the garden. The tramp had half an hour of it and was thoroughly tired out. The chairman concluded that gardening was not an easy occupation to those unaccustomed to it. The member of the board alluded to above, with his eyes still upon the register, said that "pumping and sifting ashes seemed to be the principal amusement," and later on must have been pleased when through his instigation he got the Board of Guardians to give the master of the institution instructions to lay in a stock of stones for the vagrants to break so as to make their work sufficiently disagreeable to act as a check on their visits, and put the institution on a similar footing with others of the kind.

From the above point of view, digging is evidently considered a superior occupation to breaking stones. Young gardeners soon get accustomed to digging, and, seeing that it is chiefly performed in autumn and winter when the weather is cool, the drudgery of it is less felt than it would be in summer. Young men who choose gardening as a profession are highly delighted to secure a berth under a gardener who is noted for his accomplishments in vegetable culture as indicated by the number of first prizes he takes with his productions at the local shows. Such apprentices soon discover that there are more hard knocks and stiff work behind those show cards than on the face of them. No gardener nor cultivator can grow good Cabbages and the like, year after year, in an old garden without much labour in digging, trenching and manuring, and unless the establishment is well supplied with labourers the brunt of this trenching falls on the young men. Such work is legitimate enough gardening even if at times somewhat laborious, particularly if the kitchen garden is large and the workers few. On the other hand it is an excellent education for young men, and a healthy occupation; and many a head gardener has had reason to bless his early experience in after years when he is called upon to direct others. An honest red face tells its own tale and shows that the owner has spent much of his time in the open air.

In our opinion the mowing machine is harder work than digging, when it has to be accomplished by men. Improvements in

machinery, and the keeping of it in proper working order will no doubt lighten the labour considerably, but we know that when a relatively large piece of old grass lawn with a thick undergrowth of moss, has to be mown on a warm summer's day, it is uphill work, and we would prefer to do it with the old-fashioned scythe or long pole in the morning before breakfast, even if we should draw the line at getting up at 4 a.m. to do it in the good old way, as our fathers and grandfathers tell us. As far as personal health is concerned, the stuffy, moist atmosphere of stoves, warm Ferneries, and even Vineries with the temperature at 80° or 90° during the heat of the day, constitutes harder work because more injurious to the system and leaves the path open to colds, rheumatics, influenza, and other ailments of that kind to which human flesh is heir. Possibly there are many gardeners who could name several occupations often identified with gardening, and which they would consider harder work than any of the kinds above mentioned. The more true they are, the more is the pity; but legitimate outdoor occupations are healthy and herein lie their redeeming features.

Charles Crighton, foreman in the Gardens, Garvald, Dolphinton, N.B., has been appointed head gardener to J. D. Mitchell, Esq., Carwood, Biggar, Lanarkshire.

Early Strawberries.—Mr. Thomas Adams, gardener, has this year had the honour of sending the first consignment of Strawberries to the London Market from Calstock, near Tavistock, Devon. He yesterday forwarded fourteen baskets of choice fruit.

Apples from Australasia.—On the 18th May the "Oceania" arrived bringing 9,247 boxes of Apples from Sydney, 894 from Melbourne, and 130 from Adelaide, or a total of 10,275 boxes.

Keeper of Botany at the British Museum.—On the retirement of Mr. William Carruthers through superannuation from this important post Mr. George Murray has been appointed to take his place.

Combination for the Disposal of Fruit.—Early Strawberries are showing a good blossom. Mr. Hodge, Solicitor, Secretary of the Fruit Growers' Association in the north, has opened up communication with some seventy buyers all over the country with a view to ready disposal and best prices being obtained for the members.

Fruit Prospects.—The prospects for all kinds of fruit in the neighbourhood of Tarvin, near Chester, are splendid. There is a great probability of the general fruit crop being the best for many years. Damsons are all set, and seem to have got clear of frost. Gooseberries are the only fruit that seem to have got caught. In a few places they are blighted with the green caterpillar. The Strawberry plants are in excellent condition, considering the hard winter. All that is needed now is a few hours of gentle rain.

Park Place, Henley-on-Thames.—The annual meeting of past and present members of Park Place Cricket Club is fixed for Thursday, the 29th of August, when all of the gardeners who have passed through the mill there under the tutelage of Mr. Stanton will endeavour to be present, and will once more have an opportunity of renewing the friendships of days gone by.

Raspberries in Kent.—The past winter has proved very destructive to Raspberry canes in various parts of the country, and a complaint comes from Kent that the promise of a crop is very poor. This may have been due to the peculiar nature of the past season, which was very wet, while November and December were unusually mild, thus preventing the canes from ripening properly. In Essex a similar complaint might be made, but that particular crop is not so largely grown as in Kent.

Royal Botanic Society of London.—At a meeting of this Society, held on Saturday, Earl Annesley in the chair, Mrs. Dudley Buxton, Mr. Graham Niven, Mrs. Wethered, Mr. J. B. Roberts, and Mr. W. Martindale were elected Fellows of the Society, and the names of four others read for ballot at the next meeting. There was a collection of interesting orchids in flower from the Society's gardens exhibited, as well as a number of plant specimens from Paraguay. The Duke of Teck, President, took the chair at a subsequent meeting of the Council to make arrangements for the promised visit of the Prince and Princess of Wales to the gardens on the occasion of the Children's Floral Fête on Wednesday, June 12.

Frost in May.—A frost more severe and destructive in its character than that of Friday of the previous week visited the Ashford district of Kent during Monday night, the 20th ult. The early garden crops, where unprotected, have been completely destroyed, while extensive damage was done to the great fruit plantations in the district. The frost was as severe as the memorable one in May of last year. The grub is not the only thing from which damage is to be expected. Any morning gardeners may rise to find that a large proportion of their fruit has been killed by the frost.

Royal Gardeners Orphan Fund.—At a meeting of the Executive Committee held on the 31st ult., Mr. W. Marshall in the chair, the following special receipts were announced as having been received since the previous meeting:—Mr. John Wills, birthday gift £10 10s., making up the sum of fifty guineas promised five years ago; Concert at Shackleford, per Mr. G. B. Baskett, £8; Messrs. John Waterer & Sons, 10s. 6d.; and Mr. W. Evans, Wharfedale, Leeds, 5s. The committee also received notification of the fact that the late Mr. George Taber of Rivenhall, Essex, had left as a legacy to the fund four £25 shares in Messrs. Cooper, Taber & Co. Limited, Seed Merchants, Southwark Street, S.E.

Winter Moth in the Evesham District.—Local market gardeners have of late been directing their attention to the fruit trees, upon which the grub has appeared. A little time back gardeners were congratulating themselves on the fact that no blight of any sort had been seen in the trees, but the caterpillar may be depended upon to give some signs of existence each year. The grub is not so numerous in the Abbey gardens as in other parts. In the neighbourhood of Knowle Hill the trees are badly attacked. The trees have been shaken (with but little effect), and Paris green, soap and water, hellebore, carbolic acid, London purple, and quassia have been used. These things are found destructive to the enemy, but there is always the danger of injury to the foliage.

A Bermuda Lily question.—It is now well known in this country that Lilium longiflorum eximium, best known in the trade as L. Harrisii, is extensively grown in the Bermuda Islands. One extensive grower there has recently adopted the habit of cutting the stems when in flower and sending them to the United States to be put on the market as cut flowers. The bulb growers there were naturally indignant, because it interfered with the sale of the flowers from home grown bulbs, reducing the price to be obtained from them. The florists also maintain that bulbs from which the stems have thus been cut in full growth must be deteriorated by the practice, and they put it plainly to the grower that he must ultimately spoil his own market for the bulbs. The florists have been trying to form a syndicate of bulb growers to counteract the influence and alleged injury to their interests caused by the offending one. The latter, however, went to the United States and used the contemplated combination as a means to further his own ends. Whatever may come of this movement remains to be seen.

Chrysanthemums in the Temple Gardens.—Lovers of the Chrysanthemum will receive with regret the announcement of the decision of the Benchers of the Inner Temple to break a custom which has continued for a long number of years by abandoning the popular November show of the Japanese flowers. There is, however, a suggestion that some professional grower may be invited to fill the gap by bringing to the Temple Gardens a choice array of blooms for exhibition, but no plants will be forthcoming from the greenhouses in charge of Mr. Newton, which are now filled with Pelargoniums. The great frost destroyed nearly 3,000 promising Chrysanthemums, but these might have been replaced.

Horticultural Congress at Paris.—The International Horticultural Congress sitting at Paris has passed a resolution of very pleasant significance to all the world. Botanists and nurserymen know too well that the countries of Europe represented at the Berne International Convention some years ago bound themselves to certain rules for the inspection of plants arriving at port or on the frontier, which in effect have not only obstructed trade, but impeded science. The object was and is to blot out the Phylloxera. It has not been attained, but the supporters of the measure may argue reasonably enough that the fatal disease would have spread far more widely had no such precautions been taken. The resolution of the Congress, which was passed unanimously, demands a repeal of this system; moreover, it appears that the Italian Government has already made proposals to the same effect. We may take it, then, that the Phylloxera is vanquished. International horticulturists might be willing to chance some smal danger of infection, with the object of repealing a law which causes them such inconvenience and loss; but the Italian Government is vitally interested in the exclusion of the Phylloxera. It would certainly not move if there were any risk at all. One might think that Great Britain had no concern in this matter. But the resolution will make a stir in South Africa and Australia. The Custom House regulations there have been more stringent even than in Europe, and we fear that the colonists will not easily be persuaded that the danger is past.

Bournemouth Botanical Society.—The monthly meeting in connection with this Society was held on Tuesday at the C.E.W.M.U.'s room, Wootton Gardens. Mr. Greves presided. The lecture was given by the President, the Rev. E. Linton, on "Natural Hybrids," illustrated by British specimens. The lecturer began by explaining what he meant by "natural hybrids," and how their production was related to the artificial way performed by gardeners. Formerly the natural process of hybridism was not believed in by botanists, but its truth had of late years been firmly established; so much so that many plants which were considered to form new varieties had now been found to be hybrids between two parent plants. The lecturer illustrated his remarks by the exhibition of some beautifully-dried specimens arranged in triplets so as to show the two parent plants with the hybrid, which had resulted from their cross-fertilisation. He described various families which were very fertile in hybrids, such as the Willow, the Primrose, etc., while others were described as comparatively barren, such as the Thistle, the Heath, etc. The lecture was concluded by a few general remarks on the effect of cross-fertilisation in the production of hybrids and of the peculiarities of hybrids themselves. A hearty vote of thanks was unanimously offered to the lecturer for his most interesting paper, and the members dispersed, after arranging a botanising expedition to the Christchurch meadows, to take place on Wednesday afternoon, May 29th.

New Public Gardens for Woolwich.—The ceremony of throwing open the new Public Gardens at Woolwich, into which St. Mary's Churchyard have been turned, was performed on Friday last, May 31st, by the Duchess of Fife. The scheme, which has now been carried to a successful conclusion, has been on foot for a number of years; for as far back as the year 1884 the Metropolitan Public Gardens Association furnished a plan for the laying out of a portion of the ground, but owing to some hitch in the proceedings the work was not then commenced, although the Association offered to bear the expenses of the necessary labour. At the close of the year 1892, Lord Meath, then Chairman of the Association, received a letter from Mr. J. Passmore Edwards, in which the latter gentleman generously offered to furnish the money necessary to defray the expenses of the laying out of the grounds. Needless to say this offer was gratefully accepted, and after the usual legal formalities were gone through the work was put in hand, with the result that the people of Woolwich have now a tastefully laid out public promenade, some four acres in extent, from which exceptionally fine views of the surrounding country, with the river and the shipping can be obtained. From first to last the work has cost about £1,200. The soil of the Churchyard is naturally composed of sand, necessitating the importation of considerable quantities of fresh material to mix with it, likewise to fill up the numerous holes which also abounded. Although the Metropolitan Public Gardens Association has only been in existence for about

twelve years it has already accomplished much useful work, of which the services so lately rendered by it to the people of Woolwich are but an example.

A Popu'ar Opening of Private Gardens.—The Royal Botanic Society of London was incorporated by charter in 1839 and during the fifty-six years that have elapsed since then, the gardens have never been open to the general public at a popular charge for admission till the 3rd inst., when for a charge of 6d. anyone that liked could gain admission. It had been extensively announced that the gardens would be open to the public at the above charge on the date named, but with exception of the cheapening and re-arrangement of the refreshment tariff no special amusement was provided for the public. Something like 5,000 had passed the turnstiles before 5 p.m. Whether the experiment will be repeated remains to be seen; but had a good band been provided a much larger number of people would have taken advantage of this popular concession by the executive of the Society.

Preserving the colours of dried plants.—Ammonia in the air is the main cause of flowers, when cut and dried, losing their colour. This may be prevented, according to one Herr Nienhaus, by pressing specimens between paper which has been previously saturated with a solution of one per cent. of oxalic acid in water. In this way the true tints of even the most delicate Poppies may be preserved.

Cricket Match at St. Albans.—The annual cricket match played between teams representing the firms of Messrs. F. Sander & Co. and Messrs Protheroe & Morris, took place as usual on Derby day and on a single innings the game resulted in a win for the Orchid growers, their first victory since 1891—the scores being Messrs F. Sander & Co., 102 and Messrs. Protheroe & Morris 71. The top scorers were Mr. Faulkner, 20 for the winners; and Mr. S. A. Morris, a similar number for the auctioneers.

Flower Show at Old Trafford.—The Whitsuntide Flower Show at the Royal Botanical Gardens, Old Trafford, was opened on Friday, the 31st ult. The *Manchester City News* of Saturday last says that there was a great variety of plants, including Orchids, all of which were staged by a master hand. Messrs. Dickson, Chester, contributed a fine collection of flowers. The centre of the avenue was devoted to a group of Caladiums and many other plants from Messrs. J. Laing & Sons, Forest Hill, London. Another remarkable exhibit in the avenue was a splendid collection of Calceolarias, Gloxinias, and other plants sent by Messrs. Sutton & Sons, Reading, who also exhibited Peas and Tomatos in pots. Amongst the exhibitors of Orchids were Messrs. F. Sander & Co., St. Albans; Messrs. Hugh Low & Co., Upper Clapton, London; Messrs. Charlesworth & Co., Heaton, Bradford; Messrs. B. S. Williams & Son, Upper Holloway, London; Messrs. John Cowan & Co., Liverpool; and Messrs. W. L. Lewis & Co., Southgate, London. Gold Medals were awarded to Messrs. J. Laing & Sons, Messrs. F. Sander & Co., Messrs. Sutton & Sons, to Messrs. T. Rivers & Son, Sawbridgeworth, for Nectarines in pots, and to Messrs. Jones & Son, Shrewsbury, for floral decorations.

AQUILEGIAS IN A SURREY GARDEN.

The beauty of the Columbines is undeniable whatever the size or pretensions of the garden in which they are grown. A considerable number of species and varieties is now flowering finely in the garden of W. Stopher, Esq., Bellaggio, Surrey, and he brought four of them to our office the other day. In our opinion the most novel and interesting of all was a double variety of peculiar form, and which appeared in a batch of seedlings. The flower was small for an Aquilegia (measuring only an inch in diameter), and entirely without spurs. There was no distinction, therefore, between sepals and petals except in position; the parts were exceedingly numerous, and arranged with the greatest regularity in ten rows from the circumference to the centre. Five rows were opposite the sepals and five opposite the original petals. This peculiar form of arrangement may be seen in Queen Anne's Daffodil, except that the latter has only six instead of ten rows of petals. Stamens proper were entirely wanting, having been transformed to petals, so that sepals, petals, stamens, and carpels must all be arranged on the same principle, namely, in alternating cycles of five. All were dark rosy purple, except the central ones, which were tipped with yellow and looked like imperfect carpels, but the latter appeared to be perfect, so that seed may be obtained by crossing the variety with pollen from some other sort.

There are spurless double varieties already in cultivation, but, as far as we have seen, the petals are much broader, less numerous, and differently arranged, though interesting enough from the botanist's or naturalist's standpoint. Double Aquilegias with spurs to all the petals are plentiful enough, and belong chiefly to A. vulgaris. A semi-double form of the latter was brought us by Mr. Stopher, and had dark blue sepals with more numerous petals than usual; the latter were pale yellow with blue spurs. A pale coloured, almost white, variety of the new Mexican A. chrysantha was amongst the rest, and had nine instead of five petals, but all were spurred alike. It was certainly distinct and pretty, with the long sepals spreading almost horizontally, forming a guard to the petals, whose spurs were forced to assume diverse directions. Semi-double forms like this are more graceful than the more compact and massive double forms of A. vulgaris and A. sibirica. It may be a hybrid form either naturally or artificially effected, judging from the spurs, which were slightly shorter than is usually the case in A. chrysantha. A graceful and pretty flower is A. canadensis, with nodding scarlet flowers, except the interior of the petals, which is golden yellow. The five straight spurs are furnished with prominent knobs at the end, constituting a peculiar feature of the flower. The Aquilegias intercross with one another very readily, and if Mr. Stopher could get the colour of A. canadensis into the strange double form above mentioned, we should think the operation would give rise to something interesting and beautiful.

ONLY A FEW WILD FLOWERS.

(*Concluded from page* 632.)

We come now to a broad coppice where the timber is comparatively thin, and where a little stream, a tributary of the Colne, does something to change the nature of the scene. Here we discover the Meadow Sweet (Spiraea Ulmaria), with its large pinnate leaves; the Water Cress (Nasturtium officinale); the blue Forget-me-not (Myosotis palustris). Wherever there is water the vegetation grows stronger and coarser, so that one has to wade through a sea of rank herbage to obtain a sight of those plants which commend themselves to you for some inherent quality or floriferous trait. The water is especially grateful just now, as the heat is very oppressive, and reminds one of the dog-days it is so phenomenal, for we found out subsequently that the thermometer had risen to 80° in the shade. But we must continue our ramble. A turn to the left and we are in quite a typical Devonshire lane, with high banks on either side, and a belt of vegetation fringing the summit. Here we noted many things floral, and, although the road was new to me, the wild flowers were well known. No matter how often one goes a-flowering there is always something fresh to find—always something to verify. The contour or the fragrance of the flowers themselves may never fade from the memory, yet there is always something about them to re-enlist one's interest and sympathy. There is nothing new, it is true; but there is a quiet satisfaction that the same old flowers are still before you, and their presence brings delight.

The Lesser Stitchwort (Stellaria graminea), with its grassy leaves and star-like flowers, is fairly representative of its botanical terms. It is not often that both the specific and generic names are so clearly definable, but here the description is quite *apropos* and does credit to the nomenclator. The blossoms shine like stars among the grass, while the delicate stems appear to have grown so fast that they, like struggling geniuses, have the greatest difficulty in preserving their dignity amidst such vulgar surroundings. The Violet, too, displays its pale blue flowers; but it is not the Violet of the poets; oh, no! it is quite scentless. Its rough heart-shaped leaves and nodding flowers somewhat resemble the sweet one, but an application of the nasal organ to the pretty blossoms will soon dispel the illusion. It is the Viola hirta of the botanists. Here was the tall Red Campion (Lychnis diurna), with bright rosy flowers, which may be said, with reference to its name, to be a veritable *lamp* to our feet; and the Silverweed (Potentilla anserina). Here we have, then, blue, red, and silver-white, the latter plant being covered with a soft silky down which perhaps suggested the adjective of *anserinus* (goose), to the noun *potens* (powerful), on account of certain medicinal properties.

In Herb Robert (Geranium Robertianum) we have another common subject which does not seem to be at all particular as to site or situation. It is an annual, with Fern-like foliage and rosy-red flowers, which are constantly being developed throughout the spring and summer onwards, until the frosts determine its existence as a plant. But the seed is matured and shed, the plantlet is formed, and thus the cycle of events is begotten again and again. Those who have seen a crane (*geranos*) will readily admit the resemblance of the bird's neck to the fruit of the plant. On the slopes of this very pleasant bit of road the Goldilocks (Ranunculus auricomus), is much in evidence, but why the pale yellow flowers should be called "golden crowns" when so many of its allies are larger, brighter, and more conspicuous, is one of those things which passeth understanding, and which even the fulness of time will never probably reveal.

A sweet little plant is the Scented Woodruff (Asperula odorata), which grows in profusion and which cannot be omitted from this selective list. Its pure white cruciferous-looking flowers are produced in tiny panicles, and these are set in a whorl of bright green leaves—mostly eight in number and lance-shaped—which give the plant a finished and regular appearance. Moreover, when the plants are drying an odour of new-mown hay is given off; hence the term "odorata." The fact of the foliage being rough at the edges is accountable for the generic name.

The large bright blue flowers of the Germander Speedwell (Veronica Chamaedrys), demand attention ere we speed on. The dry banks here seem exactly suitable to show off its beauty and to bring it into juxtaposition with its admirer's eyes. All the Veronicas are beautiful, and this hairy and decumbent little wildling is no exception to the rule. This particular species, however, is said to be useful as a substitute for tea; so that in addition to its intrinsic merits it is also *esculentus*, *i.e.*, fit for food. But, while we are pondering on the meanings of things and their offices in Nature and art, we come to the end of the lane, and the beginning of the wood, or so much of the wood as the lord of the manor has thought proper to spare for the public good. Doubtless, if some people could have it all their own way, pedestrians would receive no encouragement to deviate from the beaten track, so that the floral treasures of our native heaths and woods might waste their sweetness on the desert air. But, now we are in the "woods," where at least we can enjoy what has been set apart for us and take note of the multitudinous forms of Flora's bairns.

Primroses still linger, and scentless Violets grace the sylvan scene. Ground Ivy, too, and Pileworts, with a host of less conspicuous flowers, contribute to the general show; but the glory of the woods just now is the English Bluebell. I say "English" to distinguish it from the Bluebells of Scotland, which are not Hyacinths at all, but Campanulas. The name Bluebell is not a particularly happy one in this case, and I doubt whether the term "Bluebottle" is much better. Anyhow, the local names would seem to be less numerous than the technical ones, for the Wild Hyacinth is known to science as the Agraphis nutans of Link, as Hyacinthus non-scriptus of Linneus, and Scilla nutans of Smith. Whatever name we give it will not destroy its beauty, for its colour alone is of the highest order, and its long, graceful, arching spikes beget encomiums of a superlative description every time its blue "bells" give out their odour and display their hues. Certainly a mass of these produces a most charming effect, and once seen will never be forgotten. We also found some plants of the white variety, which, however, does not appear to be so vigorous as the normal type. White Bluebells seem so paradoxical that a doubtful botanical name is far preferable to a bad English one.

The Spotted or Purple Orchis found a place here; in fact, my friend, who looks at Nature from a general and not a special point of view, designated this plant the "Wild Hyacinth." Certainly there is some similarity between them—to the casual observer. Moving along we come upon another "Buttercup"—the Marsh Marigold (Caltha palustris); and as *Kalathos* means a cup or goblet, and the colour is golden, the name is not inappropriate. Moreover, it

belongs to the natural order Ranunculaceae, from *rana*, a frog, because frogs are said to abound in the vicinity of some of the species. May not the allusion to the habitat of this plant be carried further; and may not the plant itself be said to be, like its associate, amphibious? The double varieties, which botanists call "abnormal" are much preferred in gardens, and these forms may often be seen thriving in a soil distinctly different from that which is implied by peaty bog.

Ah! here is also the Water Crowfoot (R. aquatilis), which, as its name would lead us to suppose, is only found in association with water. It has large white wheel-shaped flowers with yellow centres, and veritably covers the surface of the water with its attractive parts. The submerged leaves are in hairy segments, while the floating ones are only three-lobed and bluntly crenate. This species is sometimes called Batrachian ranunculi, which, being freely Anglicised, might be rendered "froggy frogs," such are some of the peculiarities of nomenclature.

But time is up. We must return. Our mission has been achieved. We have noted something like forty species of plants, and we have had a quiet chat and a pleasant ramble. We have breathed "a breath of unadulterated air"; so, with a last look at the beautiful landscape—the trees, the fields, the flowers—we turn away impressed with the sentiments of Milton that—"In those vernal seasons of the year, when the air is calm and pleasant, it were an injury and sullenness against Nature not to got out and see her riches."—*C. B. G., Acton, W.*

MUSHROOM CULTURE IN CEMENT BARRELS.

M. H. Amelung, head gardener at the Joachimsthal Gymnasium, Berlin, has been occupied for many years with the culture of Mushrooms; it was, so to speak, his hobby horse. He put the question to himself "is it possible to make the culture of Mushrooms in Germany remunerative?" In *Gartenflora*, p. 14 for the present year, he replies to the question and says that the culture of Mushrooms can give profits (1) when one has a cave the mean temperature of which is 50° Fah., (2) if the installations are made cheaply and practically, conformably to the growth of the Mushrooms. Not being able to operate as the French do in their quarries where they possess the heat and the desired degree of humidity, he has set himself to obtain those conditions by another way, and this has been found by means of cement barrels. That new proceeding has given M. H. Amelung excellent results. The barrels placed in tiers, one above the other, occupy all the free space of the tunnel or cave. The lower series is placed upon a bed of long manure. In every barrel a board or plank 6 in. wide is placed. The tiers of barrels enveloped with rank manure are retained in position by wooden supports surmounted with cross pieces.

M. Amelung's system presents some advantages: in the first place the barrels cost very little, say 2½d. to 5d. apiece; secondly they are placed above one another without scaffolding; thirdly, encased in the long stable manure, they have a natural permanent humidity, and that manure can be utilised later on to establish hot beds. According to the author the manure required for the Mushrooms ought not to be prepared in advance; it is shot down in proximity to the cave, remaining thus three or four days, after which it is placed in heaps in the barrels; the heaps are after that taken down and placed amongst the long manure. Then the spawn is introduced. The employment of hot beds of manure is only necessary when all the space in the interior of the barrels has taken the spawn, which takes place after three or four weeks. The proceeding of M. Amelung is so easy and costs so little that it seems henceforth to put the culture of Mushrooms at the door of all gardeners; also we earnestly advise them to make the trial.—*Em. Rodigas in Bulletin d'Arboriculture.*

THE VEGETABLE GARDEN.

The cold winds have left us, and the summer is back again once more, but the much needed showers have not as yet made their appearance and the long period of drought is making itself seriously felt. One advantage at least that should accrue from the dry weather is the splendid opportunity that it has furnished for the ridding of the gardens of weeds, for a time at least. Even where the gardener is short-handed there will be but little excuse for allowing the presence of weeds, and thus when the rain does come we shall start with a clean sheet as it were.

Onions.—Plants that were raised under glass and which were subsequently planted out in prepared positions will need to be watered occasionally, especially on dry soils. The best time to do this is at nightfall, and, if a supply of water is laid on, it is a work that can be speedily performed. A rose should be affixed to the hose and a thoroughly good drenching given the whole of the ground, as it is much better to water thus than to pour a little water round the stem of each plant leaving the intervening spaces dry. Where crops require thinning some caution must be exercised in setting about it, for on heavy soils the surface is so hard baked with the sun as to preclude the possibility of drawing the superfluous plants clean out of the soil. A good watering must, therefore, be given the plants in the manner suggested the night previous to the day on which it is proposed to commence thinning. If patches of yellow leaves in various parts of the bed betray the fact that the Onion maggot is at its mischievous work, affected plants should be pulled out as far as this is practicable, dusting these parts of the bed with soot and subsequently filling in the gaps by dibbling in plants that have been carefully lifted where too thick.

Cauliflowers.—There can be no two ideas as to the important position which these hold in the list of summer and early autumn vegetables. Although the early batches are not turning in nearly so quickly as we should like to see them, still, where care has been taken to give an occasional watering good heads are forthcoming. As a reliable early sort Sutton's First Crop will be hard to beat; the heads being of a large size, snowy white in colour, and of excellent flavour. If too many heads turn in at once two or three of the inner leaves should be broken over so as to shade them, otherwise the hot sun will soon cause them to run. Where seed was sown for succession crops at the end of April or beginning of May due care must be taken that the young plants are not allowed to remain in the seed beds too long; for if allowed to do so, small wonder may be entertained if a goodly percentage of them button. Veitch's Autumn Giant, Walcheren and Sutton's Autumn Mammoth are all splendidly reliable sorts and have proved themselves worthy of all praise.

Peas.—The prolonged drought is seriously affecting crops of Peas, especially on light shallow soils. In cases of this kind the inestimable value of deep culture will be amply demonstrated; for where the ground has been deeply trenched and well manured the plants will be able to stand dry weather much better than when the ground has not been tilled to any depth. However, rows that are in full vigour will need watering now if well filled pods are expected. Complete the staking of any later rows that may up to the present not have been operated on, whether from lack of time or other causes. In northern districts the sowing of the late crops should not be deferred beyond the middle of the month, in order to allow the plants time to bloom and bear a fairly abundant crop, although for southern localities this late sowing may be made at any time well nigh up to the end of June. For late crop varieties we should recommend Sutton's Late Queen or Latest of All, the former particularly being a most trustworthy sort, resisting as it does the attacks of mildew to a very great extent, a no small qualification as every gardener who knows how susceptible late Peas are to the attack of mildew can testify.

General Work.—Make sowings of Turnips to come in as succession crops in early autumn, for under the influence of the hot sun the roots resulting from earliest sowings soon become tough, stringy and high-flavoured, lasting in condition but a very short time. Sutton's All the Year Round and Veitch's Red Globe are both excellent varieties for the purpose. Another row of Runner Beans must also be put in to come in after the early sown ones and thus to keep up a plentiful supply until cut down by frost.—*K.G.*

THE PLANT HOUSES.

The Stove.

We are now once again being blessed with brilliant sunshine and warm summer-like weather. However much rain may be needed in the outside garden, indoors the bright weather is indeed a boon, for without plenty of light it is a matter of great difficulty to obtain well coloured Crotons and other plants of a like nature. Up to the present time air will have been cautiously and sparingly administered, as was indeed necessary when dealing with plants bearing tender, newly formed leaves. As the tissues of the young growths begin to harden, however, more air may be given with advantage. With the advent of the present month, therefore, the top ventilators may be opened somewhat wider than they have hitherto been, but, of course, not to a sufficient extent to allow of a serious escape of moisture. It must be borne in mind that the more air there is given the quicker will be the drying up process, and thus additional care must be exercised with the syringings and damping down.

Caladiums.—If proper care has been accorded them these beautiful plants should now be in fine condition, and as their leaves will by this time have acquired some substance, some of the stronger plants may be removed to an intermediate house to harden them off a little. The high decorative qualities of Caladiums none will question, although the fact that they will not for long stand exposure to low temperatures detracts considerably from their value. Draughts particularly they exhibit a marked dislike to, and for that reason they should be shielded from them as far as possible. If protected from these they will stand in the rooms of the mansion for several days without injury, but must not be allowed to stay there too long, before being removed to the stove to recuperate themselves. Although a little trouble may be entailed in shifting them they are well worth it, as the effect they produce in ornamental stands amongst other plants or in suitably sized vases on the dinner table is superb. The pretty little C. argyrites with its green leaves with their characteristic white centres and margins is invaluable for filling small fancy vases, and a stock of it should be grown for the purpose. It also makes a very suitable edging plant for the stages in the stove.

Climbers.—These will need to be gone over at intervals in order to tie in the growths as they become long enough. The meaning which it is intended to convey by "tying-in" must not be misunderstood, for the gardener must use his own discretion as to the amount of restraint that it is necessary to put upon the various climbing plants. Aristolochias, for instance, should be allowed to hang down from the roof of the house in long graceful sprays, thereby enabling them to display their curiously shaped flowers to better advantage. Stephanotis on the other hand must have their growths neatly trained to strings or wires along their whole length, for if allowed to hang loose they soon become intertwined with each other. Keep a sharp lookout for mealy bug when working amongst the climbers, for it will be impossible to keep the plants on the stages clean if the overhead subjects are dirty.

Adiantums.—The stronger growing species of Adiantum, such as A. aethiopicum, A scutum, A. trapeziforme, and A. polyphyllum or, as it is sometimes called, A. cardiochloena, will now need to be staked out, for during the season they make strong vigorous fronds with a large spread, with the result that the stripes are either unable to support their weight, and as a result hang over the sides in anything but a graceful manner, or they become so matted together, particularly A. aethiopicum, in such a way that the appearance of the plants is in a great measure spoiled. Light green painted stakes if procurable should be employed, and if properly inserted and a little care is exercised in the distribution of the fronds the artificial supports may be nearly hidden from view.

Greenhouse.

The danger of the visitation of severe frost being now reduced to a minimum the larger specimens of Azaleas and Camellias in pots may be accorded a place outside, for in a position like this they do very much better than they do if coddled up during the summer months in the greenhouse. It will be very important, however, to see that plenty of water is given them, for the pots being full of roots they will dry up very quickly. The syringe or, better still, the garden engine may be used upon them now and again to keep down thrip and red spider, which often attack the plants during dry weather.

HERBACEOUS CALCEOLARIAS.—Instead of dotting the plants here and there throughout the house it is a far better plan to make a nice little group or batch of them, the effect thus produced being very much more imposing. Carefully mark any specially fine varieties with a view towards saving the seed when the plants are out of flower.

FRANCOA RAMOSA.—This is among the most useful plants known to us, producing, as it does large loose inflorescences of white flowers that come in exceedingly useful for cutting. It is moreover of strong constitution. Vigorously growing plants will by this time have filled their pots with roots. As the flower scapes should now be appearing liquid manure may be applied at alternate waterings. We have used a solution of cow manure with exceedingly good results, varying this with an occasional dose of weak soot water; the effect of the latter being plainly discernible in the deep green hue of the leaves.

TUBEROUS BEGONIAS.—It is to these beautiful plants that we look for a brave show right through the months of summer and early autumn, and if only ordinary care is taken our hopes will not be disappointed. The main points to observe in the summer treatment of tuberous Begonias are, first of all never to let them get dry at the root, for if the pots are well drained in the first instance and the plants are growing strongly it is astonishing the the quantity of water they require. It is likewise important that plenty of room be given them; nothing like crowding must be tolerated, or sickly, weakly foliage will be the result. Staking also must be well looked after. Of course it is desirable to have as few stakes as possible, and if the plants are of good habit they will be self-supporting in the earlier stages of their existence, but as growth proceeds they become incapable of maintaining an erect position without artificial aid. When inserting the stakes in the pots, however, take heed that the tuber is not injured in so doing.

Pits and Frames.

THESE should now, to the gardener's intense relief, be freed entirely from bedding plants of all descriptions, and thus room can be found for the accommodation of batches of the various plants necessary for the furnishing of the show houses. In the warm pits the potting off of cuttings that have made sufficient root to warrant the operation must be seen to as they reach the required stage.

POINSETTIAS.—If sufficient rooted cuttings of these have been obtained the old plants may be thrown away, unless it is intended to grow some of the best of them on, in which case they must be shaken out of their present quarters and potted without delay. The later batches of cuttings will also need shifting now into small 60's, as it is not wise to overpot them at the commencement. Poinsettias enjoy a brisk heat, and if the pots can be plunged to the rims in fermenting material so much the better. Ply the syringe amongst them morning and evening to keep down red spider, and shade from hot sun.

SEEDLINGS.—Cinerarias and Primulas, as soon as they have become large enough to handle, must be pricked off into well drained pans filled with light sandy soil. Select only the strongest plants, if there is a sufficient quantity from which to pick and choose, and see that due care is exercised to prevent the young plants from being robbed of the delicate fibrous roots so necessary to their welfare. Water the pans immediately afterwards with a fine rose-can, returning them to the same temperature as that in which the seed pans were placed until they get a good start, after which they may be accorded rather cooler treatment.

TORENIAS.—Whether grown in pots or baskets these pretty little plants are exceedingly useful and elegant, and are well worthy of the room they occupy. Young plants which have been obtained from early sown seed must now he looked after for staking, for if this be delayed for too long they soon lop over the sides of the pots in a fashion that can only be described as the reverse of elegant. Three or four small stakes should, therefore, be inserted close to the rim of the pot, inclining outwards, and round these a neat strip of raffia may he passed. Seed which was sown somewhat later will have furnished an abundance of plants, which must be pricked off without delay into 48 or 32-size pots, whichever is the handiest. T. Fournieri is the species most frequently met with, and its beautiful violet coloured flowers are sufficiently attractive to make it a general favourite, but T. flava, with its lovely yellow blooms, although not so often seen, is certainly not less worthy attention than the aforementioned species.

ERICAS which, after flowering, have been cut back and removed to cold frames should now be breaking away nicely. Heaths, it is true, have somehow or other acquired the unenviable notoriety of being hard to grow, but if proper attention is paid to watering them no undue difficulty need he experienced in dealing with them. They should never be allowed to get dry at the root, but on the other hand must not be kept too wet. The present is one of the most critical stages of their existence, and air must therefore be very cautiously adminstered until the growths have become sufficiently hardy to warrant standing the plants outdoors. Insect pests do not, as a rule, affect Ericas to any appreciable extent, although mildew will sometimes cause trouble. This must be treated by dusting the plants with sulphur as soon as it is seen.

ZONAL PELARGONIUMS.—It is now quite time that the Zonal Pelargoniums which are destined for flowering during the winter should be put into their flowering pots. Cuttings which have been taken in spring and were subsequently potted off into 60-sized pots will by this time be quite ready for the shift. A compost of two parts of good turfy loam to one of dried horse or cow manure may have added to it a goodly sprinkling of coarse river sand. Thirty-two sized pots will be found to be quite large enough for all ordinary purposes.—*A. S. G.*

THE ORCHID HOUSES.

CATTLEYA MENDELII.—What a grand Cattleya this is! hard to equal, certainly never excelled, taken all round. It is, to my mind, a hetter doer than C. Trianaei, to which it is closely allied; true, it flowers at a time when Orchid bloom is plentiful, but what of that, it is always welcome. The hrilliancy of the labellum and graceful curve and fall of the sepals and petals, lends a charm to the whole that makes one exclaim, how lovely!

Easy to grow, with ordinary treatment it never or hardly ever fails to make flowering growths, if the plants are in anything approaching good health when purchased, whether imported or established. The compost in which to grow them consists of good fibrous peat, broken up into rather large lumps with rather large pieces of broken crocks or charcoal mixed with it. I think oftentimes a great mistake is made when potting Cattleyas in pressing everything in too firm; we used to favour firm potting ourselves, but have found by experience that the system is bad. The water does not pass freely away and sufficient air cannot reach the roots. Secure the plants firmly in the pots by means of neat stakes, then fill in with the compost and sphagnum moss. Some growers use moss largely for Cattleyas; it certainly gives a more finished and business-like appearance to the whole, and as a tell-tale in the early stages, when watering the plants, it may be useful, hut towards the end of the season it is useless in this respect. After repotting water very carefully until the new roots have taken hold of the new compost; more roots are killed through over-watering after being fresh potted than most people think; keep the atmosphere about them moist, and carefully shade for a few weeks.

LAELIA PURPURATA.—This fine Orchid requires similar treatment and should be potted in the same way, heing careful to make the plants secure, for being a tall heavy-topped Orchid the roots are soon damaged if not properly fixed.

ONCIDIUM TIGRINUM.—The time is at hand when this grand autumn flowering Oncidium will require re-potting; with this particular species we favour firm potting. The roots are rather small in comparison with those of Cattleyas, which, to my mind, is an indication that firm potting is the proper course; at any rate, so treated, our plants will make very large bulbs each season, which, perhaps, is a good sign. They do well when grown with the Odontoglossums, where they get plenty of moisture round about them from now until the growths are made up and the plants are in bloom; when they go out of bloom give them a good rest. This is, we think, the only way to keep them in good health for any length of time.—*C.*

Gleanings from the World of Science.

Gorse as Fodder in Wales.—A correspondent signing himself "Rex" makes the following communication to a contemporary:—"throughout the length and breadth of the United Kingdom there are few localities in which the prickly Evergreen known in different parts of the British Isles as Gorse, Whins and Furze, is not to be found. In the northern districts of the principality of Wales, more especially in the counties of Carnarvon, Anglesey, and Denbigh, it has, from time immemorial, been in general use as a food for horses. It has also occasionally been employed as food for cattle. When, either by itself or in conjunction with other provender, it has been used as food for milch cows, the results have been highly satisfactory. It has given to the milk and butter a fine colour and a rich flavour, and those who have tried it are of opinion that cows yield a better profit than when they are fed with the best hay, or even Turnips. There is but little doubt that if the value of Gorse were better known it would become almost universally used as food for both horses and cattle, and even sheep. From the kind of ground it grows on and the never-failing nature of the crop, it is certainly an invaluable food in seasons like this, especially in a country where other crops are liable to failure, as in England at the present time."

Gorse in Scotland.—There can be little doubt that Gorse has been used as cattle food from time immemorial, and we should be inclined to extend the use of it back to the time of the ancient Britons or Celts, for we are of opinion that the wide distribution of the custom of so using it points to that fact. Whins were still given to horses and cows till within the last twenty years, at least in Aberdeenshire, and for all we know the practice is still continued to some extent. The neglect of this useful fodder plant at the present day is not due to a want of knowledge of its valuable properties, but rather we should say to the fact that vast areas of ground, that used to be covered with Gorse, have been ploughed up or trenched and put under the regular cropping rotations of neighbouring farms to which much of the waste land in question may have helonged. The consequent increase of straw, Turnips, and artificial cattle food, has rendered the use of Gorse, to a certain extent, unnecessary, and has possibly given rise to the belief that it is inferior to straw and Turnips in feeding value and, therefore, an unprofitable crop with which to cumber the ground. There are districts, particularly those of a hilly nature, where Gorse might be profitably utilised, as it grows with great luxuriance on land that is either too harren or too steep to permit of the profitable cultivation of Cereals, Turnips or Potatos.

Methods of Preparing Gorse.—The spines are so numerous and strong that cattle seldom venture to feed upon Gorse in the wild state; rabbits, where numerous, keep it eaten down, and goats might browse upon it, though we have no evidence of it, nor are goats of any great importance in the north. In olden times Gorse was never cultivated except in the form of hedges on the top of earthen walls, usually termed earth-dykes. As fodder it was always cut from the self-sown and wild plants, and the ground was gone over systematically for the purpose of having a young crop coming on, just as a certain amount of heather on the hills and moors is annually burnt to secure the same end. The young and green portions of the plant having been cut, they were bruised by one or other means to enable cows or horses to eat them. The simplest method was to beat the shoots with a flail on the hard floor of the harn to bruise or break the more prominent spines. Another and more effective method was to use a millstone set on edge in a circular course. A shaft attached to a pivot in the centre of the circle was passed through the hole in the centre of the stone, and a horse attached to the shaft walked round an outer course, causing the stone to roll round the paved inner one in which the shoots of Gorse were laid, and effectually bruised, therehy rendering them harmless to the mouths of animals to be fed upon them. The old-fashioned farmers and crofters placed considerable value on this kind of fodder.

HINTS FOR AMATEURS.

Mignonette.

It would indeed be a difficult task to enumerate any common plants that are greater favourites with the plant-loving public than this old-time favourite. It has endeared itself to all, and rarely do we see a cottage garden where a little patch of it is not in evidence. In how many cottage and villa windows do we not during the season espy pots of Mignonette loading the air with the delicious perfume of their flowers. There can be no doubt that it is to its fragrant qualities that the Mignonette owes its enviable position, for its flowers are comparatively inconspicuous, although certainly not devoid of attraction.

Outdoor Culture.

This is of the simplest kind, no great amount of trouble being entailed, and but little experience necessary. A shallow drill should be drawn, the seed thinly sprinkled in it and lightly covered over with soil. A little care however must be exercised in choosing the situation on which to sow the seed, a cool, shady position with rich soil being the best, for if sown in a dry, hot place where the soil is light and shallow, the results will scarcely be satisfactory. Even if the seed germinates, which it will often fail to do in such situations, the plants resulting are usually miserable stunted specimens that invariably run to seed at a very early date. Seed that was sown in May will now have produced an abundance of seedlings. If these are crowded too thickly together the smaller and weaker growing plants may be thinned out to give the stronger ones more room. Should there be places in the row where the seed from some cause or other has failed to germinate, these gaps may be made good by carefully transplanting other seedlings from places where they are not required. Choose a dull day for the operation, and water them carefully in to their new quarters. These plants will come into bloom during July and August. Another sowing of seed may be made now to furnish plants which will commence to bloom about the beginning of September, from whence they will flower away right on until frost steps in and mars their beauty. In the dewy autumn mornings the perfume exhaled by these later plants seems to be far more powerful than that emanating from the summer blooming ones. For sowing outside Garaway's White is a most useful sort, Sutton's Giant is a tall growing variety producing immense racemes of bloom, whilst the Giant Crimson or Pyramidal is one of the finest red varieties.

Pot Culture.

Pots of Mignonette are always at a premium, whether intended for standing in the greenhouse, in the window, or in vases or flower stands in rooms and corridors. It is often urged against plants possessing a strong perfume that in rooms their fragrance becomes too overpowering, and hence strongly scented flowers do not, as a rule, find much favour for inside decoration. With regard to Mignonette, however, this disadvantage does not obtain, to judge from the quantities of it that are met with, not only of plants, but likewise of cut flowers. As it is very seldom that the amateur attempts to grow specimen bushes in 9 or 10-in. pots we shall confine these remarks to its culture in 48's or 32-sized pots, for these are the handiest sizes for the purpose. Seed that was sown in well-drained pots filled about three parts full of good rich soil, the seedlings having been subsequently thinned out to two or three to a pot will now have made nice sturdy stuff if they have been kept close to the glass and well watered. Give a good top dressing of rich soil, stake the plants out as required, and as the flower spikes begin to appear feed liberally with manure water. If the plants are kept in a frame take care to keep them as cool as possible, for this materially assists in the procuring of dwarf and stock material, and also in prolonging the flowering season to a considerable extent. For winter and spring blooming it will be necessary to make another sowing in pots in August. This, however, by the way, as there is plenty of time to think about it yet.

The following varieties will be found very suitable for cultivation in pots. Machet, a very dwarf variety of vigorous habit, producing extra large, broad racemes of very sweet scented flowers bright red in colour; Miles' Hybrid Spiral, an exceedingly fine sort, carrying very long racemes of white fragrant flowers; and Crimson King, the flowers of which are very sweet scented and of bright red hue, whilst the plants are of dwarf and vigorous habit, a quality that is of the greatest importance for varieties to possess if they are to form handsome and shapely pots full of flower. Anybody can grow Mignonette, but it is not everyone who has learnt the secret, which can only be obtained by practice, of keeping the plants dwarf and shapely.—*Rex.*

Cabbage Seed-beds in Small Gardens.

Where the garden is relatively small to the requirements of a family it frequently happens that a certain border or piece of ground is set apart for the rearing of young Cabbages, Cauliflower, Brussels Sprouts, and all others of the Cabbage tribe generally. This practice is not always confined to small gardens unfortunately; and the ground when made to rear this kind of crop year after year becomes impoverished or exhausted of the particular elements of plant food sought after by the Cabbage tribe. Nor is this the worst result of the practice, because the soil can be readily renewed by the use of manure to enable the young plants to make a vigorous growth till fit for planting out. A greater evil is the accumulation in the soil of the spores of the fungus that produces clubbing so destructive to the members of this family, including Turnips. The disease in the latter case is spoken of as Ambury or Fingers-and-toes, but it is the effect of one and the same fungus. Another kind of clubbing, though less conspicuous and less destructive, is that produced by the grubs of a small Weevil termed the Cabbage Gall Weevil. During autumn, winter, and spring, these nodules may be found upon the roots separately, or in conjunction with the more destructive kind of clubbing, which, by the way, is most injurious during the summer months when the plants are in full growth or should be.

The presence of clubbing may readily be detected on bright days, especially after a period of cloudy weather. The clubbing so takes possession of the roots as to prevent them from performing their proper functions; on the contrary, they decay after a time, and that, together with the swellings which are always on the main roots, causes a stoppage of the sap which conveys the nutritive material from the small fibrous roots up to the leaves. Then when the sun comes out strong the leaves flag suddenly because the roots are unable to supply the necessary moisture to make good what is lost by evaporation. The evil is complete, however, before this happens, and the flagging of the leaves merely indicates that it has taken place. The galls of the Weevil can readily be detected when the seedlings are being transplanted, and should be cut off with a sharp knife and destroyed, or all the affected plants may be burned if numerous. Both ailments have much the same appearance in the early stages.

Prevention is better than cure, and should always be the aim of the cultivator where it is possible to adopt such measures. One of the first to bear in mind with various garden crops other than the Cabbage tribe is to make choice of a fresh piece of ground every year for the separate kinds. Then the ground should be trenched every second year at least so as to bring the spores already in the ground so that all will decay before they are again brought to the surface. Trenching also buries slugs and their eggs as well as the grubs and pupae of insects and other vermin of that kind. The ground is much restored by this process and is annually sweetened and pulverised by being turned up and exposed to frost. Old garden ground gets wonderfully renovated by this process, so that those who have not yet tried it will be surprised at the improved condition of the crops generally. Those who adopt the practice would do well to rear their own Cabbage, Cauliflower, &c., instead of accepting, it may be, a handful of plants reared and presented by some kindly neighbour whose garden may be swarming with fungi and insect pests of various kinds through many years of neglect.

I do not advise anyone to decline the well meant offers of a friendly neighbour, but I speak from experience when I say that clean garden ground may be rendered filthy by the mere acceptance and planting of some Cabbages from such a source. The garden I speak of had lain waste for a number of years, and was practically a playground for the younger members of the family. Then it was dug up and the soil broken down as well as could be accomplished at the first working, and after being sown and planted with different kinds of vegetables a fairly satisfactory crop was taken from it the first year. Next year a part of the ground was trenched, and proved even more satisfactory in the resulting crop than the first year. The untrenched ground gave a fairly good crop, except in the case of the Brussels Sprouts, which were practically a failure, on account of the excessive clubbing and the more or less complete destruction of the roots. I was suspicious of the plants at the time, as the main root of many of the young seedlings were swollen in an unnatural way, yet did not contain any grubs, at least in most cases. Now these gouty swellings were nothing more or less than the early stages of the dreaded clubbing. The crop never had the slightest chance of success from the first, as the plants brought the germs of disease with them from the seed bed. Next winter the ground was trenched, and the Brussels Sprouts were sown in a box, placed in a cold frame, and then transplanted into the open ground before they got crowded. After attaining sufficient size they were transferred to their permanent position, made a vigorous growth, and gave a good supply of firm and useful Sprouts. This transplanting process is not, however, absolutely necessary, for the seeds may be sown in clean ground in the open air with every prospect of success.—*P. E.*

ZONAL PELARGONIUMS FOR WINTER FLOWERING.

Every gardener who knows how hard it is to preserve the bright appearance of the plant houses, more especially the conservatory, during the dull, damp months of autumn and early winter, is well aware of the value which attaches to a large batch of good plants of Zonal Pelargoniums grown on specially for winter flowering. Taking all things into consideration, we question very much if there is anything that is at once so easy to grow and gives such good return for labour expended as this valuable class of plants. As the present time is most favourable for making preparations for procuring these, a few remarks on the subject may be opportune.

The cuttings will, of course, have been taken during spring from old plants which have done good service during the past autumn and winter. As a little heat is necessary to strike them successfully and well when the year is so young this will have been accorded them, potting them off singly into 60-sized pots as soon as rooted. At this stage a cold frame is the most suitable accommodation for them, for in it they can be kept near to the glass; plenty of air may be given them when needed, and watering can be easily and expeditiously conducted as occasion requires. The stopping of the plants must likewise be attended to before they have become too tall. As this will have been looked to some weeks ago the plants should by this time have broken nicely, and it is when in this condition, providing, of course, that root action is healthy and vigorous, that the best time offers itself in which to make the final shift into the flowering pots. Six-inch pots will be quite large enough for all ordinary purposes. The soil should be as good as it is possible to make it, for it must be remembered that the plants will have to remain in it for a considerable time. If good fibrous loam can be obtained this should be chopped up with the spade, afterwards picking it over by hand and shaking out a good deal of the fine soil, meanwhile keeping a bright look-out for any vermin which may be present. To two parts of this fibrous loam should be added one part of cow manure. This must be freshly gathered and dried, subsequently rubbing it through a sieve so that shall be thoroughly incorporated with the rest of the compost. Sharp river sand in sufficient quantity to keep the soil open will likewise be a necessity, the whole being turned several times before using.

The pots must be well drained, having regard to the large quantities of water that will have to pass through the soil. From the same cause they must not be filled too full—the surface of the compost coming about level with the lower edge of the rim. Pot firmly so as to induce a short jointed growth, but do not use the rammer too freely, for even if firm potting is a good thing in matters like this it is very easy indeed to get too much of it. After potting the plants may be stood out of doors, where during the summer months they are far better off than they are under glass. The pots must in all cases be stood level, otherwise one side of the ball will get all the

water, the other side being nearly damp upon the surface, and dry as dust below, to the no small detriment of the roots which happen to be in that part of the pot; the above soil portion of the plant as a necessary result receiving injury in proportion to that sustained by the roots. The plants must also be arranged in rows or in beds in such a way that they can be easily got at, for during the summer months, in addition to the giving of water, it will be necessary to consistently remove all flower buds as far as they make their appearance. Gross and over-vigorous shoots which threaten to rob the other growths of their due and lawful share of nutriment must be stopped in time in order to obtain well-shaped and bushy plants. As the pots become filled with roots the giving of artificial manures will be necessary. In this a little change of diet should be accorded them. Solutions of cow manure and soot, or of Peruvian and Ichthemic Guanos are very good, whilst an occasional pinch of Clay's Fertilizer scattered over the surface of the soil will assist greatly. In the latter case, however, the application of the powder should always be closely followed by a good watering, or the roots that are near the surface will be burned.

BEGONIA FLOWERS FOR TABLE DECORATION.

The artistic and graceful arrangement of cut flowers is a study in which many have yet very much to learn. Even artists themselves, who are supposed to be always devoting their time and earnest attention to the same, often signally fail in setting up bunches and groups of flowers for paintings either in oil or water colours. What shall we say then for those who arrange cut flowers in jugs, vases, and other vessels for table decoration? Not only are too many flowers squeezed together in the space at command, but the evil is increased tenfold when bulky and heavy flowers such as Chrysanthemums, Dahlias and double Begonias are employed. The accompanying illustration, for which we are indebted to Mr. John R. Box, Croydon, shows how few blooms of single and double tuberous Begonias, are really necessary to form a pleasing and attractive arrangement. The Begonia blooms as illustrated were cut from the open ground in Mr. Box's nursery last autumn and grouped by an amateur. They are all flowers of his unnamed hybrid Begonias, and show the value of the same for table decoration, especially when combined with light subjects such as Gypsophila paniculata as used in this instance, and which might be varied in many ways, but always with such things as will serve to break up and lighten the solid masses of colour produced by the Begonias. No other class of plants, perhaps, can furnish such a variety of pleasing colours as tuberous Begonias.

Box's Begonias.

We understand that the culture of Begonias has, this season, been transferred by Mr. Box from Croydon to the West Wickham Nurseries on the Mid-Kent line, where he has erected some ranges of glass houses. June and July are the months during which the best indoor display may be seen, and August and September for Begonias in the open. Mr. Box requires more Begonias than Pelargoniums for bedding out purposes in Croydon, which must be regarded as a sign of the times, and the popularity of this useful and showy class of plants.

THE CHRYSANTHEMUM IN NEW SOUTH WALES.

There can be no mistaking the fact that we are making great strides in the cultivation of this beautiful autumn flower in the Colonies. New South Wales, too, appears to be leading the way. A few years ago the advent of a few flowers from neighbouring colonies used to be looked forward to with fear and trembling by some of the growers here. A little practice, however, on the show trays begets confidence, and, although very cordially welcomed now, as they always will be when sent forward to compete with our own, we fear them not. Here I must frankly admit that it is very difficult indeed to obtain any very reliable test as to the merits of the productions of the various colonies—our seasons vary so much that any fixture suitable to the one can hardly fail to be either too early or the reverse for the others. The season here may be said to have commenced with the Royal Agricultural Society's Show the week before last, where some good collections of rather different flowers were staged. The date was too early.

At Goalburn, some 134 miles south, a very good display of fine blooms was set up in competition. This was exceedingly close, as you will understand when I tell you that of five exhibits of twelve blooms distinct two ran a dead heat for second place, and the winning twelve secured the verdict by one point only. The same even quality was noticeable in the classes for 36's and 24's, less than a dozen points separating them in the contest. The Goalburn district being a cool one, comparatively, I naturally expected to see some good flowers of the Chinese section, especially incurved. Strange to say but one grower appears to take up the cultivation of these in a kindly spirit, and he, as usual, staged a few nice blooms of good quality. They would have looked much finer had they been set up quite clear of the tray instead of resting upon it in many instances as they did.

The Sydney Show of the Horticultural Society of New South Wales followed quickly on the heels of Goalburn, being held the following day in the Palace Skating Rink, York Street. It was a three days' show, commencing April 17th. Here I expected to see some fine blooms and I was not disappointed. In the plant classes, of course, our old friend Mr. G. H. Kerslake as usual secured top position and worthily too. His plants were models of good culture, but were not I think carrying quiet the weight of bloom we usually notice upon them. The season for plants in pots has been a trying one. Mr. Kerslake, in addition to nearing first place, also obtained the certificate of the National Chrysanthemum Society. In the cut bloom classes Mr. Alf. Lee took all before him—36's, 24's, 12's, 6's threes and singles, nothing came amiss, he simply "potted" the lot, champion class included—a gratifying and unique record. Mr. Lee is to be congratulated for he has at great expense persistently imported all that is good in Japs—his favourite section for years past—stuck as persistently to their cultivation and he has now obtained his reward.

Having entered in many of these classes myself I had a splendid opportunity of witnessing Mr. Lee's success from a position very much in the rear. The most formidable opponents Mr. Lee had to encounter were Mr. Kerslake and Mr. Upton, and both were very close up.

The winner staged his exhibits superbly, in fact, I have never seen blooms handled better anywhere. Kate Murrell was grandly shown by Mr. Lee, and in my opinion this was his best bloom, but it was run very closely indeed by Lady T. Lawrence, and a seedling from the latter of my own raising, which I have named Mrs. J. H. Horton (a bloom of this latter neared champion honours), a photo of some dozen blooms of which, including the champion, set up as a non-competitive exhibit I am sending you by the same mail as this.

I think highly of this particular seedling, and in this I am not singular, for at the close of the exhibition so alluring did it appear to be that one of the commandments was broken badly, for somebody "shook" the lot. Friend Bennett, to whom the blooms you will see on the photo were presented, is still in search of the culprit. Florence Davis, Chas. Davis, Miss D. Shea, Col. W. B. Smith, and Mrs. E. D. Adams were finely shown on various stands, and very conspicuous on the trays of Mr. Kerslake and Mr. Upton were some magnificent seedlings of their own raising. On the 24th a very pretty little display of flowers was made by the Balmain Horticultural Society, some fine exhibits coming from such public institutions as Gladsville and Callan Park, the gardener from the former having some really nice pot plants, while the display of cut blooms from each was highly creditable.

After "doing" this show I picked up the Northern mail, 6.15 p.m., and journeyed to Scone, some 190 miles from Sydney, where I was due to judge on the following day. There I found some very fine blooms indeed, including a fine non-competitive collection from Mr. S. Purchase, of the Somerset Nurseries, Parramatta. As in Sydney, however, one exhibitor seemed to carry all before him, Mr. H. White, of Bell Trees, being about a street in front of all others. Amos Perry, Mdlle. Marie Recoura, International, and Robert Owen were amongst the best, though Chas. Davis and V. Morel were very close up. Hay show was held on May 1st, and a brief note on this I will endeavour to send you by next mail. It will about wind up our season here.—*H.J.H.*

THE HERBACEOUS BORDER.

June commences rather dry, just as May continued for the greater portion, and many kinds of herbaceous plants naturally suffer for want of the needed moisture just at the time when much is required to support the flowers which are being hurried on all too rapidly. These facts prove, contrary to the opinion of some, that herbaceous borders not only require digging during the winter, but that a coating of manure spread over the ground before the operation would be of the utmost service in retaining the moisture during such periods of drought as the present. In fairly retentive soils, however, many subjects are making a brave display. The orange-coloured Geum miniatum has been flowering for some time, and provided it can be kept fairly moist it will continue to form fresh crowns and flower all the summer. If it goes to rest partly during July and August the lengthening and more dewy nights will cause it to commence growing and flowering again. It is of neat, upright growth, requiring no staking, as it seldom much exceeds a foot in height in the southern counties of England.

The Aquilegias decline to be overlooked at present, particularly where a goodly collection is grown. The large, graceful, blue and white flowers of A. caerulea, with their long, slender, diverging spurs merit a large share of attention, especially when it is borne in mind that they can be propagated so readily from seeds, and that considerable varietion in colour can be obtained. It is a native of the Rocky Mountains, and in some soils is liable to die off after a year or two, but any losses that may occur can quickly be repaired, and the plant is well worthy of the trouble of looking after. The closely allied A. chrysantha differs chiefly in the colour of the flowers so far as the eye of the general public would notice, and seeing that the two hybridise readily with one another they must be very closely related.

The early flowering species of Leopard's Bane or Doronicum are now out of season, but D. plantagineum excelsum has been flowering finely for some time, and will continue unless the drought proves too much for it. The secret of success with this plant is to lift and re-plant the stock during the moist weather every autumn, and in rich soil, which will induce a vigorous growth, for so long as the continued growth of fresh crowns is encouraged so will the flowering be. Propagation is most readily effected by division, and so many plants can be raised in a few years from a single plant, that large beds of it can be planted if so desired. Being a British plant, thought rare in a wild state, it might be naturalised in woods and half shady places about a demesne, and near footpaths, where its beauty would be seen. There seems no reason why it should not flourish under those conditions, just like D. Pardalianches, which sometimes covers large areas of ground under similar conditions, where it appropriates the greater portion of the ground almost to the exclusion of other vegetation, and looks very handsome indeed.

The old double yellow Crowfoot (Ranunculus acris flore pleno) seems to be neglected for its less known rival, R. speciosus. The two might well be included in a collection, for they are abundantly distinct, both in flower and habit. The last-named is the dwarfer of the two, and has short stout stems with large, dark green leaves, and large, perfectly double flowers of a rich golden-yellow colour, but they are less abundantly produced than in the case of the double R. acris. The stems of the latter in good soil attain a height of 18 in., and branching freely produce a great quantity of flowers that keep up a display for a considerable time. Its cultivation is of the easiest description in any good garden soil, as indeed is that of either of them, and both must be propagated by division, as neither produces runners like R. repens, and being perfectly double they are equally barren of seeds.

The two most interesting species, perhaps, of Erigeron in bloom at present are E. aurantiacus and E. philadelphicus. The latter has small but very numerous flowers produced on branching stems, and they are rosy-purple with a yellow centre. Those of the first-named are dark orange, intensified in the centre. They are of large size, but developed singly, as a rule, on short upright stems. Both are increased by divisions, but E. philadelphicus ripens seeds, from which any quantity of seedlings may be raised—indeed it often sows itself, and soon arrives at the flowering stage. The chief danger to seedlings obtained in this way is that they are liable to be pulled or hoed down by the young men, who may readily mistake them for weeds, for they have not a promising appearance in their early stages. The orange-flowered species grows more slowly, and requires more care as a rule.—*Propagator.*

THE CHRYSANTHEMUM IN NEW ZEALAND.

The Chrysanthemum, the Queen of Autumn, is about the third week of April in the zenith of its glory, and reigns supreme over all flowers of the present season. "Far ahead of last year" might be termed a stereotyped phrase, as applied to Chrysanthemum shows; the remark is certainly true as far as the exhibition at Auckland is concerned, and which was opened on the 19th April at the Choral Hall by the Earl of Glasgow and a large party from Government House. The show lasted for three days. After witnessing the magnificent collections of cut blooms, one wonders what further new creations are in store for us, and when the limit of improvement will be reached, and Chrysanthemums have attained their highest developments. Present indications lead us to hope for further achievements and a long and successful career for this ever-popular genus. No description can convey an adequate idea of the splendid effects and pleasing impressions produced by the grand array of blooms, remarkable for their diversity of colour and variety of form and size and exquisite finish. The Japanese sections being represented by blooms of the largest size, some with loose broad petals gracefully recurving, others regularly and evenly incurved, forming a perfect ball or globe, others again curled and twisted, the petals interlacing in fantastic form. The Chinese, or incurved Chrysanthemums, as a whole were not as good as we have seen at some previous exhibitions, the continued dry weather experienced throughout their growing season is no doubt accountable for their shortcomings. The committee of the Auckland Chrysanthemum Society are to be congratulated upon the success of the present exhibition, and upon their endeavours to meet all tastes and growers, and make the display as attractive as possible; to this end the hall has been tastefully decorated, and in addition to Chrysanthemum blooms, table decorations, and bouquets collections of decorative pot plants, arranged in groups and hanging baskets, and various collections of Dahlias and other cut flowers were provided for in the schedule, all of which materially added to the attractions of the show, and contrasted with the blaze of colour produced by the numerous collections of Chrysanthemum flowers.

A few notes upon the leading and new varieties will be of interest. Amongst the most prominent features of the show, and where the competition was very keen, were the numerous entries for six blooms Japanese, one variety, the following sorts were shown:—Lilian B. Bird and its Sport, Mrs. J. W. Tibbs, Viviand Morel, Charles Davis, Col. W. B. Smith, Domination, Sunflower, Yellow Lacroix, Edwin Molyneux, Eynsford White, with the result that the award was allotted to the old favourite and beautiful yellow Sunflower, with Domination a close second. The latter was large, of perfect form,

and of a lovely pure white colour. Amongst novelties, The Queen, a magnificent white, sometimes slightly suffused pink, with broad, thick, solid petals, showed to perfection; also Beauty of Exmouth, another pure white, of quite a distinct character, petals twisted and drooping, centre very full. Charles Davis is a sport from Viviand Morel, and equal in size, the colour being rosy shaded bronze; this variety was the leading Chrysanthemum shown in England last autumn. Eda Prass is a magnificent flower, salmon-pink. President is amber buff, of exquisite form. Duke of York is a large massive bloom; reverse of petals, deep pink, shaded silver. Zealandia, silvery-pink, is an incurved Japanese of largest size, raised by Mr. Garland, of Wellington. Beaute Toulonsaine, is similar in colour, and a rival to Edwin Molyneux. Lady Bell is another of Mr. Garland's seedlings, cream, with yellow centre. A salmon tinted rose sport from yellow Lacroix also attracted attention; it originated with Mr. Tibbs' Kentish yellow, a splendid clear yellow, very full. Snowflake is purest snow-white, large, full, and solid flower of exquisite form. Mrs. H. N. Higinbotham is clear bright pink, a new hardy variety of great promise. T. H. Brown is clear light pink. Mrs. C. H. Payne is rosy blush, very large solid bloom, one of the best shown. Lord Brooke is bright bronze-shaded red, a high built and perfectly double flower. Last year's novelties were well represented by splendid blooms of Charles Shrimpton, Florence Davis, G. W. Childs, Harry May, Charles Blick, John Shrimpton, White Louis Boehmer, Miss Dorothea Shea, O. P. Basset, Mrs. Bruce Findlay, William Seward, E. A. Smiles, and others. Viviand Morel, Domination, Sunflower, Yellow Lacroix, Mdlle. Marie Hoste, William Falconer, International, Eynsford White, Excelsior, Stanstead White, and Pride of Headford were present in nearly every stand. As previously stated, the incurved Chrysanthemums were not up to the average in either size or quality. Miss Mabel Simpkins, last year's novelty, being the only variety that merited special attention, and another large beautiful pure white that was unnamed. Surprise was expressed by many at seeing Mrs. Dr. H. A. Mandeville being shown as an incurved variety. It should be properly classed as an incurved Japanese; but as it is included amongst the incurveds in the National Society's Catalogue, we must abide by their decision. The above reference to the leading varieties exhibited at this autumn's show will prove a useful guide to all who intend growing for next year. Many leading late varieties are, however, omitted, as they were not sufficiently out for staging. Golden Wedding, Thunberg, Mrs. F. L. Ames, Mrs. Alpheus Hardy, Mrs. William Trelease, Mrs. W. H. Trotter, all blooms of the first merit, were unrepresented, not being fully developed and ready for cutting.—*New Zealand Herald.*

GARDENING MISCELLANY.

SPIRAEA PRUNIFOLIA FLORE PLENO.

The late severe winter has brought home to many of the gardening fraternity the necessity for employing as large a percentage as possible of subjects that will stand the rigour of our climate unharmed. The question of how to do this and yet not allow the interest and charm attaching to the garden by the use of the tender class of plants to be appreciably diminished may, in a measure, be answered by making more extensive use than now prevails of such hardy flowering shrubs as the above. The plant is a native of Japan and China, a part of the the world rich in productions of the kind, and its abundant hardiness has been satisfactorily proved by years of cultivation and trial, having been introduced to English horticulture about the year 1845. The leaves are rather small, connate at the base, irregularly serrate in the upper portion, and dark green in colour. The flowers, which are freely produced all along the stems, are pure white and very double. The plant is a most excellent wall subject, and, if proper attention be paid to its training, will form a most delightful object during the latter end of April up to the middle of May or thereabouts.

THE THOUSAND POUND ORCHID.

Despite somewhat gloomy weather there was a very large and fashionable attendance at the opening of the Royal Horticultural Society's eighth annual show in the Inner Temple Gardens on May 21st, though the Princess of Wales was unfortunately prevented from carrying out her announced intention to be present. The gardens themselves were practically bare, but five large tents which afforded shelter to the exhibits were well filled with a profusion of flowers and plants of almost innumerable varieties. Orchids, both rich and rare, and in some cases priceless, made a grand display. The novelties were new Odontoglots, including the Princess of Wales, a beautiful and unique white and purple; the Cypripedium Charles Steinmetz, which is an attractive hybrid; and a new hybrid Cattleya, Docteur Vouga. To Sir Trevor Lawrence has been awarded a Silver Cup for a group, including his Cypripedium Stonei platytaenium, one of the most valuable Orchids in existence, which has a curious history. Half a century ago it was picked up for 8s. To-day 800 guineas have been declined for it. The variety is nobler than the ordinary Cypripedium Stonei, its petals being four times the size, its slipper larger, and its dorsal finer. Side by side under the same glass shade was shown its humble prototype, worth, say, 5s., instead of, perhaps, £1,000, the value put upon its grander cousin, which proudly carried two spikes, each bearing a couple of blooms. Sir Trevor's gardener, Mr. W. H. White, is to be congratulated as well as the fortunate owner.

CYTISUS PURPUREUS.

Grafted on the common Laburnum this makes a beautiful little tree or standard, with a round head and drooping branches. During May and June it is in full beauty, and well deserving of attention at the hands of collectors on account of the profusion of its flowers, which are soft purple when fully expanded, while the buds and the calyx are dark purple. It is equally adapted for cultivation in the dwarf state, and may be planted in small beds isolated upon the grass as edgings to larger beds of shrubs, on dry banks on the top of a rockery or along the side of a drive. In all cases it should be fully exposed to light and air, not planted under the shade of trees. The most curious condition, perhaps, under which it may be seen is when it dissociates itself from Laburnum Adami, the so-called graft hybrid, and forms a dense mass of slender twigs upon a relatively stiff and slow growing tree.

CYPRIPEDIUM CALCEOLUS.

Considering the wide distribution of this species it is to be regretted that it is so rare in Britain. On the Continent it is found in all countries with the exception of Spain, Italy, and Turkey. Its range is further continued through the northern part of Asia and the Himalayas. Under cultivation it is as easily managed as any of the hardy members of the genus when planted in suitable situations. A peaty soil and slight shade are conducive to its welfare, because the necessary moisture is better retained. In gardens possessing a good rockery with various aspects and degrees of shade, a position may easily be chosen for it, furnishing all the requirements to success. The afternoon sun during June and July, when the plant is maturing its stems and foliage, is the most injurious to its well-being, on account of the aridity of the atmosphere at that time of the day. It may, therefore, be planted in a situation facing the north or the east rather than the south or west. In the absence of a rockery it may be planted in a fairly moist border, shaded, though not much overhung, by trees or shrubs. The sepals and petals are brown, but the large yellow lip makes a beautiful contrast. Though possessed of a quiet kind of beauty it is choice and interesting by reason of its comparative rarity in collections of herbaceous plants, and those who can command a suitable position for it, should by all means add it to their list.

DIERVILLA ROSEA.

In gardens, generally, this Chinese shrub is best known under the name of Weigelia rosea, and is sometimes termed the Chinese Honeysuckle, but whichever name is given it, the fact remains that it is one of the most effective subjects in the shrubbery at the present time. The rosy and the red varieties are undoubtedly the most conspicuous and showy—a statement that may be made without any disparagement to the pale and pure white varieties, whose value depends to a great extent upon their newness, rarity, and the contrast they make with the darker flowered sorts. There are two white varieties in cultivation, namely, D. r. hortensis nivea and D. r. candida, having a close general resemblance to one another, but sufficiently distinct to be grown in a collection whose owner takes a special liking to this class of plants. The first named has the finer foliage. Like all other flowering shrubs and deciduous ones particularly, the Diervillas must not be allowed to get overcrowded nor overhung by trees if the best results are desired. Timely thinning or shortening of the branches immediately after flowering is the best way to keep one plant from encroaching upon another.

TROLLIUS ORANGE GLOBE.

No connoisseur nor lover of hardy herbaceous plants will deny the beauty of the plant now being disseminated under this name; but there is a question as to its correct name. Some say that it is the old T. napellifolius, a European plant, introduced many years ago. The structure of the flower shows that it is as much allied with T. asiaticus, if really anything more than a form of that species. The long, deep orange, and narrow, strap-like petals point to this conclusion. The hardy plant growers are to be excused if they sometimes fall into error about the name of a Trollius, for all the sorts are very closely allied, and a batch of seedlings gives rise to plants of various shades of colour and stature. That under notice is a tall, vigorous growing plant, with rich golden yellow flowers approaching orange and well worthy of a place in the herbaceous border. Whatever its name, its origin would be of interest to others as well as me.—*Ad. rem.*

PHLOX AMOENA.

This truly lovely little plant, although not at present made nearly as much use of as might be, is a real gem of its kind. Generally growing from 8 to 10 in. in height, it is a most profuse flowerer, and is indeed one of the very best dwarf bedding Phloxes that we have. In early summer, June usually, the plants are a perfect picture with their many flowered corymbs of pink or purplish pink blooms. The leaves are oblong, lanceolate or linear-lanceolate in shape, and are covered, as are the stems, with quantities of soft silky hair. P. amoena is a native of North America, from whence it was brought about the year 1809. Like the other herbaceous perennial Phloxes it may be easily propagated from cuttings. These should be taken after the flowering season is over, about July, and inserted in a cold frame or under a bell-glass. Under ordinary treatment, which, of course, includes shading from hot sunshine and watering when necessary, these cuttings will strike readily enough and will make nice stocky little plants by the spring, when, as soon as the weather breaks, they may be planted out in their flowering quarters.

CLEMATIS MONTANA.

How curious it is that this one of the best of the hardy Clematis is not seen more frequently! It is true we have many of the florist's forms which exhibit more gorgeous colours, and which boast of very much larger flowers than this species, but there are certainly none which produce a greater profusion of flowers. In one or two cases which have come before our notice this climber has been responsible for the most brilliant display that one could wish to see during late spring and early summer. The peduncles are usually one flowered, the blooms being pure white about one and a half inches in diameter, and opening whilst yet the leaves are in a young state, so that a well-flowered plant produces a sheen of silvery whiteness that is at once conspicuous and attractive. The leaves are ternate, the leaflets oblong in shape, acuminate and slightly toothed at the base. The plant is a native of Nepaul, and from its abundant hardiness, vigorous constitution, and free flowering qualities, might well be used to a very much greater extent for the covering of bare walls, arbours, &c., than it is at present. Like the other members of the genus it likes a deep rich loamy soil for its roots to ramble in, together with a plentiful supply of water throughout the summer months.

CHRYSANTHEMUMS IN MAY.

A box containing half a dozen large Chrysanthemum blooms was sent us by Mr. A. McMillan, Trinity

Cottage, Edinburgh, just when we were busy with the largest London show of the season, so that the "mums" had to be shelved for a time. Such a thing would not be tolerated in November, when the autumn queen reigns supreme. Mr. McMillan is now well known as an enthusiast in this class of plants that he is anything but content with an autumn display. He flowers Chrysanthemums practically all the year round, for we have seen some of his exhibits in London long after this date, when the November plants are only making their growth.

The blooms sent us were mostly old favourites, and tolerably respectable after having lain a week exposed in the box. The largest bloom of any was William Tricker, the petals of which were broad and highly coloured for this variety. They were also very numerous and the centre remarkably full, so that if the bloom had been left on the plant till now it would have made a respectable flower even for November. Next in size came Viviand Morel, which was not so compact as we should expect it later on, yet for decorative purposes it would answer admirably. Charles Davis was equally as large, but perfectly full in the centre, and of a rich rosy-bronze, darker by several shades than we often see it in November; the petals were also in much better form than those of Viviand Morel, which were quilled almost to the tip. Mons. Gustave Grunerwald was of good size for that type, and of a rich rosy-purple. It is the best of its colour amongst early flowering varieties, and well worthy of cultivation. W. Wagstaff is a broad-petalled pure white variety, and evidently of considerable merit for decorative purposes. The snowy-white petals of Madame Leroy make it even more suitable than the last-named for the same kind of work. The flowers of W. H. Lincoln was of a bright golden-yellow, and lasted in better condition than any of the rest under the same unsuitable conditions. We admire a cultivator who sticks to his work like Mr. McMillan.

During the delay in attending to the above another box of blooms from the same grower arrived. W. H. Lincoln was notable for its rich golden colour and a bloom measuring 5½in. in diameter was as beautifully incurved as it would be in November. Boquet de Dame was quite out of its usual character, for, instead of the bloom being globular as we see it in autumn, the florets were reflexed and slightly curled; but the whole was as compact and full of material as ever. G. Wermig and Arthur Creepy were also sent; the latter is a paler yellow and smaller flower than the former and evidently suitable for decorative purposes.

MODERN FLOWER SHOWS.

Before reading the leading article in The Gardening World respecting modern flower shows we had in our mind to say a few words on the subject of the great show of the 21st ult. at the Temple Gardens, which presenting such a wide contrast to the shows held in London some thirty and more years back that we cannot help regretting the gradual disappearance of those splendid evidences of the plantsman's skill and patience with which we were then familiar. The absence of those large specimens leaves a void which any number of groups of moderate sized plants can never fill up. The best possible arrangement of plants individually and collectively cannot in the very nature of things produce the imposing effect which the large specimens of years past imparted to the flower shows of former days, at which plants were shown at their very best, and included subjects very telling as specimen plants which in the miscellaneous groups of small plants of the present day would be overlooked. Take, for instance, Medinilla magnifica, one of the most splendid flowering plants grown, and which can hardly be flowered in a small stage to be seen to advantage.

The same remark applies possibly to a less extent to numerous other plants which in the palmy days of specimen plant growing were largely grown and exhibited, and always much admired. The Allamandas, Stephanotis, Dipladenias, Dracophyllums, including a number of hard-wooded plants, which, with specimen Roses, Orchids, Azaleas, Pelargoniums, and Ferns, made up the bulk of the exhibitions of past years, have all apparently gone, and if the growing of these huge specimens is not a lost art it bids fair to become one. No doubt the continual reappearance of the same plants year after year produced a sameness which it was desirable to break through, and in some few instances plants were grown to such an enormous size that they became less telling than smaller, fresher specimens, and the cost of carting them about the country was out of all proportion to the value of the prizes offered, good as they were. To our mind the great drawback to the modern flower show is overcrowding; if we must from sheer necessity make up the shows by a number of exhibits consisting mainly of small plants, some means should be devised to check this tendency to huddle them together into a confused heap. We are not alluding to groups arranged for effect; these are often put up in a way beyond all praise, and leave nothing to be desired. But in reference to many exhibits at the Temple Show it is not too much to say that if one half of the plants included in them were taken away those left would have produced a more pleasing and effective display. Some stands reminded us of the stalls in the Lowther Arcade, when every effort is put forth to display a specimen of every article the owner has on sale.

To put an effective check on this growing evil is a question of some difficulty, and possibly the all powerful influence of the Press, if brought to bear upon the subject, will do something to correct it; and the management of flower shows could exert a healthy influence on exhibitors in this direction. Could not a rule be devised to restrict the number of plants in groups of Roses, Ferns, Orchids, Begonias, etc., to be staged on a certain amount of space? If we are never again to have flower shows consisting mainly of specimen plants, that is no reason why we should be called upon to endure a kind of Covent Garden Market substitute for them, which leaves the impression on the mind of having been got together as a great trade display. Now this is not said in disparagement to the trade, without which, unfortunately, it would be almost impossible to get up a good flower show. There is not, we fear, the public spirit among private owners of gardens there was in years gone, which animated their owners to give every encouragement to their gardeners to grow and exhibit plants to the highest possible perfection. The ample space required for their effective display at the shows was a most effective safeguard against overcrowding as we now see it, and which is fast bringing our great shows down to a point at which a better term for them would be plant *burreaux*.

At the same time the more modern flower show has advantages over those of years past in that it is more democratic, and a far wider view of the floral world is represented at them than in those of the past. A host of interesting and beautiful flowers are brought forward and seen by the outside public, of which otherwise very many among them would never have an opportunity of seeing. This popularises many classes of plants which is helpful to all concerned in their cultivation, and adds considerably to the interest of the show; and if exhibitors would only avoid overcrowding by excluding duplicates from their stands, they would be doing something to improve the appearance of the show: and those in the trade would also further their own interest by displaying their flowers or plants in a more effective manner by giving those set up more room. The excessive crowding is most confusing to many taking notes with a view to purchase.—*W. B. G.*

CHRYSANTHEMUMS.

The busy time in Chrysanthemum culture is again with us, for every grower, professional or amateur, is trying every possible means to get his plants into thorough condition. Many, moreover, are looking anxiously forward to show time, when the long series of such operations as pottings, staking, tying, watering, earwig hunting, plunging, etc., will be at an end and the richly-earned reward of all the labour gathered. Disappointments will doubtless be numerous, for with so many striving for first place, it is manifest that all cannot take premier position. What wonderfully persevering men present-day gardeners are. Some of them have the patience of a dozen Jobs, accepting indifferent results with a grim determination to succeed better another time. Without doubt, if a man continues pluckily to strive for success, his turn does come at last, although good fortune may only smile on his efforts for a brief space and may then turn to bless someone else.

As the rage is at present in favour of the production of large bloom, I should like to offer a few remarks concerning them, first of all. To procure these, anyone with a very little knowledge must know that strong and vigorous plants are absolutely necessary. In the first place, then, the cutting must be strong. Some sorts being naturally weaker than others, a knowledge of the different varieties is indispensable. Good plants this year are not easy to find, the long winter rendering thick covering necessary. To give the plants, air and daylight for many weeks was entirely out of the question, however, we must take them as they are and make the best of them. Many are now on with the second shift from 60 pots into 48's the plants having been stopped a week or so before potting was commenced.

When the growths have fairly started away, chose one, two, or three of the strongest breaks for the future, rubbing all other shoots off. I think three is generally the number grown; some will perhaps ask why flop or pinch at all if you only allow one break to remain? My answer to this is that all the shoots are rather weak this season, so if a plant can be induced to break freely away at this time of the year one has a much better chance of selecting a good growth from among them. When ready the plants should be moved on into 8-in. or 9-in. pots taking care not to fill the pots up to the brim, but leaving room for a top dressing later on. Firm potting is very essential, and without it no one can grow good Chrysanthemums. The compost should be as good as possible, and may consist of nicely chopped turf sods, and if this can be obtained about four inches in thickness it will be all the better. Three parts of this and one of clean horse-droppings with a little soot will make it a capital material for growing Chrysanthemums in them.

The plants must be staked in good time and plunged in rows about a yard and a half apart, whilst quite a yard of space must be given between the plants in order to admit of their being readily got at for purposes of tying, watering, and all the thousand and one little attentions which they need. The plunging ground must be as light and open as possible and if sheltered from cold, rough winds, so much the better. In a position of this kind the plants will make firm, short-jointed wood a necessary feature if good blooms are expected.

I had almost forgotten the question of drainage. This, however, must at all times be very carefully looked after, and never more so than at the last shift. I would recommend all those that can possibly obtain them, to use Porter's crocks, which are really splendid, insuring perfect drainage, and at the same time effectually excluding worms from the soil. As it is rather too soon to say anything about taking or securing the bud, I will defer my remarks on that subject a little longer.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

NOTICES OF BOOKS.

Guide to the Museums at Kew.*

There are three Museums of Economic Botany at Kew, but though a guide book for No. 1 has long been obtainable, that under notice is the first that has been published of the contents of No. 2, which is really the oldest in the gardens and originally contained the nucleus of all the three. The first guide to its contents was published by the Director, Sir William Hooker, at his own expense in 1855. The idea of forming a museum of economic botany to display those products of the vegetable world which could not be exhibited either by living specimens in the garden, or in the Herbarium, originated with Sir William. That small beginning has undergone great development, and instead of confusion reigning amongst the multitudinous vegetable products of the globe, everything is classified according to a regular system in rooms and cases, all named and numbered so that anyone with the guide books for No. 1 and No. 2, could readily find any of the contents which he might want to see, whether he be botanist, manufacturer, physician, druggist, carpenter, cabinet maker, or what not.

Museum No. 2 includes only the products obtained form Orchids, Palms, Grasses, Lilies, and other monocotyledonous plants as well as Ferns and all

*Official Guide to the Museums of Economic Botany. No. 2.—Monocotyledons and Cryptogams. London: Sold at the Royal Gardens, Kew. Printed for Her Majesty's Stationery Office by Eyre & Spottiswoode, 1895. Price 4d.

other plants of lower organisation that can afford anything useful to man or his domesticated animals. Even the Purple Dulse, a sea weed growing attached to the rocks of the British coasts, as well as those of Ireland, is represented. It is said to be eaten in times of scarcity, but we can assure our readers that Purple Dulse, Pepper Dulse, Tangle and Badderlocks are eaten with relish in some parts of Scotland even by those who have never known what scarcity really means, and by those who would draw the line at the relatively tasteless Irish Moss or Carrageen (Chondrus crispus) abundant everywhere on the British coasts where there are rocks other than chalk to support them; at least that is our experience. Of all the orders represented in this guide the Palms and Grasses supply the greatest variety of products for human use, and the Palms indeed bear the palm in this respect for many of them practically afford "bed, board and lodging" to many a noble savage, as well as supply a host of articles to those who make considerable pretensions to a high degree or civilisation. The guide runs to 109 pages including the index, and of these 27 are devoted to the Palms alone.

LIST OF FERNS.*

A series of hand-lists of the various classes of plants cultivated at Kew is in the course of preparation, and that under notice is devoted solely to the extensive collection of Ferns and their allies. The collection comes next in importance to that of Palms, perhaps, owing to the fact that it has been so extensively used in the preparation of all the more important works on Ferns that have been published in this country during the last half century. During a period of fifty years (1790-1840) the celebrated botanical artist, Francis Bauer, made analytical drawings of Ferns, which were published after his death in 1842. The botanical work relating to Ferns, and done by Sir William Hooker, Mr. J. G. Baker, and the veteran pteridologist, Mr. John Smith, is well known and highly valued by all concerned. The hand-list under notice consists of 183 pages, of which every alternate one is left blank for the purpose of inserting additional species and varieties; of these 121 pages gives a list of tropical and temperate Ferns cultivated at Kew, with their botanical authorities and native countries, so that gardeners amongst others will find it very useful for reference when writing articles and papers on Ferns for reading at the meetings of mutual improvement and other societies. The botanical authorities not being written in full, perhaps, give the most trouble to gardeners, though they generally give a wide berth to the botanist. The second part of the hand-list deals with the Horsetails, Lycopods, Selaginellas, and other vascular Cryptogams. The third part is an appendix containing the cultural forms of British Ferns, the collection of which is probably the richest in existence, and must prove of immense interest to lovers of our hardy Ferns as beautiful as exotic ones.

THE COTTAGER'S CALENDAR.*

As its title indicates this little work is intended as a monthly calendar of garden operations for the use of cottagers and all who are concerned or interested in gardening but yet are not professionals, though the latter may find many useful hints in its pages. It was originally compiled by the late Sir Joseph Paxton, M.P., and would have been entirely out of date with regard to the names of fruits, flowers, and vegetables but for the revision. A glance at the pages soon revealed that the work had been thoroughly revised and brought down to date, and the revision having been accomplished by the members of the staff of the *Gardeners' Chronicle* is a sufficient guarantee of the correct and up-to-date character of the information. Much attention has been given and space devoted to vegetables, particularly in those months when sowing and planting operations must chiefly be effected. Cottagers and amateurs generally, especially in rural districts, are most interested in vegetables on account of their economic importance, so that the Calendar will constitute a useful *vade mecum* for constant reference by those people while working in the garden. Nor are flowers and fruits in any way neglected. The list of names of the most suitable varieties for small gardens must prove of great service to all in want of information on those points; they are given separately at the end of the Calendar, where many other subjects are dealt with in a brief way, including manures, climbers for cottage walls, vegetable cookery, fruit cookery, pigs, garden tools, and insect pests. Remedies are given for the mitigation of the latter evil; and the portion of the book treating of this subject is amply illustrated with engravings of destructive insects in various stages of their existence.

* HAND-LIST OF FERNS AND FERN ALLIES CULTIVATED IN THE ROYAL GARDENS, KEW. Printed and published as above, 1895; price 6d.

* THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS. New Edition, thoroughly revised and adapted to the requirements of Cottagers and Allotment Holders. London: *Gardeners' Chronicle* Office, 41, Wellington Street, Covent Garden. 1895. Price 3d.

SOCIETIES.

Bath and West of England.—The Bath and West of England and Southern Counties Society opened their show at Taunton, on Wednesday, 29th ult., after a lapse of nearly a quarter of a century. Opening under such favourable auspices, and the show continuing until June 3rd, it looks as though it will be one of the most successful of the century. Among the numerous adjuncts of the show one of the most attractive to a large proportion of the visitors is undoubtedly the Horticultural Department. In a large tent are displayed many choice exotic flowers and plants, and beautifully arranged. From Mr. Godfrey, Exmouth, came some very fine Pelargoniums; from Messrs. Laing & Sons, Forest Hill, some double and single Begonias of the Begonia fame; Begonia Duchess of York, a bright canary yellow double was very fine, also Prince Adolphus of Teck, a rich vermilion; of singles, Sir C. Pigott, bright orange pink, and many others. In this group there were also some very fine plants of Gloxinias, Streptocarpus, Caladiums, and the beautiful Saxifraga sarmentosa tricolor superba. Mr. F. Hooper, Bath, had a grand collection of Pansies. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, staged some fine specimen plants of Pelargoniums grown expressly with the "Pure Ichthemic Guano," which indicated the essential qualities of this guano. Messrs. R. Veitch & Son, of Exeter, contributed a rockery of great size covered with such plants as Orchids, Azaleas, Pancratiums, Sarracenias, Anthuriums, Roses, and many rock and Alpine plants, having in its centre a real waterfall in which were planted water-growing Aquatics. Messrs. Kelway & Son, Langport, had Cannas, Pyrethrums, Moutan Paeonies, and Lupins. Mr. B. R. Davis, Yeovil, double Begonias. Mr. Geo. Cooling, Bath, old-fashioned garden Roses. From Col. Halford Thompson, Teignmouth, of Jadoo Fibre fame, came a fine group of plants grown with his fibre, and which will no doubt prove a commercial success for all sorts of plants. From Messrs. Barr & Son, Covent Garden, London, came a large exhibit covering nearly 200 square feet. Conspicuous in this group were single and double Chinese Paeonies. Of singles, Lobata, cerise salmon, P. albiflora tartarica, soft rose pink, and Candida, snow white, were fine; of doubles, Grandiflora Carnosa, a soft flesh; Eugenie Verdier, large blush, very handsome; the old double red, rose and white were all exceedingly showy. Also German Irises in large variety, Aquilegias, the beautiful Tulipa persica, and a large collection of the tufted Pansies were noteworthy. Mr. W. Colchester, of Ipswich, contributed specimen plants of Tree Carnations in variety, showing another example of the quality of plants by the use of their "Pure Ichthemic Guano" for which they have received many awards. Mr. V. Slade, Taunton, showed a good collection of greenhouse plants. Mr. C. Turner, Slough, had a large and attractive group of Pelargoniums, in which such varieties as Gold Mine, Marguerite, and Excellent were conspicuous. From W. Marshall, Esq., Taunton, came some very fine specimen plants of Oncidium ampliatum majus, Attacia cristata, very fine, Epidendrum prismatocarpum, Cattleya labiata Mossiae, and others in a very tastefully arranged group. Mr. W. E. Cousins, Taunton, showed a group of greenhouse plants. Similar collections came from F. W. Newton, Esq., Taunton, and C. E. J. Esdaile, Esq., Taunton. W. H. Fowler, Esq., Taunton, contributed a group of some well grown standard and dwarf Roses, such as Countess de Nadaillac, Francois Levet, Innocenta Pirola, and Turner's Crimson Rambler, one of the most showy of climbing Roses. The railway companies are issuing cheap day tickets and run special and excursion trains during the week. It is anticipated the show will attract a number of horti- and agriculturalists, with the necessary addition of fine weather. Mr. Andrew Potter, of Wolverhampton, has a large stand to exhibit his new weed-killer preparation—AQUAMORTIS, armoured and plain hoses, garden nettings, &c., &c.—*W. L.*

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

STOPPING CHRYSANTHEMUMS.—*The Boy*: Having cut down your plants in May no further cutting back will be necessary. Vegetation is much earlier in Guernsey than in Middlesex, so that the first bud that comes, say in July or the beginning of August, would in all probability be too early for the middle of November. In the case of naturally late varieties the first or crown bud would no doubt suit your purpose while the terminals would have to be utilised in the case of early sorts. The fact is the method of treatment would have to vary according to the latitude of the district in which the grower resides. You must understand that early and late flowering varieties must not be treated alike if you wish them to flower at the same time. For instance, Anna Hartshorn and Bouquet de Dame being early sorts require stopping in June, or even in July, to keep back the blooms till November. Your best plan to pursue would be to take a list of all the early varieties you have and a separate list of the late ones. The latter should be cut back early, say about the time you have done it; but such early varieties as are mentioned above should be cut back at least a month later in the season. Write down in your note-book the dates at which you stopped each particular variety, then the taking of the crown or the terminal bud as the case may be. In November, compare the results with your notes and that will prove a better guide for next year than any statements that could be made even by a grower. You want to have an accurate knowledge of each particular variety before you can make sure of timing the buds properly. This method of note-taking is adopted by the best growers with good results, and we advise you to practice it regularly, keeping the results of each year in a note-book. By this means you will soon get acquainted with all the old ones, but new varieties are always turning up with their special peculiarities that must be learned.

ROSES AND APHIDES.—*B.G.*: Syringe them with tobacco water, say half a bottle of fairly strong tobacco liquid in a pail of water. A table spoonful of soft soap in the same would add greatly to its efficiency. Dissolve it in hot water, pour it into the mixture, and stir the whole together before using. Do the syringing in the evening and wash your plants with clean water in the morning.

ODONTOGLOSSUM CIRRHOSUM.—*The Boy*: The time required for a spike of this Odontoglot to develop from the early bud stage to the expansion of the flowers cannot be stated precisely, as so much depends upon the temperature and other circumstances, but you may calculate that it will take about three months.

TOMATO DISEASE.—By way of additional information to a question on this subject put by Mr. F. Dunning in our issue for the 18th ult., Mr. Henry Brook writes as follows:—"No plant can live long in soil in which iron rust or iron pyrites are present in quantity. Even in geological times the presence of these iron pyrites has removed all traces of vegetable life. I would suggest that Mr. F. Dunning take out a trench about half a yard wide and get some new soil that is free from these iron pyrites and fill in the trench with it. If he does so I venture to say that he will grow Tomatos and grow them well. If the writer grows them in pots or beds under glass by using soil that is free from iron rust he will succeed. These remarks are applicable to anybody else who is experiencing the same difficulty and under like conditions anywhere in the country."

NAMES OF PLANTS.—*J. D.*: The Bird Cherry (Prunus Padus) and a British wild tree. *H. C.*: 1, Aesculus glabra, best known as Ae. rubicunda; 2, Ae. Pavia, usually called Pavia rubra; 3, Crataegus Oxyacantha punicea plena. *A. G.*: 1, Iris germanica 2, Polemonium reptans; 3, Saxifraga Aizoon rosularis; 4, Saxifraga caespitosa hirta; 5, Geranium Phaeum; 6, Geranium sylvaticum. *G. A. L.*; Odontoglossum Cervantesi decorum.

MOLES IN THE GARDEN.—*P. C.*: There are two sides to the question. Moles in wet pasture lands act as a means of natural drainage, but on a lawn they are mischievous. Where wireworms and the larvae of certain beetles abound in the soil, moles serve to keep them down; but the latter in a seed bed are thoroughly mischievous. If you could manage to keep down insects, then by all means destroy every mole on whose track who can get. You can certainly drain your garden ground so as to be independent of moles for that purpose. Weighing all things in the balance we do not think there is any anvantage in permitting moles to have a footing in the garden. The orchard is the place where they would do least damage, perhaps, that is, if no shallow rooting plants are grown between the trees.

COMMUNICATIONS RECEIVED.—R. D.—A. P.—J. E. J.—J. C. S.—W. B. G.—Propagator.—W.

COVENT GARDEN MARKET.

June 5th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples..... per bushel		
Nova Scotia Apples per barrel	12 0	21 0
Cob Nuts and Filberts, per 100 lbs	10 0	
Tasmanian Apples, per case	8 0	11 0
Grapes, per lb.	1 0	3 6
Pine-apples.—St. Michael's each	2 6	6 0
Strawberries, Nobles, per lb.	1 0	
Other varieties, per lb.	1 0	3 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus, per bundle	1 6	4 0
Beans, French, per lb.	1 0	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Small salading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	1 0	1 6
Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	6 0
Azalea, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Eucharis ...per doz.	3 0	5 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	4 0	6 0
Iris, doz. bun.	4 0	18 0
Lilac (French) per bch.	5 0	6 0
Lilium longiflorum per doz.	3 0	5 0
Lilium candidum, per doz.	1 6	2 0
Lily of the Valley, doz. bchs.	6 0	15 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Narcissus, doz. bchs.	2 0	4 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.	1 0	2 0
Pelargoniums, 12 bun.	6 0	9 0
Peonys, doz. bchs. ...	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Ranunculus, doz.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	1 0	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 3	2 0
Red Roses	3 0	6 0
Pink Roses	5 0	7 0
Roses (French) Moss, doz.	1 0	1 6
Roses (French) red, doz. blooms. ...	2 0	2 6
Smilax, per bunch ...	4 0	6 0
Stephanotis, doz. sprays	3 0	4 0
Tuberoses, doz. blooms	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.	18 0	36 0
" specimen plants	5 0	10 6
Calceolaria, per doz.	4 0	8 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Erica, various, doz.	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, Invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Fuchsia, per doz.	6 0	9 0
Heliotrope, per doz.	6 0	8 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	8 0
Lobelia, per doz.	4 0	6 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	5 0	6 0
Marguerite Daisy doz	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	15 0
Scarlets, per doz.	3 0	9 0
Stocks, per doz.	4 0	6 0

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FLOWER SHOW FIXTURES, 1895.

JUNE.

11.—R.H.S. Drill Hall Meeting.
12.—Royal Botanic Society's Floral Fete.
12, 13.—Southend-on-Sea Horticultural Show.
19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Bath Rose and Begonia Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tihshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Malvern Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.
28, 29.— Bath Autumn Show.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.

(*Continued on next column.*)

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.
29, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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For Index to Contents see page 670.

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The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 15th, 1895.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, June 19th.—York Grand Floral Fête.
THURSDAY, June 20th.—York Grand Floral Fête.
FRIDAY, June 21st.—York Grand Floral Fête.
Sale of Orchids at Messrs. Protheroe & Morris' Rooms.
SATURDAY, June 22nd.—Canterbury Rose Show.

BATTLING WITH THE DROUGHT.—In the British Isles drought is only periodical, and the intervals between recurring seasons of intensely hot and long continued dry weather are usually of many years' duration; but in other countries more favoured with sunshine, and less so than ours with the necessary rain, drought may be said to be chronic. The people in such countries, however, have learned from long experience to supply by artificial means what Nature denies in the shape of moisture to sustain the cultivated crops. Irrigation in some form or other is extensively adopted, so that the cultivators in warm and dry countries are really better prepared for drought than we are here. Nevertheless, when severe drought does occur the best gardeners are always most prepared for it, by reason of the good tillage to which their ground has been subjected. There can be little doubt but that deep digging and trenching during autumn and winter constitute the best means of combatting the dry weather which may ensue during the succeeding summer. The loosening up of the soil allows the surface water to pass away freely in winter and during rainy weather. Paradoxical as it may seem, the same treatment of the soil enables the moisture to rise from the lower strata and to come within reach of the roots of plants on the surface. This is due to the action of capillary attraction, which (so to speak) responds more readily to the requirements of plants in proportion as the hard and compacted stratum of subsoil is broken up. In agriculture, the hard layer formed by the sole of the plough, or that beneath its influence and action, is termed the "pan." Gardens that seldom or never get trenched are often much in the same condition. Independently of moisture, however, a deeply worked soil is always more fertile than one that is merely dug over annually.

Another means of evading the effects of drought to some extent is to make choice of any light soils that may be in the kitchen garden for the production of early crops, such as Potatoes, Peas, Cauliflower, and Broccoli; the latter does indeed stand the winter better in light and relatively dry soils than in those that are wet and retentive. The latter, if at all inclined to clay, suffer from drought to a considerable extent, but fairly deep rooting plants make a better summer growth there than they would in thin, sandy, or gravelly soils. Manuring is a matter of the greatest importance in battling with drought. Some cultivators do indeed consider it the first half of the battle, and that cultivation or good tillage is the second but smaller half. Be that as it may, there can be no doubt but that plenty of well made farmyard manure is of the greatest benefit to light soils in retaining moisture during droughty periods. A skilled and diligent cultivator bears this in mind when digging or trenching his ground, and planning a system of cropping for the succeeding season. Rank manure on the other hand may be advantageously employed on heavy land, as a means of aerating it. The value of mulching cannot be overlooked, and though various materials are used for this purpose in different cases, farmyard manure, when obtainable, is the most serviceable; for besides preserving the soil moisture it also feeds the plants when artificial watering is resorted to, or when rain falls. The quantity of farmyard manure available for the garden is often all too limited, so that the gardener's best favourites are first served. These may be Roses, Violas, Peas, or anything else according to the circumstances of the case.

In the absence of this kind of mulching, cocoa-nut fibre may be employed. Leaf mould and the decayed vegetation of the garden rubbish heap also constitute excellent substitutes amongst flowers or vegetable crops, where they can be employed. The advantage of hoeing and loosening the surface soil amongst all growing crops is well known and should be put into operation in every corner of the garden during the continuance of drought. A little loose soil on the surface checks evaporation to a great extent. The application of water by artificial means is a heavy item of garden expenditure, especially where much of it becomes absolutely necessary; and after all it does anything but give the satisfaction that follows a good rainfall, owing to the constantly arid condition of the atmosphere, and the consequent inability of plants to make good growth under those conditions. Every close observer is well aware that the atmospheric moisture during showery weather is of far-reaching benefit to the growth of plants provided all other conditions are equal. There can be no doubt, however, that the modern appliances for watering grass lawns and crops, by means of sprayers and sprinklers, constitute an excellent substitute for a natural rainfall though not equal to it for the reason above stated.

The old proverb which says that "a misty May and a drappy June lifts the farmer's heart aboon," applies with equal force to the gardener; for a fair amount of rainfall during those months is of great advantage to crops of all kinds, including flowers, fruits, and vegetables. The Strawberry crop is now sadly in want of moisture to ensure the proper swelling of the fruits, and ingenious gardeners would find scope for their talents in devising means

whereby to irrigate the ground on which that useful and highly-esteemed fruit is in jeopardy of failure through drought. This might easily be effected in gardens where there is a stream at a slightly higher elevation, so that its waters could be diverted by means of a drain, piping or other form of conduit for the conveyance of water to the required plantations. A portion of this drain might be permanent, and the rest extemporised according to the situation of the Strawberry crop for the time being. When the water is not required the drain could be shut off at its mouth. Various means could be employed for raising water to the level of the Strawberry beds; and surely a good crop would repay the trouble of thus insuring it. Some of the more enterprising American gardeners water their Celery patches, as well as Melons and Cucumbers, by laying down a drain of two-inch tiles about six inches below the surface of the soil. The pipes are laid close together, end to end, with a slight dip or inclination in their course, while the upper end is furnished with a small tank for the purpose of feeding the drain. Soapsuds as well as clear water are employed, and when poured into the tank the moisture gradually oozes out from the joints of the tile-piping and supplies the roots of the various plants with continuous moisture.

Haymaking has been commenced in the Home Park at Windsor Castle.

Gardeners' Royal Benevolent Institution.—The *Daily News*, of June 11th, says:—"Prince Christian has accepted the office of a Vice-President of the Gardeners' Royal Benevolent Institution."

Early Peas.—I have this day, June 10th, gathered my first dish of Peas, the variety being Carter's Lightening. American Wonder sown on the same date, will not be ready for another week. Chelsea Gem will be ten days later still. Carter's Lightening is the best early Pea grown in my estimation.—*Thos. Cockerill, The Gate House, Wirksworth.*

United Horticultural Benefit and Provident Society.—The usual monthly meeting was held at the Caledonian Hotel, on Monday evening last, Mr. Nathan Cole in the chair. Four new members were elected. It has been decided by the committee that the increase of sick pay from 10s. 6d. to 12s., and from 16s. to 18s. per week in the two classes respectively, shall commence from the half year (July 8th). The treasurer reported that he had invested £200 in West Bromwich 3 % Stock.

Blenheim Palace Gardens.—By permission of the Duke of Marlborough, Blenheim Palace and Gardens were opened to the public on the 3rd inst. They will be open every Monday, Thursday, and Saturday until further notice, from noon until 4 p.m. on Saturdays, and from noon until 6 p.m. on the other two days of the week.

Battle of Flowers at Eastbourne.—Arrangements are now completed for the Rose Fête week at Eastbourne, commencing on July the 22nd. The programme includes a Rose parade, Rose ball, and confetti battle. It is hoped that a first-rate cricket match will be arranged for the two concluding days of the week.

The Manchester Show.—In the short notice we gave (p. 645) of the Show held in the Royal Botanical Gardens, Old Trafford, Manchester, there was an omission in the list of gold medals awarded. Messrs. Hugh Low, and Co., Clapton, were the recipients of one for an extensive exhibit of miscellaneous Orchids.

National Chrysanthemum Society.—We are requested to state that the Annual Outing of the members of the above Society will take place on Monday, July 22nd, in the form of a visit to the gardens and grounds of Burford Lodge, Box Hill, near Dorking, the residence of Sir Trevor Lawrence, Bart., one of the Vice-Presidents of the Society.

The Carnation and Picotee Union.—The Committee of this Union have issued the tenth annual report and statement of accounts for last year, and has much gratification in announcing that His Grace the Duke of Marlborough has accepted the office of president for the ensuing year. It is proposed to hold the Annual Exhibition on Saturday, July 27th prox.

The Yorkshire Gala.—The thirty-seventh year of the Floral and Musical Exhibition of York and generally known as the Yorkshire Gala, will be held on the 19th, 20th, and 21st inst. The Great Floral Fête will be held in the Bootham Field, when a large sum in the form of prizes will be awarded to the successful exhibitors of fruit, flowers and plants.

Royal Botanic Society of London.—Professor George Henslow, M.A., on the 31st May, delivered a lecture to the fellows and visitors at the Gardens, Regent's Park. Taking as his subject "A Century of Progress in Floriculture," he showed specimens of the original wild plants from which some of our most admired garden flowers have arisen, illustrating with numerous diagrams the various stages in the way of cultivation and hybridisation they have passed before reaching the perfection of to-day. While the changes from the—in many cases—insignificant wild flower had been little short of marvellous, there was a limit beyond which they could not go, and he was afraid that with some few of our florists' flowers that limit had already been reached. The next lecture will be given on Friday, June 7th, when Dr. D. Morris, C.M.G., will lecture upon the "Romance of Plant Life."

European Gardeners and the United States.—The *Florists Exchange* does but express the sentiments of a great many gardeners outside of America when it says that it is interesting to note the number of arrivals of gardeners in the United States from other countries. During the year ending 30th June 1894, which is the latest period for which the statistics have been made up, there arrived from Bohemia, two gardeners; from Hungary, 6; from Austria, 6; from Belgium, 2; from Denmark, 19; from France, 13; from Germany 160; from Greece, 16; from Italy, 25; from the Netherlands, 22, one a woman; from Norway, 5; from Russia, 3; from Sweden, 20; from Switzerland, 14; from Turkey, 2; from England, 146; from Scotland, 38; from Ireland, 54; from Columbia, 2; from China, 7; from Japan, 3; from Australia, 3; from the Hawaiian Islands, 1, making a total of 569, 535 of whom, including one woman, were under forty, and the remainder over forty years of age.

The People's Palace Horticultural Society.—The summer exhibition of this Society originally fixed for July 11th will now take place on July 4th, in order that their R.H. The Duke and Duchess of York may be able to visit the exhibition. Their Royal Highnesses desire to view the exhibition apart from any state ceremonial; and, in order that they may see as many of the members as possible present, have timed their visit at five o'clock in the evening. The Duke of Fife, the President of the Society, will preside at the opening ceremony. On the evening of the 8th inst., Mr. H. J. Jones, Ryecroft Nursery, Lewisham, delivered a lecture on the management of Chrysanthemums, before a large gathering of members at the People's Palace; Harold Bolton, Esq., one of the Hon. Secretaries, occupying the chair. For something like an hour Mr. Jones spoke in an easy and colloquial manner, detailing the management from the time of the final potting to placing the blooms on the exhibition stage, illustrating his address at various points by means of object lessons and, much to the gratification of the members, many questions were put to Mr. Jones, and at the close a very hearty and unanimous vote of thanks was passed to him. It was one of the best of the course of lectures yet delivered. On Saturday the 22nd inst., the members of the Society will go to Kew Gardens by steamboat from London Bridge, a commodious boat being chartered for the occasion, and it is anticipated that something like 400 members and their friends will avail themselves of the opportunity. The boat will leave London Bridge at 2.30 p.m.

Bethnal Green Gardens.—Another of those oases provided through the beneficent action of the London County Council to brighten the wilderness of the poorer districts of London was opened at Bethnal Green. It consists of two plots of six and a half and three acres, known as Poor Man's Land, held until now by the Charity Commissioners as an appendage of the adjacent asylum. The Council gave £6,000 for the land, and, preserving the trees, have laid out ample sward bounded by flower beds and shrubberies with no more of gravel walks than are necessary. A gala show was made by the display of flags, the ringing of church bells, and the lively music of the Council's brass band in their gay uniform of peacock blue. At the ceremony on their stand members and officers of the Council, who had driven up from Spring Gardens, assembled at eleven o'clock, while the people stood round. Mr. Torrance, vice-chairman of the Parks Committee, began the business by expressing his pleasure at placing these grounds free for the recreation of the people of that congested locality. Some 200 years ago fully fifteen acres were set apart by benefactors as Poor Man's Land, but this had been cut down by processes not unknown to the nine now taken over by the Council. Mr. J. S. Fletcher, chairman of the Parks Committee, stated that Mr. Arthur Arnold and Mr. Harrison were away on well-earned holiday, and that he had received a letter from the Earl of Meath, than whom no man had done more to preserve open spaces for the people of London.

Important to Florists.—At a meeting of the Cardiff Burial Board held on June 4th at the Town Hall, Mr. W. J. Trounce presiding, Mr. H. White raised the question of the law referring to the removal of flowers from the cemetery. Resolutions had been previously passed by the board to the effect that flowers once brought into the cemetery could not be removed, and Mr. White cited a case in which a florist, who was under contract to plant certain graves, had taken more plants into the cemetery than he actually needed. He was about to cart away the superfluous plants, when he was prevented from doing so by the cemetery manager, who drew his attention to the existing resolution. Mr. White had received a deputation from Cardiff florists on the matter, and on behalf of such gentlemen he desired that a resolution should be passed to the effect that this rule of the cemetery should not apply to any person who might be employed or engaged as a florist or gardener.—This was passed.

Broomfield Collection of Orchids.—The celebrated collection of Orchids got together in the course of many years by Matthew Wells, Esq., Broomfield, Sale, near Manchester, is to be sold on the premises on Wednesday and Thursday, June 26th and 27th. The plants will be sold without reserve, as Mr. Wells is relinquishing their cultivation; and Messrs. Protheroe & Morris, of Cheapside, London, will effect the sale, commencing at half-past twelve o'clock each day. The collection includes many rare and beautiful species, varieties and hybrids, many of which have been described in our pages, during a period of several years. Special mention may be made of Cattleya Hardyana Wrigley's var., the hybrid and magnificent C. Lord Rothschild, the hybrid Phaius Cooksonii, Laelio-Cattleya broomfieldense, L.-C. Phoebe, and L.-C. Wellsiae, all of which we have seen and admired while describing them at one time or other. Several pieces of Cattleya labiata alba will be sold, including the original plant, which was accorded a First-class Certificate by the R.H.S., and which occasioned so much discussion in our pages at the time. Other fine things in the collection are Cattleya Mendelii broomfieldense, C. M. Bluntii, C. M. Reine des Belges, C. Hardyana Statteriana, C. H. Pickering var., C. Percivaliana alba, very rare, Laelia purpurata Hardy's alba, Odontoglossum Pescatorei Pollett's var., O. Wellsianum, Dendrobium nobile nobilius, and many others.

Orkney Horticultural Society.—A meeting of those interested in the formation of a horticultural society for the county was held in the Municipal Buildings on the 28th ult. Sheriff Armour was called to the chair, who, after referring to the association under whose auspices flower shows were formerly held in Kirkwall, said it was now proposed to form a society for the encouragement of horticulture in the county by means of an annual flower show. It was then agreed to form a society to be called "The Orkney Horticultural Association." Sheriff Armour was unanimously elected president; Mr. W. Dover Baikie, vice-president; Mr. M. L. Howman, secretary; and Mr. T. H. Liddle, treasurer. A strong executive committee was also appointed, as well as a number of patrons. Rules were adopted, and it was agreed to hold the first show in August, the committee to make all the necessary arrangements.

The Paxton Society.—At the meeting of the members of the above Society, held at the Woolpacks Hotel on the 25th ult., Mr. B. Whiteley presided,

and Mr. J. G. Brown was in the vice-chair. There was a good attendance. Mr. T. Gartery, of Rotherham, read an interesting and practical paper on "The Primula." He clearly and fully described how he had successfully raised these charming and useful winter-blooming plants for many years past, and in detailing his mode of treatment he impressed upon professional and amateur gardeners to do everything they could to produce strong and sturdy plants. A discussion ensued on the paper, having reference mainly to the "nettling effect" which the handling of a certain species of Primula had on "thin-skinned gardeners," some of whom asserted that it caused them an unpleasant sensation somewhat resembling "itch." Amongst those who took part in the discussion were Messrs. W. Hudson (Sandal Grange), Campbell (Painthorpe), Corden, Vere (Milnthorpe), Parkin, and the chairman and vice-chairman. On the suggestion of Mr. Parkin, it was agreed that a specimen of the foliage of the alleged troublesome variety of the plant should be handed to Mr. Alan Willis, of Normanton, for examination under the microscope. On the motion of Mr. J. Thomas (gardener to the Bishop of Wakefield), seconded by Mr. Campbell, and supported by Messrs. Brown and Willis, a very hearty vote of thanks was accorded to Mr. Gartery for his essay.

Birmingham Amateur Gardeners' Association.—Mr. W. H. Twist read a paper before the members of this Association on the 5th inst. on "Violas." There was a very large attendance. Mr. Twist described the various methods employed in growing them, both for ordinary decorative and exhibition purposes. He also gave on exhaustive list of the most suitable varieties for amateurs in this district, with their colours and habits of growth. There was a large number of exhibits for prizes offered by Mr. William Sydenham for twelve fancy Pansies, and the competition was very keen, many of the collections being remarkable for their size and colour. Mr. T. M. Eglinton, Birchfield, was first; Mr. C. F. Franklin, Balsall Heath, was second; and Mr. W. England, Handsworth, took the third prize. In the competition for prizes offered by Mr. W. H. Gabb, for twelve Violas, there were some fine collections of blooms, many of the latest varieties being staged. Mr. S. Dascombe, Upper Bentley, Bromsgrove, was awarded the first; Mr. C. F. Franklin came second; and Mr. G. F. Kent was disqualified through exhibiting less than twelve varieties. Messrs. Bliss, Daniell, S. Smith, and Wadley exhibited various plants and blooms, and the usual awards were made. Lord Windsor has granted permission for the members to visit Hewell Grange on the occasion of their annual excursion on June 22nd.

Scottish Horticultural Association.—The monthly meeting of this Association took place on the 4th inst. at 5, St. Andrew Square, Edinburgh. Mr. R. W. E. Murray, Blackford House, the president, in the chair. The assistant-secretary, Mr. Murray, read a short paper on "Apple culture," by Mr. J. H. Goodacre, Elvaston Castle, Derby. In the course of a brief discussion the importance of Apple culture was urged, Mr. James Grieve, Pilrig Park Nursery, holding that horticulturists should cultivate the growth of this tree wherever possible, and that everybody should eat its fruit. Mr. Alexander Mackenzie, Warriston Nursery, emphasised these remarks, and observed that greater attention had been paid during the past ten years to the cultivation of hardy fruit trees than had been the case for fifty years previously. The results of the last decade, he added, would make themselves manifest in the course of the next twenty or thirty years. He was satisfied that crops of Apples would be produced within that period that would be the envy of those who would see them. Mr. Mackenzie exhibited some preserved specimens of the locust from Mr. Ernest Waller, Tangier, Morocco, a former member of the society, and gave an account of the locust plague, indicating the extraordinary devastation caused thereby.

PEA VEITCH'S AMERICAN WONDER.

The date on which the first dish of Peas can be picked in the open is a matter of the greatest importance to every gardener who has the interest of his employer at heart and desires to serve him to the best of his ability, so far as the circumstances of the case permit. Mr. A. Pentney, Worton Hall Gardens, Isleworth, writes to say that he sowed Veitch's American Wonder Pea in 60-sized pots, on the 6th of February, and placed the pots in a cool vinery. He planted them at the foot of a south aspect wall in March, and gathered his first dish during the second week of May. In Mr. Pentney's opinion this is the best of all early Peas.

By another post came a dish of the same variety, together with some stems showing their height and degree of fertility. Twelve inches is the average height, and each stem bore from four to seven pods, containing about four to eight seeds apiece. The specimens sent might have been fit for use several days previously, so full were the pods. A good authority on seeing the sample was confident that it was the white wrinkled marrow Chelsea Gem, and not American Wonder. The pods of the latter are broader and of a darker green. In any case the value of the variety, whatever its name, is an undoubted fact, and Mr. Pentney is to be congratulated for his cultural success, for, as far as we have heard, he has picked peas in the open before anybody else in his locality. We know also that if attention and cultural skill will advance any particular crop Mr. Pentney is the man to push his opportunity, even if he feels it necessary to call in scientific aid, with all modern improvements.

VIOLAS AND POPPIES.

Violas are having a hard time of it in the southern counties on account of the severe and long protracted drought; but if they weather it for a time they will doubtless grow away more vigorously and flower profusely after the turn of the summer solstice, even if the rain keeps off till then. The Poppies do not seem to mind the drought, but the flowers, as might be expected, will be short-lived, and the plants will bear an abundance of seed. Last Saturday we found ourselves in the seed grounds of Mr. Richard Dean, Bedfont, Middlesex. The celebrated strain of Primulas and Polyanthus was developing a crop of seed, but the large collection of named Violas which Mr. Dean has got together at the ancient village of Bedfont was flowering away freely, notwithstanding the fact that they had not been planted out till May. Every Pansy and Viola grower knows that March is the orthodox spring month to plant their favourites, but the heavy clayey ground here prevents the operation from being carried out then. At present the soil is as hard as it was plastic in March, but it is very fertile, and a heavy shower of rain would make it crumble down beautifully, and then all will go well.

Violas.

All the large types are patronised here, including the rayed, rayless, edged, self, striped, and parti-coloured sorts. Wm. Neil is the best of the rose varieties. The old Blue Bell, a true cottage garden Viola, still finds a place here, and no doubt Mr. Dean still looks with favour upon this child of his own raising. Something similar may be said of True Blue, raised by the late Mr. Wm. Dean, and which is still the best of its particular shade of dark blue. The true tufted types are represented by Duchess of Fife and Ardwell Gem. The flowers of Gipsy Queen are of great size and remarkably pale, almost white, but they will get darker when the cool, moist weather returns. The fragrant Lilias is beautifully clouded with lavender on the upper petals. A free flowering and soft lilac variety is Northern Spy. Skylark and Blue Cloud will show their ultramarine blue edging to better effect after the turn of the day. A large plantation of Snowflake is very floriferous just now. Rayless varieties are represented by Countess of Hopetoun, with very large flowers; by the popular Sylvia, which is more of a creamy shade; and by the beautifully dwarf Blue Gown; as well as by the fine, light yellow George Muirhead. York and Lancaster represents the striped varieties. Archie Grant is still one of the best of the dark violet types. Harry W. Stuart is a dark plum-purple flower striped with white. Parti-coloured varieties are pretty numerous, and in one plantation we noted Ada Adair, Mrs. Bellamy, and Edina doing well; the latter has a mauve centre, and the white upper petals veined with porcelain-blue. Amongst some seedlings selected from last year's sowing we noted some pretty rose-purple, dark-purple, plum-purple, and light blue varieties.

In another large plantation we noted several of the best as they appear at the present time. Maud Stuart is a dark blue flower of great size. The pale lilac flowers of Annie King have a bronzy blotch below the eye, and are produced with great freedom. Iris is a dark velvety-violet variety of huge size. The plum-purple flowers of H. M. Stanley are striped with rose and sometimes white. Duchess of Albany is white with a dark mauve centre, and The Knight differs chiefly by having a violet centre. Ina Simpson is a dark lilac flower of the same shade as Dawn of Day, but not netted. Purity is of dwarf habit and very floriferous. Queen of Whites is a large white variety with short rays. The variegated Countess of Kintore is well known, for it usually flowers very continuously in the dry and sunny south. In the same section comes Peggy Smith, with dark plum-purple flowers fading to rose on the upper petals. Lady Borthwick is a beautiful white with a small yellow eye. Here also we place Lady Dundonald with clear blue rays on the white ground; it blooms very freely. Springville is a creamy white flower, and Lemon Queen is a large primrose-yellow. Nellie is darker blue than Blue King, but similar in form. Amongst this lot were some selected seedlings, including a large golden-yellow one. In another field is a plantation made last year, and which stood out last winter. The plants are now extremely floriferous, and we were highly interested with a large plant of Duchess of Fife, bearing upon one stem the true flower and three blooms of Ardwell Gem, pure and simple. They have reverted to their parent, for Duchess of Fife is a sport from Ardwell Gem. Close by was a plantation of Trentham Purple put out last year and now a mass of bloom.

Seedlings.

Mr. Dean sows and raises quantities of seedlings every year. Those planted out over a year ago, and which stood the winter in the open ground, are now remarkably floriferous, notwithstanding the hardness of the ground. Amongst them we noted some French strains of fancy Pansies, including the Bleugnot strain, with large blotches like so many faces. Striped varieties of Continental strains were also fairly numerous, exhibiting dark and strange colours. There was great variety of colour in one plantation of seedlings, including a sort like Bullion, greatly improved in form. Another was light blue and floriferous; a free-flowering, light mauve one was very pleasing, and a fourth was plum-purple. A large sowing was made from yellow varieties, and the bulk of them have come yellow, though there are a few rogues amongst them. The variety of shade, form, and habit is, however, endless. Some are of good form and range from golden-yellow through all the lighter hues. A rayless yellow variety has the upper petals shaded yellow on a white ground. Many are dwarf and floriferous, but we noted one particularly so with small golden flowers. A pretty one, somewhat similar to the Duchess of Fife, has the edges of the petals netted with blue. One like the variety Canary is notable for the very numerous, long and slender rays on the three lower petals. A large batch from Hollyrood has given flowers of all imaginable colours, selfs, rayed, and striped as well as the type. The Silver Y Moth is responsible for the heterogeneity.

Poppies and other Flowers.

A long row of Oriental Poppies has been gay, or rather a blaze of scarlet, for several weeks past. Of course Papaver orientale and P. o. bracteatum are the most numerous, and none in the whole tribe can beat them for size and brilliancy of colour, brought into more prominence by the black blotch at the base of each petal. Here, however, are several of best and most distinct varieties, including P. o. concolor without blotches. P. o. praecox is notable for its earliness, and the colours of Blush Queen and Salmon Queen are expressed in their names. The elegant and sprightly beauty of P. umbrosum must be seen to be realised. The plants are dwarf, exceedingly floriferous, and the brilliant crimson-red flowers are rendered handsome and more conspicuous by the large black blotch which shows at the base of each petal and on both surfaces. There is also a semi-double variety of some beauty here.

One of the glass houses is occupied with large, old Roses, including Marechal Niel, Homer, and Katherine Mermet, which have been flowering for some time past, as other kinds are flowering freely upon the garden walls. Fancy Pinks raised from seed are now coming into bloom, and a large percentage of them have double flowers of various colours. Aubrietia violacea and Leichtlinii have flowered most profusely, and have not yet given over,

notwithstanding the excessive heat. Seedlings of Ranunculus asiaticus are now in bloom, and show a considerable variety of pale, delicate, and attractive colours. A plantation of a dwarf bedding Tropaeolum raised from seed has come wonderfully true to colour, which is of a brilliant crimson-scarlet; the foliage is of a rich dark green. Damsons will be a heavy crop this year, judging from four dozen trees in the seed grounds, and which are calculated to bear about fifty bushels of fruit.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

Vanda parviflora.—Notwithstanding the small size of the flowers of this species, it should have more claim upon the sympathies and attention of horticulturists than several others of larger size but less interesting character, which find their way into collections. Although relatively rare in cultivation, it is one of the commonest and most widely distributed of the Indian species. The insignificant size of the flowers is doubtlessly accountable for the neglect with which it is treated, but the bright appearance and the quiet beauty of the same should find a larger number of admirers. It was first introduced into Britain in 1844, but has frequently been imported since amongst consignments of other Indian species. The species is best known amongst gardeners under the name of Aerides Wightianum. A piece of it in a small basket has been flowering for some time past in the garden of E. H. Watts, Esq., Devonhurst, Chiswick, under the care of Mr. J. Gibson. The sepals and petals are soft yellow when they first expand, deepening to golden-yellow or the colour of old gold when fully developed. The lip is white, tinted with pale violet. The aerial roots are generally abundantly developed, and curiously enough they are often almost as stout as the stem itself.

Erratic Odontoglots.—Instances of erratic behaviour often turn up amongst Orchids, and would cause less surprise perhaps if they were confined to garden hybrids, so that their sports and reversions might be explained under those headings; but this is by no means the case, and fresh importations are no more exempt from it than old established plants. A case occurring in Odontoglossum crispum seems the more curious, inasmuch as the departure from the type seems constant. A specimen before us comes from a plant in the collection of Thomas McMeekin, Esq., Falkland Park, South Norwood Hill, and which behaved in exactly the same manner last year. The sepals and lip are perfectly normal, but the petals and column abnormal, not in one flower only, but in every one upon the raceme. The petals are adnate by their contiguous and upper edges to the back of the column, so that they form a sort of wavy and fringed hood over the latter. The original wings of the column have become enlarged and petaloid, but owing to the peculiar structure of the whole organ they appear much farther back than usual. The column was greatly thickened and practically treble. The normal anther was nearly perfect, but more or less united with the petals, and contained pollinia devoid of pedicel or gland as far as could be seen. In this respect the pollinia closely resembled those of Dendrobium. The two supernumerary anther caps contained no pollinia, and were attached to the edge of the column in the position where the proper wings of the column should be situated. These imperfect organs evidently represented the development of the two anthers that normally remain indiscernable, but which serve to complete one of the two series supposed to have existed in the ancestral forms of the order. Accompanying the above was a form of O. c, Andersonianum, furnished us by Mr. Wright, the gardener, and which had a much broader lip than is usual to this sub-species. In this respect it seemed to swerve towards the type to a greater extent than is customary. Something like a miniature lip is hinged to the lip of the principal or primary one.

Odontoglossum excellens dellense.—The Dell variety of this Odontoglot originally appeared in the collection of Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, in 1881. At first it was supposed to be a yellow variety of O. Pescatorei, but the late Professor Reichenbach thought it was a natural hybrid, and this supposition was at last confirmed when O. excellens, or a form of it, was raised by Messrs. J. Veitch & Sons, Chelsea, by crossing O. Pescatorei with O. triumphans. The Dell variety is a remarkably fine one by reason of the number and large size of the blotches, which are reddish-brown, and distributed over the greater portion of both sepals and petals. There is also a very large blotch of the same colour in front of the golden-yellow crest. A coloured plate in the *Lindenia Pl.* 335 represents a magnificent raceme, bearing eleven flowers of large size. It may here be stated that the artificial production of O. excellens is the second case of supposed natural hybridism that has been proved by actual experiment. The first was the raising of O. Wilckeanum from O. crispum, crossed with the pollen of O. luteo-purpureum, and which was effected by M. Leroy, gardener to Baron Edmond de Rothschild, of Armainvilliers, near Paris.

THE VEGETABLE GARDEN.

Brussels Sprouts.—The importance of these as a winter and early spring vegetable every gardener is well acquainted with, and they are practically indispensable in every kitchen garden, forming as they often do in severe winters like that of 1894-95 the only kind of green stuff that can be relied on to resist adverse and trying climatic conditions. A portion of ground which was trenched in autumn will have been left vacant for their accommodation, and they should therefore be transferred to their permanent quarters without delay. Some growers make a practice of sowing the seed in a cold frame or in pans about the end of February or the beginning of March, transplanting these when they have attained a sufficient size to a piece of prepared soil in a warmer corner outside, or in a spare frame. This method of treatment will now have furnished a quantity of strong young plants, which should be lifted with good balls of earth attached and planted with the trowel, making the soil nicely firm around them and giving a good watering soon after planting so that little check will be felt. In planting a distance of 2 ft. between the plants, and of 2 ft. 6 in. between the rows will be quite sufficient room to allow. Several varieties should be grown, amongst them Sutton's Exhibition, Dwarf Gem, Veitch's Paragon and Scrymger's Giant.

Broccoli.—Although not so certain a vegetable as Brussels Sprouts, still in ordinary winters fairly good crops of this valuable esculent may be obtained. The great thing to observe in the culture of Broccoli is never to plant upon soil that is loose, or that has been recently manured and dug. In such a situation the plants make such gross succulent growth, more especially if the summer and autumn turn out wet, as was the case last year, that they are unable to stand hard frost, and are thus destroyed wholesale. Land which it is intended to plant with Broccoli should therefore be as firm as possible, and in preparing it for the plants the weeds may be removed by means of a hoe and a rake. The holes should be made with a crowbar or an iron-shod dibber. If possible a dull day should be taken advantage of for planting, but as this may not offer itself, additional care must be taken in planting if the sun is shining the while with the brilliancy that has been so characteristic of the last five or six weeks. Avoid having too many plants out of ground at once; for dibbling them in on such hard soil is necessarily a lengthy operation, and the tender seedlings soon flag under the drying influence of the fierce rays of the sun. A good watering will of course be essential immediately after planting, also occasional subsequent attentions of a like nature as long as the drought continues, and until the plants have become established. For early work, that is to say, to head in during the autumn months, and to come into use after Autumn Giant Cauliflower has been cut down by frost, Veitch's Self-Protecting is a splendid variety. For winter use it will be hard to beat Sutton's superb Early White, Winter Mammoth and Vanguard. As a succession to these Sutton's Late Queen and Veitch's Model are all that could be wished. The former variety particularly is very dwarf and hardy, and forms an admirable connecting link between the late Broccoli and the earliest Cauliflowers.

Sprouting Broccoli.—A few plants of these should always find a place in the kitchen garden, as they form an agreeable change in the way of green stuff. They may be grown side by side with the Broccoli, and the same general treatment as advocated for these latter may be given them. We have found Sutton's Improved White and Early Purple two really good varieties of Sprouting Broccoli.

General Work.—Beds of Asparagus that have been in full bearing may now receive a dressing of salt. This should be sprinkled over the surface with the hand, a dull showery day being selected for its application if possible. Attend to the earthing up of Potatos as occasion requires. Tomatos on walls that were put out about the middle of last month will need attention. Cut out all lateral growths and securely tie or nail in the leaders. It is much better to train them obliquely, that is to say at an angle of about sixty degrees, than it is to allow them to assume the perpendicular; for by the former method more advantage is taken of the wall room, and besides it is our experience that the fruit is much more evenly distributed along the whole length of the stem than it is when the latter method is adopted.—*K.G.*

THE FLOWER GARDEN.

If proper advantage has been taken of the fine weather, bedding-out should now, with few exceptions, be completed, and the gardener will thus have time to congratulate himself on being blessed with a long spell of such glorious weather, and to wish in earnest for the much needed rain, which, badly as it has been wanted for some weeks past, would yet have hindered bedding-out to a considerable extent, and would doubtless have caused a little grumbling. With the soil almost as dry as dust it is very certain that plants which are newly put out will have to be seen to at short intervals for watering until they get a fair hold of the soil.

General Work.—This will now consist in the mowing of the grass, which must be gone over frequently in order to keep it well under the control of the machine, the trimming of the grass edges to beds and paths, and the rolling of the latter when the gravel is soft after a good shower. On walks over which a good deal of traffic passes the stones soon get loose, and walking is thus made exceedingly unpleasant. A watering must therefore be given these now and again followed by heavy rollings if they are to be kept in condition.

Ornamental Vases.—The filling of these is usually left until the beds and borders in the flower garden have been attended to, and so, when it comes to the turn of the vases to be operated on, the gardener knows that the worst of the struggle is over. To leave them until the last is both a safe and a wise plan, for from the fact that a great deal of sub-tropical stuff may be used with great advantage for filling them, the tender plants are not committed to the mercies of the weather until practically all danger of frost is past. The old soil will have been removed from the vases during winter, and both insides and outsides scrubbed thoroughly with warm water and soap. They will thus be in readiness for filling with soil. In the larger vases some good sized specimens of such foliage plants as Grevillea robusta and several of the hardier Palms look exceeding well, surrounded by a few dwarf flowering plants. A few good American Aloes are also exceedingly ornamental, as they present an appearance rather out of the common as compared with the generality of our hardy or half-hardy plants. Subjects of this kind when placed in the ornamental vases should not be turned out of the pots in which they are growing but may simply be plunged deeply enough to cover the rims of the pot. This will allow of their being easily lifted and removed to shelter when frosts in the autumn endanger their outdoor existence.

Palms on Lawns.—When speaking of the high decorative value that Palms possess we usually associate them with the under glass department, and do not as a rule attempt to utilise them for adorning the pleasure grounds and flower garden. There is plenty of room for improvement in this direction, for, although the occasional rigour of our climate during the winter precludes the possibility of planting them out-of-doors permanently, still there are many that may be turned out during the summer with very satisfactory results. Large holes should be

dug, and in these the pots may be stood and the soil packed neatly around them until it is level with the surrounding lawn. Treated thus the plants will really appear as if they were growing there. It is scarcely necessary, perhaps, to add that copious supplies of water must be given to plants so situated throughout the season. The following Palms will be found very suitable for plunging outside in the manner suggested. Trachycarpus (Chamaerops) excelsus, T. Fortunei, a species that is well-nigh hardy and will stand through the winter in favoured localities; Phoenix sylvestris, P. canariensis, P. reclinata, and Archontophoenix Cunninghamiana, or, to give it its common garden name, Seaforthia elegans.

Carnations.—These should now be throwing up their flower stems, and will therefore need to be seen to for staking as soon as possible. Although extensive disbudding is not an advisable proceeding in dealing with outdoor plants that are required to furnish lots of cut bloom, a little may be practised with advantage, as usually large quantities of buds are produced which, if left, would lessen the size of the flowers considerably. See that plenty of water is given to the plants, and keep a bright look-out for green fly, which is usually among them in greater or less numbers.—*A. S. G.*

FRUIT UNDER GLASS.

Peaches and Nectarines.—The bright sunshiny weather that has been so characteristic of the greater part of May, as well as of the beginning of the present month, should have assisted greatly in the ripening and colouring of the earlier crops of fruit if care has been taken as recommended in a former calender to push aside any leaves that were shading the fruit. Although the border may be kept a good deal drier than it has been up to the present, water must on no account be totally withheld, or the roots, which have up to the time of the ripening of the fruit been stimulated to brisk and healthy action, will suffer from the sudden change. As soon as all the fruit has been gathered from the earliest house heavy and copious syringings should be given morning and evening; for during the time that the atmosphere has been kept dry it is just possible that red spider may have obtained a foothold, and it is important that its ravages should be checked as soon as possible. In houses where the fruit is commencing to stone air must be cautiously given, draughts being studiously avoided. A crack of air must be left on all night, however, as formerly advised. After stoning is completed the final thinning of the fruit may take place. For ordinarily strong trees a fruit to every eight square inches will be a very good crop. More than this the trees ought not to be allowed to carry.

Figs.—In houses where Figs are commencing to ripen a rather drier atmosphere may be maintained than formerly, more air being given both by night and day in order to get as much flavour in the fruit as possible. The night temperature may range from 65° to 70° Fahr., rising to 80° on sunny days. On no account must the borders be allowed to get dry, for there is the second crop to think about, and this, if the roots are allowed to languish from lack of water, is sure to suffer.

Melons.—Houses from which one crop has been obtained must receive a good overhauling before being refilled. The old plants must be pulled out and removed, together with the soil in which they have been growing. The old fermenting material may also be taken out a foot or so in depth. This will be quite sufficient if the bed is warmed by hot water pipes; for at this season of the year it is not so necessary to have a strong bottom heat as was the case in dealing with the earlier crops. The house must receive a good washing, and a brush dipped in petroleum should be applied to the wires and any crevices that may afford a shelter for mealy bug. Make the bed up with fermenting material, which has been well turned previously, and place the soil, which should consist of good loam, in mounds or ridges upon it to get warmed through before planting is attempted. Make the soil firm about the roots of the young plants, using the rammer pretty freely, and shade from hot sun for a day or two. Maintain a night temperature of 70° Fahr., allowing this to rise to 80° by sun heat, and syringe regularly with soft water morning and evening. In houses where the fruits are swelling the syringe must still be kept consistently at work, and manure water may be applied to the roots at alternate waterings.

HARDY FRUIT GARDEN.

Strawberries.—As soon as the fruit commences to turn colour preparations must be straightway made to protect it from the ravages of birds. Before the nets are put on, however, a last watering should be given the plants if they are anything like dry, clear water being quite sufficient. In putting on the nets it shonld be borne in mind that these should not be allowed to rest directly on the leaves if it is possible to avoid it. It is a far better plan to drive in a few posts temporarily, a number of iron rods or light pieces of wood being nailed to these so as to form a framework over which the nets may be thrown. If this framework is between four and five feet in height the fruit may be gathered at any time without the necessity for dragging the nets to and fro over the plants, the leaves of course being not a little damaged by the proceeding.

Red and White Currants.—These are such essentially popular fruit trees that a word or two of advice may be necessary concerning their culture during the present time of the year. In most cases the trees are this year carrying heavy crops of fruit and if these are to be properly ripened a little care is necessary. In no case should the trees be checked too much by the extensive removal of foliage; for it must be borne in mind that plenty of healthy foliage means an abundance of working roots. On the other hand, however, it is not advisable to allow the growths to become too crowded together or harm will be done that way. Lateral shoots may be stopped by pinching out the points between finger and thumb when they have made four or five leaves. The leading shoots may also be thinned somewhat, cutting out the weakest or those that cross each other. This will be quite enough pruning for the present.

Aphides will often cause trouble at this season. Their depredations must be checked, however, either by cutting out the parts affected or by dipping them in fairly strong tobacco water. Caterpillars also often do an immense amount of damage, completely spoiling much of the foliage and in some cases making the trees look very bare. Hand picking, when this can be practised, is the best method to pursue in order to rid the trees of these pests; dusting the trees with newly slaked lime will also prove efficacious. Other caterpillars, which carry on their investigations in the interior of the branches, it will be manifestly impossible to get rid of thus, as very often their presence is only detected in the first instance by the withering of the branch or branches in which they have taken up their abode. Portions of trees which are observed to be affected in this manner should therefore be cut clean out and burned without delay.

General Work.—The hose and water-cans will have to be kept busily employed in order to make up for the deficiency in the rainfall. Wall trees more particularly will need plenty of water, likewise young trees whose roots have not as yet rambled to any extent. Continue to mulch all fruit trees where practicable. The garden engine must also be continually in requisition as wall trees of all kinds profit immensely by occasional washings with clear water.

Gleanings from the World of Science.

Supposed Vitality of Fern Spores.—Speaking in its issue of the 13th November last *The Daily Chronicle* discredits, as we have always done, the possibility of seeds or spores retaining their power of germination after periods variously stated at hundreds and even thousands of years. Our contemporary states that touching the recent discussion regarding the extreme improbability of "Mummy Wheat"—and other seeds of great antiquity—sprouting, a correspondent writes us:—"At the Kensington Health Exhibition there was shown a model of the Roman baths uncovered at Bath, and in the centre I remember seeing a large seed-pan, filled with Ferns, to which was attached a label stating that they were grown from seeds obtained from Fern-leaves during the excavations, and found so many feet under the Roman ruins, where they had lain so many hundred years. Will you please give your verdict?" Without being acquainted with the facts of the case, we are inclined to pronounce ferns grown under such circumstances apocryphal to the last degree. Ferns, in the first place, do not propagate by "seeds," and the spores, which serve the same purpose, are exceedingly difficult to preserve for any length of time, far less for "hundreds of years." Their great lightness enables them to be carried about by the wind, and deposited on any upturned earth, so that the mere fact of their growing in the places mentioned by our correspondent is no proof that they were dug up "under the Roman ruins."

The Mummy Pea again.—In a recent issue the same paper says that gardeners will be interested to learn that Mr. J. Davis, of Wood Close, Bromley Common, Kent, has growing at the present time Peas which are the produce of sound Peas found in Upper Egypt in a mummy case about three years ago. The sarcophagus which contained the mummy and case in which the parents of these Peas were found was discovered in a cave tomb situated in the Valley of the Kings at Assaseef, which is about an hour's ride west from the Nile at Thebes. The discovery was made by a party of five gentlemen, consisting of two Americans, two Cambridge students, and the cousin of the lady from whom the specimen Peas now growing at Bromley were obtained.

An old African Flora.—Popular lectures on various subjects relating to plants are now being delivered weekly in the gardens of the Royal Botanical Society of London. On the 7th inst. Dr. D. Morris, C.M.G., delivered the first of two lectures on the "Romance of Plant Life." Limelight illustrations were employed to elucidate his remarks, as was the case at the meeting of the Royal Horticultural Society on the 14th ult. The Dragon Trees were amongst the most characteristic and striking features of the Canary Islands, so far as native vegetation is concerned. These Dragon Trees were closely related to others distributed over widely separated parts of Africa. They were regarded as survivals from an ancient African flora which flourished at a time when that continent enjoyed a much cooler climate than at present. It had been suggested by Balfour and other authorities that as the ice cap in the glacial period gradually receded northward, and the climate in the south became correspondingly warmer, the plants of the old flora were driven to the higher regions. The lowland portion of the African continent had by this time become too hot for the ancient vegetation. For this reason we find the surviving members of the old flora on the high peaks of Central and Southern Africa, the Canary Islands, the slopes of Ruwenzori, and the mountains of Abyssinia. The lowland vegetation of those countries consist at present of plants of a more tropical kind, which gradually ousted, so to speak, the old inhabitants, which we now find stranded on the mountain tops. The study of those plants afforded problems of the greatest interest to botanical science. The lecturer concluded his discourse by discussing the Palm native to the Canary Islands, and this led up to some interesting remarks on various curiosities occurring in Palm life.

The Celery Fly.—For the last fortnight at least this pest has been busy among the young plants of Celery and Parsnips. Means should be taken forthwith to check their increase, particularly while the plants are young and most susceptible to injury and the crippling influences of the fly at this stage. Dusting the plants with dry soot during the heat of the day will help to drive away the insects; but a boy should be sent over the plants to pick off the leaves now containing grubs, and to prevent the next brood by burning the leaves.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens Price, 3s.; post free, 3s. 3d. Publisher, Gardening World 1, Clement's Inn, Strand, London, W.C.

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HINTS FOR AMATEURS.

The Rose.

The queen of flowers and empress of the garden needs no further advertisement for her charms than she already possesses, so widespread and well known are they, and to such an extent does she receive the homage of all those who love flowers. As a result of the labours of the florist we have hundreds of varieties exhibiting a wealth of colours, from pure white to rich, dark, velvety crimson, so deep as almost to appear black unless the sun is shining on them. Not only is there an immense variety as to colour of flowers, but the habits of the plants are various. Thus the lover of Roses may, if he pleases, adorn the walls of his cottage or villa with a profusion of beauty unsurpassed by the effects produced by any other hardy climber, and it is perhaps when trained to a wall that the glorious beauty of the Rose is best exhibited. Then we have them as standards of different heights budded on Brier or upon the Manetti stocks, as well as upon their own roots. In fact, the Rose is so completely in the hands of the cultivator that it may be made to assume almost any form he likes. The growing of Roses in pots under glass is both a popular and profitable way of obtaining the much prized flower when outside conditions do not admit of its development, and of making it possible to obtain Roses all the year round. But the question of pot Roses is quite sufficient to deal with by itself, and we will only endeavour to convey a few seasonable hints to the amateur who has a few bushes of some sort or other in his garden, and naturally wants to know how to treat them to obtain success, which, of course, we take to mean the production of plenty of bloom.

Wall Trees.

If proper attention has been paid to the pruning and training of these last winter an abundance of bloom should now be forthcoming. The winter tying must now be followed by a series of like attentions as growth proceeds, laying the shoots in so as to cover any bare spaces that may occur. The roots of the trees must likewise be seen to, as from the long continued drought they will be standing greatly in need of liquid refreshment. If access can be had to a farmyard and plenty of fresh manure water obtained from thence copious drenchings of liquid manure may be given, the beneficient results of which will soon be apparent in the rich dark hue of the leaves and the size and colour of the flowers. Although the numbers of good climbing Roses which possess a sufficiently hardy constitution to stand our winters with impunity are not so numerous as those suitable for growing as standards, we have yet some very fine sorts which are everything that could be desired.

As a splendidly hardy and free flowering sort the palm must be given to Gloire de Dijon, which will grow almost anywhere, no matter how bleak the situation may be. It comes into bloom early in the season, and keeps on flowering later than most; as good blooms may often be picked late in the autumn when the frost has not made its presence too severely felt. Niphetos, another tea-scented Rose, is well worth growing; for, although it is not nearly so hardy or so vigorous a grower as Gloire de Dijon, its large pure white flowers are exquisitely lovely. Given a rather sheltered position Niphetos will acquit itself admirably. Marechal Niel is too well known to need an extended notice. Very hardy, a vigorous grower, and a profuse flowerer, it is immensely popular, and well it deserves to be. Rêve D'Or is another fine climbing variety, bearing rich yellow flowers of fair size. William Allen Richardson is remarkable on account of the peculiar orange-yellow colour of its flowers, which when in the bud stage are exceedingly useful for button-holes, and are, in fact, in great request for that purpose. Another variety of quite a different character but not the less valuable is Turner's Crimson Rambler, as those who saw it in all its beauty at the late Temple Show will all agree. Although a comparatively recent introduction this sort bids fair to become a general favourite, carrying as it does such huge trusses of rich deep crimson flowers. Other good climbing varieties are General Jacqueminot and Climbing Jules Margottin.

Standard Trees.

When these are planted two or three of a sort together in small round beds dotted here and there about the lawn they look exceedingly pretty, and should now if they have survived the effects of the late Arctic-like winter, be filling the garden with beauty. The same instructions as were given for the watering of the wall plants will apply here with equal force during this spell of dry weather. As the bare stems of the trees, rising some three or four feet above the soil, look somewhat ugly, steps may be taken to plant some dwarf-growing plants around them at the base. It is not advisable to plant tall or coarse growing subjects, as they rob the Roses of too much nutriment. In the spring very bright effects can be produced by little patches of Eranthus hyemalis, Chionodoxa Luciliae, Scilla bifolia, or one or two of the Muscaris. These, however, will have died down now, and their places may be taken by the well-known sweet-scented Mimulus moschatus, its larger flowered variety, M. m. Harrisoni, or some of the brilliantly coloured and spotted varieties of the Monkey Musks, Asters of various sorts, or even Pansies.

Removal of Suckers.—This will require constant attention, for it savours of bad gardening to see Rose bushes carrying Briar suckers three or four feet in length, and of proportionate thickness. As soon as they are seen they should be taken out by cutting them off as far below the surface of the soil as it is possible for a knife to reach. Rub off also any breaks that may be observed to spring from the stem below the point where the bud has been originally inserted, and which would only serve to curtail the vigour of the tree.

Insect Pests.

There are very few indeed of our favourite flowers but what at some stage or other of their existence are subject to the attacks of one or more of the numerous species of insects which prey upon vegetable life, and the Rose is certainly not amongst the number of happy plants so exempt. Green fly, for instance, is often a veritable nuisance, clustering thickly upon the young tender growths, and covering the older leaves with their sticky glutinous excretions. It is manifest that it is impossible to fumigate these outdoor plants, and therefore the only remedy is to syringe or dip the affected parts with some insecticide. Tobacco water, which may be obtained by soaking tobacco or tobacco paper in warm water, will be found to be of service. If this is not obtainable a pound of Quassia chips may be boiled in four gallons of water, the solution strained after it has been allowed to cool, and a pound of soft soap added, stirring the mixture until the latter is completely dissolved. We have also found a solution of nicotine soap to be efficacious. Two or three consecutive syringings or dippings as the case may be of one of these mixtures, followed by a good washing with clear water, will soon rid the trees of this troublesome insect. If the use of a garden engine can be obtained for an hour or two the trees, whether affected with fly or not, will benefit greatly by a good washing with soft water. In this case the flowers that are pretty well open may be cut to save them from becoming injured by the syringing, others that are not so far advanced will take no harm whatever, as in the open air they soon dry up.

Moths and Caterpillars of various kinds will often cause trouble, some of them rolling up the leaves of the plants in order to form a shelter for their larvae. Where these deformities are observed to exist a light pressure between thumb and finger may be given in order to kill the grubs. Sawflies of several species often cause ugly brown marks upon the leaves by burrowing under the epidermis and there depositing their eggs. These may be treated in the same way as recommended for the leaf-rolling caterpillars, and this course of treatment, if carefully and consistently carried out, will soon rid the trees of these mischievous little pests.—*Rex.*

FANCY PANSIES FROM HAWICK.

A box of fancy Pansy blooms has been sent us by Mr. John Forbes, Buccleuch Nurseries, Hawick, Scotland; all of them were named varieties and many of them were of a high order of merit for this particular section of the Pansy, which has now been cultivated in some form or other in this country for more that 300 years. The fancy section would date back to 1855 in this country, and is now more widely popular than the exhibition varieties. The varieties sent us were so numerous that we can only find space for the best of them; but they certainly furnish evidence of the richness of Mr. Forbes' collection.

There were twelve of them which for colour, form, substance and handsome appearance we should place in the first rank without prejudice to any of the others which might not have been in their typical and best form. Deliciously scented was Wm. Watson with large violet blotches, sulphur yellow lacing, and a broad, well defined and bright violet border to the upper petals. Scarcely inferior were James Campbell and Mrs. John McConnell, the latter of which had bronzy orange streaks below the eye; the colours were mostly well defined, however, and rich. Mrs. John Bolton was a glorious golden self with blackish maroon blotches. The broad, golden lacing of Seedling 25 was also very fine. The violet blotches of Ed. Polland were handsome. The upper petals of Emmeline and James Drummond were noted for the richness of their hues. The velvety, blackish violet blotches of Mrs. F. Irvine were beautifully contrasted by the creamy white lacing. The purple lacing and upper petals of A. H. Murray constitute the distinctive feature of this flower. Small but exceedingly pretty were the blooms of George Lyndin and Seedling 24 but the latter is not always small when in its true character.

Another dozen would include the undermentioned kinds which had much to recommend them from various points of view, but in our opinion they would take a second place for absolute and intrinsic beauty, though they were all perfectly distinct from those we should place in the first selection. The principal fault we had against them was that the colours of the upper petals were less distinctly defined. We do not place great stress on this fact, knowing as we do the great variability that takes place in the flowers of the same variety at different seasons of the year. Some of them will most likely improve as the weather gets cooler and the atmosphere moister after the turn of the summer solstice.

A fine flower was that named Bouncing Bess, the dark violet blotches of which were beautifully defined. The blue-purple band on the upper petals of Andrew Frater added considerably to the beauty of the bloom. Thomas Laidlaw might well have been placed amongst the first lot, for the form of the flower and the brown-orange lacing and upper petals were really fine. Large and conspicuous flowers were Jessie Ford, Seedling No. 20, Allan Ashcroft Mrs. G. P. Frame and Romeo; we should describe Allan Ashcroft as the best of the five in our opinion, for the colours were rich and handsome, and, on the whole, better defined than in the case of the others. The yellow ground of the upper petals of Mrs. Freeland and Mrs. Hugh Weir is largely characteristic of these two varieties. Very distinct in their way were Mrs. Browell and Peter Henderson, though the purple lacing and the upper petals would generally be considered less attractive than the brighter hues of various others. This of course is only a matter of opinion, for either would furnish a very distinct type on the show boards. The other varieties sent had the colours of the lacing and the upper petals somewhat run or mixed, but this might have been due to the reason above stated. Most of the varieties were more or less distinctly fragrant.

TURNERA ULMIFOLIA ELEGANS.

The typical form of Turnera ulmifolia was introduced from South America in 1733, but apparently by way of Jamaica, where it is known as the West Indian Holly or Sage Rose. A figure of it is given in the *Botanical Magazine*, *t.* 4,137. These several forms have been introduced to cultivation at one time or other, and have been occasionally looked upon as distinct species, as was the case with T. u. elegans, of which a figure was prepared and published in the *Botanical Magazine*, *t.* 2,106. The accompanying illustration of two flowering sprays will give an idea of the general aspect and relative size of the leaves and flowers as prepared from a specimen which flowered in the Royal Gardens, Kew, last year. The plant is of upright habit, of biennial duration, and flowers when about 12 in. or 15 in. high, and does not exceed 2 ft., so that it is suitable for pot work. The flowers are creamy-yellow deepening to yellow in the centre, which is streaked with dark maroon or purplish-brown lines. This variety was originally introduced from Brazil in 1812, and is also known under the name of T. trioniflora, which reminds us that the flowers may be compared to those of Hibiscus Trionum in several respects,

though the foliage is very different. As fresh branches continue to develop all through the season or even the whole year, so fresh flowers are produced. So distinct is the plant from the general run of the inhabitants of the stove that some attention might be given with advantage, not only to this variety, but to some others of the genus, of which about seventy species are known to science, and all natives of tropical America with one exception, which is indigenous to South Africa. They consist of herbs and shrubs, few of which have ever been introduced to cultivation. T. ulmifolia and its varieties are amongst the best and most suitable for general decorative purposes in the stove, and they are neither difficult to raise from seeds nor to grow into useful-sized, bushy specimens in pots of moderate size.

FALKLAND PARK.

The beauty of the spring flowers, largely cultivated here, but particularly Primroses, Polyanthus, and Daffodils, had departed before the occasion of our visit, at the beginning of the month, to the gardens of Mr. Thomas McMeekin, Falkland Park, South Norwood Hill. Summer bedding had not been commenced owing to the long continued drought, though preparations were being made for it. Some would state the case for us and say that we were too late, and just a little too early; but, on the contrary, we affirm there is always something to look at, both outside and inside, independently of leading features at any particular season. Moreover, if there is fine weather anywhere Falkland Park always gets a due share of it, and the gardener, Mr. A. Wright, often wishes that it might rain here when it does not. The rain and storm-clouds nearly always seem to divide at the bottom of the hill, and while each half pursues its way round the hill to join hands again perhaps on the other side, both decline to climb the steep ascent or water the thirsty ground at the top. There must be exceptional showers, however, for fruits, flowers, and vegetables of one kind or another are usually plentiful.

The Orchard House.

This is a lean-to structure recently built against a brick wall for the sake of protecting the Peaches and Nectarines upon it. Immediately outside one end is a Fig tree upon the wall, and which has been very much injured by the frost of the past winter, while another tree of the Brown Turkey Fig, now protected by the glass, is developing a fine crop of fruit. The house is entirely without heating apparatus, yet Mr. Wright states that there was a difference of 15° or 16° between the temperature of the inside and that of the outer air during the severe frost of the past winter. By closing the house with sunheat at the present time a difference of 18° can be maintained between the inside and outside temperatures. The Peach and Nectarine trees bear a good crop of fruit. Waterloo is considered the finest early Peach here, having a finer appearance and a better flavour than Alexander, which ripens about the same time. Other good crops are those of Alexandra, Noblesse, and Grosse Mignonne. Good also are Lord Napier, Hardwicke Seedling, Rivers' Orange, and Humboldt Nectarines. Pine Apple Nectarine comes into use just before Victoria, and is regarded as the best late variety. Cherries bearing fairly good crops on trees in pots or planted out, are Governor Wood, ripening when we saw them, and May Duke. Well fruited Pear trees in pots are Counseiller de la Cour, Marie Louise d'Uckle, Beurré Mortillet, and Glou Morceau. The fruits of Hormead Permain Apple are already of large size compared with the rest. Plum trees are fairly numerous, and excellent crops are borne by Green Gage, Coe's Golden Drop, and Jefferson. In another house are much larger trees of Rivers' Prolific Plum, lifted from the open ground and put in tubs; they are bearing heavy crops of fruit.

In the open ground there is nothing to complain of on the score of promise of a good crop of fruit generally. Apples, perhaps, are best, and many of the standards will be heavily laden when the fruit swells. The Cherry trees upon the walls are best. Plums in the open will be a light crop. Strawberries are also bearing well, and Royal Sovereign was ripening at the beginning of the month. The fruit is quite as early as that of Laxton's Noble, and far superior to it in flavour. The latter has, in fact, been discarded. King of the Earlies was also ripening. Both sorts are grown as annuals or rather as biennials, we should say, for they were planted from runners in August last. The first dish of Peas was gathered from Lightening on June 3rd. William I., under the same conditions, was three or four days later. The seeds were sown under glass in boxes, and afterwards planted out in the open. The same varieties sown outside were a week later, at least, in being fit for use.

Hardy Flower Garden.

Independently of herbaceous borders, hardy flowers are grown in beds and masses upon a piece of ground on both sides of ornamental water, and the banks of the latter take the form of rockeries in places, backed up with rooteries and Rhododendrons, the latter of which flowered well. Amongst hardy flowers in bloom are masses of single and double Pyrethrums, Oriental Poppies, Iberis correaefolia, like sheets of driven snow, Hemerocallis flava, Phlox subulata Nelsoni, and Iris germanica atropurpurea. On the edge of the water Caltha palustris flore pleno, and Iris Pseud-Acorus in the water are thriving and flowering finely. A neat and beautiful plant is Lychnis Viscaria splendens. Two large masses or banks of Primula japonica, in crimson, white, and variegated flowered varieties, on either side of the water, are blooming in a way that might well tempt others to attempt the cultivation of this fine species on a similarly extensive scale. White and yellow forms of Water Lilies, the last-named of which has bronzy blotched leaves, are now flowering on the water. Tree Paeonies were splendid, but are now over. Amongst the shrubs close at hand are clumps of Lilium auratum now thriving well the second year since they were planted; each original bulb has doubled itself. Amongst the shrubs Cytisus scoparius Andreanus, raised from seeds, is flowering freely. About 75 per cent. are true to colour, while the rest have reverted to the wild type. Elsewhere a curiosity came under our notice in the shape of a fasciated raceme of the English Blue Bell, carrying a grand total of eighty-three well developed flowers.

Turnera ulmifolia elegans.

The Plant Houses.

Both the conservatories or show houses are filled to overflowing with an endless variety of flowers now in season. Many things of beauty and interest are flowering in the cool greenhouse, including Phoenocoma prolifera, Pimeleas, Heaths, Metrosideros floribunda, Sollya Drummondi, and the variegated Cobaea scandens, hanging in festoons from the roof. The long corridor connecting the houses is gay with a varied assortment of things flowering profusely, such as Solanum jasminoides, Pelargoniums 8 ft. high, Heliotropes 12 ft., Swainsonia galegifolia, Abutilons, Rhynchospermum, Rhodochiton volubile, Fuchsias, and Tropaeolum Ball of Fire, hanging in long festoons from the roof and richly laden with fiery scarlet flowers. Amongst the Fuchsias the tall plants of Mrs. Marshall and Charming show which are best adapted for this kind of work. Gloxinias in a great variety of colours are now in perfection in one of the stoves. Tuberous Begonias, another popular class of plants, are extensively grown in frames for bedding purposes.

Orchids are now one of the leading features of the establishment, and are increasing year by year. In the cool house, but more especially in the rockery house, are numerous flowering specimens of Odontoglossum crispum, O. c. guttatum, O. c. Andersonianum, O. Hallii, Oncidium curtum, and many others. The Cattleya house is gay with beautiful forms of C. Mossiae, Mendelii, C. labiata Schroderae, C. granulosa, C. Warneri, just like a summer flowering C. labiata, Laelia flava aurantiaca, and L. purpurata. Dendrobium Dalhouseianum, with flowers 5 in. to 6 in. across, shows Mr. Wright's cultural skill. The sweet-scented Odontoglossum citrosmum is grown in quantity. Amongst the other more interesting and showy kinds we should mention Vanda teres aurora with light coloured flowers, Coelogyne Dayana, Thunia alba, Bensoniae, and Marshall, Cymbidium Lowianum Prewett's variety, and Dendrobium suavissimum. In another house close by is a fine piece of Cypripedium caudatum, with eight flowers on three spikes. Here also are C. bellatulum, C. Volonteanum, the graceful Oncidium phymatochilum, Aerides Fieldingii, and A. crispum Lindleyanum, both showy kinds, Sobralia xantholeuca, and the handsome Dendrobium Phalaenopsis Schroderianum in many shades of colour. The hybrids and specially fine varieties of Dendrobium now collected here are getting very numerous, but we have no space to enter into details, further than to state that all the plants have improved immensely in health since Mr. Wright took them in hand.

Several plants are flowering freely in the stove, including some well-grown specimens of Medinilla magnifica, Clerodendron Balfourianum, forming a fringe to the edges of the benches, and Passiflora racemosa hanging in long festoons from the roof. Foliage plants are not neglected amongst so much of the flowering section of plants, and here we should mention Leea amabilis in flower, and which we do not recollect seeing in that condition before. Caladiums are evidently popular here judging from the great number of varieties grown. Very choice are the red leaved sorts named Ed. Pynaert, Oriflame, and Comtesse de Brosse. Triomphe de Comte has a crimson centre, Marie Freeman is soft red, Comte de Germiny, red, blotched with white, and Baron A. de Rothschild, red, blotched with pink; all are of great decorative value, and we have great difficulty in deciding which is better than another. Raymond Lemoine is red with a creamy margin, and is considered one of the finest. We were also taken with Princess of Teck, which is brilliant red with a peculiar green margin—a shade that may be due to a slight admixture of yellow but so blended as to hide its identity. Charming also is Mons. Leon Say with

large soft red leaves blotched with white. La Lorraine shows a peculiar shade of red which, for want of a better descriptive epithet, we shall describe as carmine. The above does not comprehend a tithe of the varieties cultivated.

SEVERE HAILSTORMS IN AMERICA.

From all accounts it is evident that the storms of wind and hail, which raged over a wide area of the central and northern regions of the United States, between the 3rd and 11th of May last, must have been terribly destructive, not only to glass houses but plants of various kinds in the open. Reports of the destruction of glass come from many of the states including Kansas, Montana, Illinois, Nebraska, Wisconsin and others. The following communication from a correspondent to *The American Florist* gives an idea of the effect of the storm at Rochester, New York, besides giving the details of another form of trouble which we should imagine is not of frequent occurrence in the whole range of gardening :—

"The warm weather has brought out Carnations and Roses in plenty around here, also the Dandelions in lawns. The superintendent in one of our large cemeteries noticing this gave orders to have the lawns cleared of the yellow pests. The foreman in turn told one of his men to begin with the job around the large fountain near the office building and left it to the workman's own judgment as to how to exterminate the weed in the quickest manner. The man concluded that a lawn mower would do the work in short order and went to work mowing down everything, including about 15,000 Parrot Tulips, which had been planted in this part of the lawn last fall, and were just showing the yellow colour of the Dandelion. The labour of planting these bulbs in the sod had taken a man's time over a month, and the superintendent was delighted to see them coming on so well, promising to make a grand show for Decoration Day. After the man had cut down all in that part he thought of making a clean job of it, and therefore would have to go over a second time with the mower, but the Tulip leaves and grass combined obstructed the machine, and in going for a rake to gather them into heaps he went to the office, where the superintendent found out what was going on, and naturally got mad, discharging the poor fellow right on the spot and telling him not to show his face again for seven years if he wanted to preserve his life. Now there are a great many journeyman gardeners out of employment who would never make such blundering mistakes; why do not cemetery superintendents employ better help at a very moderate advance in wages? It would surely save them such annoyance.

Still he has one consolation at least, and that is the Parrot Tulips would have been spoiled anyway, for on May 11th, we had such a fearful hail and wind storm that not a Tulip would have been left undamaged. I stood by the window overlooking one range of greenhouses and saw small hailstones coming down; in a few seconds they increased in size and one light of glass after another was shattered, and a few minutes after we had witnessed the most destructive hailstorm which has occurred in this section for twenty-eight years; nearly all our greenhouse establishments have suffered severely, the south part of the city getting the worst of it, and the damage done cannot be estimated, for the glass and labour of putting it in is in reality only the smallest loss. The broken glass falling on large-leaved Palms, Begonias and other foliage plants does the most damage. The hailstones chopped off the soft and brittle stems of Lilium candidum in the open ground, young Carnations just planted out are cut clean to the ground, and many herbaceous plants in different collections are ruined but we hope they will break out again. A large bed of Indian Azaleas was badly damaged, branches being knocked clean off. Even under a shade house of lath Hydrangeas in bud or bloom got enough of it to spoil their sale. Araucarias under the same structure had branches and leaders cut off, frames of Verbenas and Petunias are mown off; in fact, the loss under glass is as heavy as outdoors. The weather then turned to almost freezing, and although fires were kept up there was so much ventilation on the houses caused by the thousands of broken lights that fire heat will not do much good. In some places they began to glaze on Sunday; others, among them ourselves, have covered the houses temporarily with oiled building paper, tacked on here and there with strips of wood and narrow boards to ward off the cold, but still Coleus, Heliotrope, Begonias and other soft stuff could not stand it, and may be an entire loss. There is no use in going into particulars stating the losses of different firms; those in the north part of the city escaped comparatively easy, Vick & Hill's and Wilson's having no loss at all. Salter Bros.' loss is comparatively small, but in 1888, when the last hailstorm visited us, their greenhouses suffered considerably more than any others, so it is only fair that they escaped lightly this time. The storm extended over a larger greenhouse territory, but the proverbial hen's eggs, duck and goose eggs were smaller in some sections. Ellwanger & Barry escaped lightly, while in the immediate vicinity Schlegel's, Keller's and Will King's were damaged more then any others, but then the houses at Ellwanger & Barry's are mostly old structures, well built of course, but some of them being glazed with 7 x 9 and even 6 x 8 glass supported by heavy bars and substantial woodwork, the hailstones would strike the bars oftener than the small glass, and this is the way I account for their escape. Builders should therefore consider this advantage of small sized glass (I think it is the only one there is) if they want to build safely against hailstorms.

The glass broken at Ellwanger & Barry's is less than 2,000 lights, at Salter's 800, Crosman's 1,000, White Bros.' 2,500, Kruger's 1,200, DeFries lost one-half, while our Billy King lost nearly three-fourths of all his glass, and Schlegel's between 3,000 and 4,000 lights. One of their houses had all the glass knocked out on the west side and a good one-third on the east half. They had nearly all their hotbed sashes stacked up and covered with shutters, or else their loss in glass would have been considerably more, while at Keller's the sashes were on frames, and there is more shattered glass to be found here than in any other place; it will probably figure up to 6,000 or 7,000 panes. One Orchid house, a lean-to, facing west, has hardly a whole light to show. To-day it has been raining and cold; re-glazing on the houses was abandoned, but they are all busy mending hotbed sashes in the sheds. At Dittle's nurseries, a few miles outside the city limits, the new greenhouses are reported to be in a very bad state, perhaps as bad as at Keller's. Other places have suffered, but the amount of glass broken is smaller.

STREPTOSOLEN JAMESONII.

That Streptosolen, or, as it used to be called, Browallia Jamesonii, is a splendidly handsome greenhouse flowering plant, and as such well worthy a place in any representative collection, no one who who had seen it in anything like condition would deny, more especially those who saw the fine batch of it sent to the Westminster Drill Hill, on April 9th, by J. Bennett-Poë, Esq., and which likewise made such a brave display at the late Temple Show. Mr. Bennett-Poë's plants it will be remembered were of large size, a fact that is all the more noticeable when we take into consideration that one twelve-month alone had sufficed for the production of those fine plants. Sooth to say, the Streptosolen is, generally speaking, but an indifferent doer, although any extra trouble it may give in being looked after is amply repaid by the results. It may be propagated by cuttings taken about March, which should be inserted in a compost consisting largely of sand, and kept close under a bell-glass until rooted. The plants may then be potted up singly in equal parts of loam and leaf soil, still keeping a large proportion of sand in the compost. Pinching must be resorted to pretty frequently, in order to favour bushy growth. They may be potted on as required, until they reach 7-in. or 8-in. pots, which will be quite large enough to flower them in. They must be kept growing on right through the autumn and winter in an intermediate temperature, for at this season of the year they will not stand ordinary greenhouse treatment. Indeed, it is to the practice of exposing them to the too low temperatures during the winter months that a large proportion of the failures or comparative failures of many cultivators to grow good plants must be ascribed. A night temperature during the winter months of between 50° and 55° Fahr. should therefore be given until the plants commence to flower, which, if the forego-going system of culture has been adopted, should be about the beginning of April, when they may be removed to the cool conservatory, where they will remain in fine condition for some time.

THE FILLING OF WINDOW BOXES.

Now that the season has advanced so far, and that summer has evidently come to stay for a while, it is quite natural that the thought of how best to make the windows of the villa or cottage look gay and bright on the outside should suggest itself to those householders who are lovers of plants and who are eager to impress into their service the highly decorative qualities of such subjects to the manifest ornamentation and enlivenment of their dwellings. Of late years the builder has apparently grasped the fact that a large proportion of the British public are able to appreciate flowers, and no matter where they are, or how adverse the environments may be, make strenuous efforts to gather around them a few of the gayer members of the vegetable kingdom. Accordingly he has been kind enough to assist in some measure by building houses having broad substantial window-ledges which afford accommodation for a fair number of plants during the summer months. But although the practice of filling these outside ledges with plants in pots finds favour amongst a goodly number of people it is by no means the best plan to adopt, the great drawback being the increased amount of labour in watering that is inevitably the result; for as will be readily seen it stands to reason that plants in such an exposed position will dry up very quickly, open as they are to the full blaze of the sun with the drying winds having free access all round them. It is by far the better method to have suitable boxes fitted to the windows properly drained and filled with good soil in which the plants can scarcely fail to flourish.

The first question is, therefore, of what shall the boxes be made. One of two ways of procuring them may be adopted, according to which finds the greater favour. The first is to have them specially constructed of wood according to the required size or sizes. This is an exceedingly easy task, and any ordinary carpenter will make them for a very low figure. The length and breadth of the boxes will, of course, depend entirely upon the size of the window and of the sill upon which they are to stand. In depth they should be from 8 to 10 in., the most important point being to see that holes of sufficient size are bored in the bottom to admit of the ready escape of the water. To the side which is to face outward should be nailed pieces of virgin cork sufficiently close together to hide the underlying wood, and thus impart a delightfully rustic appearance to the box. The second method of obtaining suitable boxes is to order them from a dealer in horticultural sundries; for special attention is paid nowadays to the making of all kinds of rustic plant receptacles in clay. These although very pretty are, we think, not so good as the wooden ones, inasmuch as they are heavier and, of course, very liable to get broken by rough or careless handling.

In filling all such boxes with soil in readiness to receive the plants with which it is intended to furnish them care should be taken that the drainage is ample. A layer of crocks must therefore be placed in the bottom with the concave side downwards, taking care to cover the holes which have been bored to let out superfluous water. Next to this a layer of well-decayed manure, and then the compost itself, which should consist of two parts of loam to one of leaf soil. Having got both boxes and soil in readiness the next consideration will be the plants themselves, and amongst these there is a wealth of subjects that will give all possible satisfaction. Indeed, by employing one or two kinds of plants in a tasteful manner, either in agreeable contrasts or in suitable blends, some very pretty and effective combinations can be made. For the front row it is necessary to select dwarf or pendant subjects, which hanging over the sides of the box here and there will look both elegant and effective. Ivy-leaved Pelargoniums of various sorts may well be utilised here. Blue and white Lobelia, Mimulus Harrisoni, the well-known Creeping Jenny (Lysimachia Nummularia), and some of the finer kinds of variegated Ivies will afford a wealth of subjects from which to choose.

For the back row a selection may be made from amongst the following, the employment of these being of course decided by the particular plants which are to go to form the front row. Calceolarias are very showy, Golden Gem being perhaps the best of all varieties for the purpose as it is not too strong growing and is withal a free and continuous flowerer; Petunias, both single and double flowered varieties, being very gay; the dwarf or, as they are more frequently called, the Tom Thumb Nasturtiums; white and yellow Marguerites; and Zonal Pelargoniums of all sorts, some of the scented varieties such as Lady Plymouth, being very attractive. We have also now numbers of dwarf, green, and variegated Conifers that are very suitable for window work, although during the summer months it is not advisable to use these too freely, but to produce a brighter, even if a less lasting effect by utilising the qualities of the showier flowering subjects during the summer months. The hardy element will, however, come in admirably for use during the autumn, winter, and spring months when the tenderer plants cannot be utilised for obvious reasons.

THE WORLD'S FAIR MEDALS.

The long and apparently unwarranted delay in delivering these medals to those entitled to receive them is being justly criticised by the exhibitors, several of whom have invoked the aid of the daily press in New York City to obtain now what should have been in their possession at least six months after the close of the Exposition, which occurred about two months after the Bureau of Awards had rendered their report in September, 1893. The preparation of the medal was placed in the hands of the Secretary of the Treasury, and after St. Gaudens' first design had been altered and subsequently accepted, Congress authorised the issuance of electrotypes of the medals awarded to exhibitors, the intention being to afford these parties the privilege of using the electrotypes for publication or advertising purposes; but it has since transpired that no appropriation was made by Congress for the carrying out of their order.

One of the exhibitors in the Horticultural Department (Frederick W. Kelsey, New York), who obtained a medal for his display of Rhododendrons, being anxious to reproduce the design of the medal in this year's spring catalogue, entered into communication with the Director of the Mint, who has now charge of the matter, in August, 1894, and was then informed that delivery of the medals would be commenced in "about from four to five months from this date."

On January 5 of this year Mr. Kelsey again wrote the Director, and on 7th January received the information that "it has been decreed by law that no cuts or photographs of the medals of award can be furnished prior to the delivery of the medals in May or June next." The medal not having arrived on 14th May Mr. Kelsey again pursued his inquiries, and on 17th May was rewarded with the statement that "it is expected that the medals of award of the World's Columbian Exposition will be ready for delivery in August next."

It will no doubt be gratifying to the exhibitors to learn that there is a likelihood of their obtaining the medals, even at that late date, on the principle of "better late than never," but should they then materialize, their value for advertising purposes will be considerably curtailed, as the glory (if there ever was any) will be dimmed by the remoteness of the period when the prize was captured; in other words, reference to a World's Fair award will have become stale. But this result is quite in keeping with some features of the management of the Columbian Exposition, particularly the manner in which exhibitors were left to look out for themselves at the close of the Exposition. As is well known, little care was exercised and no system provided for releasing the exhibits, the result of which was great loss and probably the greatest aggregate annoyance and dissatisfaction that has ever occurred at any International Exposition. It is to be hoped that at all great expositions hereafter some care will be exercised both as to the prompt award of medals and the adoption of some plan by which exhibits can be readily withdrawn without such serious loss and embarrassment as occurred at Chicago.—*The Florist's Exchange.*

GARDENING MISCELLANY.

SEEDLESS FRUITS.

Fruit cultivators abroad, and even at home, are trying their best to get rid of seeds in fruits. Already we have the Jaffa Orange, which is nearly always seedless. Some varieties of Apples have been produced that have almost no seeds. The core is very small, and commonly there is a hollow at the end opposite the stem. These seedless Apples are generally poor in flavour, being grown merely as curiosities. Raisin producers in Greece and elsewhere are trying to obtain seedless Grapes for raisins. The object in view is to get size and seedlessness in the same fruit. You are familiar with the seedless Grapes of Corinth, which are commonly known as "currants." The Sultana Raisins of South-eastern Europe are likewise seedless Grapes. Efforts are being made to get rid of the thorns on Raspberry and Blackberry plants, simply for convenience in picking the fruit. The thorns are intended by nature to protect the plants from animals. Cultivators select those plants which by chance happen to be thornless, or comparatively so.

WALLFLOWERS.

Few persons could disagree with the opening remarks of your correspondent, "Con.," p. 636, concerning these invaluable and indispensable subjects. It was indeed piteous to behold their destruction. In this neighbourhood acres and acres might last autumn have been seen healthy and promising. The loss to the owner must have been considerable; one patch alone of ten acres was entirely destroyed in a field near by. Of the varieties I sowed, viz., Harbinger, Blood Red, Covent Garden, and Belvoir Castle, the latter alone, with a few exceptions, has survived the winter. I planted largely in borders, shrubberies, and open ground also, and the survivors were those under shelter of the trees in a dry and poor border.—*A. P.*

SOLANUM WENDLANDII.

The Kew specimens of this beautiful plant are once again presenting a magnificent spectacle with a profusion of bloom that is, if anything, more remarkable than that afforded during previous years. Both in the warm end of the succulent house and also in the tropical Water Lily house the display is magnificent. The flowers are a magnificent lilac-blue in colour, large, and of good substance, being fully two and a half inches in diameter, and produced in huge, many-flowered cymes. What a pity it is that such a fine plant as this should not find a place in a far greater number of our plant houses throughout the country than it does at the present time. Its requirements are very simple and easily attended to, merely a stove temperature and a good. rich, loamy soil for its roots to ramble in. Plenty of water must be given it throughout the summer season, although the supply may be considerably curtailed during the winter months. S. Wendlandii is a native of Costa Rica, from whence it was introduced about the year 1882.

BEARDLESS FLAG IRISES.

In this section of the genus Iris are to be found many handsome plants, which should not only find a place in the herbaceous border, where they usually succeed remarkably well as long as they are kept provided with a sufficient supply of water, but which appear to great advantage when planted around the margins of ponds or in any damp and boggy places where their roots are at liberty to absorb as much moisture as they will. Of useful varieties for utilising in this way I. sibirica atro-purpurea is a gem. The plant grows to a height of about 3 ft. under ordinary conditions, although under very favourable circumstances it will exceed that. The flowers are of medium size, both standards and falls being of a rich purple hue. Another fine sort for employing in a similar manner is I. sibirica orientalis, which also reaches a height of 3 ft. or thereabouts, the standards and falls in this case being of a lovely velvety-blue, very pretty and attractive. Both these varieties have been flowering exceedingly well this season at Messrs. Barr & Son's Nurseries at Long Ditton.

SCHIZANTHUS PINNATUS.

Whether grown on in pots and used for the decoration of the greenhouse and cool conservatory, or whether accorded a place in the open air in the herbaceous border along with the rest of the half hardy annuals, these beautiful plants are always worth looking at. For pot work seed should be sown some time about the beginning of September, the seedlings pricked off, when large enough, into shallow pans and kept in an ordinary greenhouse or cool pit close to the glass throughout the winter. In spring, they may be potted up three or four in 48 or 32-sized pots, using a compost of equal parts of loam and leaf soil with a quantity of sand added. If grown on in a gentle heat they will commence to flower about the middle or end of May, and from thence onwards well into the autumn. Staking must be carefully looked after when required, or the plants soon become misshapen distorted specimens. Treated as suggested, they form very elegant decorative subjects, their pretty lilac flowers being variously blotched and spotted with violet and purple and the corollas deeply incised in a charming manner, to which the plant owes the name of the Fringe Flower, a title that is sometimes applied to it.

IRIS MADAME CHEREAU.

The appellation of Queen of the Irises which has been utilised to describe the beauty and value of this lovely little plant is certainly not a too extravagant one, as any one who has seen it in anything like condition, as it fell to our lot to do on Saturday last at Messrs. Barr & Son's nurseries, at Long Ditton, would we think concede. The standard and falls are white beautifully frilled with azure blue, and the flower would bear favourable comparison with any Orchid for vividness of colouring and beauty of marking. Its flowering season ranges from the beginning to the middle of June, according to the earliness or lateness of the season, and thus it comes in just after the beautiful German Irises have fulfilled their allotted task, forming a very suitable succession to them. To those who have sufficient space at their disposal to enable them to grow a number of kinds of these gorgeous plants, Iris Madame Chereau should recommend itself as being well worthy the room it may occupy.

HYPOLEPIS REPENS.

Although this pretty Fern hails from tropical America, and on that account would reasonably lead a cultivator to expect that a stove temperature would be necessary to accommodate it properly, it will succeed wonderfully well in a cool house, that is to say a house in which during the winter the temperature is not suffered to fall below 40° Fahr. This fact makes the plant all the more valuable to those who are on the look-out for Ferns, which, while their wants are but few and easily attended to may yet be depended on to produce a good effect. Being as the name denotes of a creeping habit it is of no use to attempt to grow it in pots for these never present a satisfactory appearance. For the filling of hanging baskets, however, nothing finer could be desired, whilst it usually appears at its best when allowed to ramble at will over an old tree stump, which has been clothed with virgin cork; for treated thus its roots will strike into any crevice where a little soil is to be had, and the necessary moisture obtained. It is not at all particular as to soil, growing just as freely in pure peat as in a mixture of peat and loam. Plenty of water at all times is, however, an absolute necessity to its welfare. Where this cannot be supplied by means of the watering can the syringe may be used pretty freely, as the plant stands syringing remarkably well—in fact it appears to like it rather than otherwise.

HEUCHERA SANGUINEA.

Despite the fact that this plant is a comparatively recent introduction, the many good qualities of which it is possessed have served to render it a general favourite and have procured for it a place in most collections of herbaceous plants. The genus comprises some twenty species or thereabouts, one or two of which are of considerable value from a gardener's point of view. To H. sanguinea, however, must be awarded the place of honour as the most ornamental of them all. The flowers are rather small, but rich deep red in colour and produced in long graceful panicles that look exceedingly well when cut and used for the

filling of vases and epergnes. The plants are fairly easy of culture and do very well in almost any common garden soil if it is not of too heavy a nature. Like the rest of its congeners H. sanguinea may be easily increased by division of the crowns in spring-time.

MESSRS. BARR & SON'S PAEONIES.

To those who are acquainted with the splendid decorative qualities and characteristics of herbaceous Paeonies, a visit to Messrs. Barr & Son's Nurseries at Long Ditton at the present time will prove both interesting and instructive, for there this lovely plant is to be seen in all its gorgeousness of beauty, both single and double flowered sections being worthily represented. About an acre and a half of ground is devoted to their culture, and the blaze of colour presented by the plants baffles all attempts at adequate description. It must suffice to say that innumerable shades of colour are forthcoming, from purest white to deepest crimson, with all the hues intermediate between these two extremes.

The comparative dwarfness of the plants is remarkable, a fact that is doubtless to be accounted for by the long dry period we have had, during which no rain to speak of has fallen. Chinese Paeonies love a deep rich soil to grow in and an abundant water supply is necessary to enable them to develop their charms properly. Despite the drought, however, Messrs. Barr's plants are in vigorous health, a fact amply testified to by the substantiality of the foliage, which in its dark greenness serves as such an admirable foil for the huge heads of glowing crimson of brilliant rose or delicate blush which appear above it. As the nurseries at Long Ditton afford accommodation for a numerous collection of varieties, it would be manifestly impossible within a limited space to enumerate all the sorts which comprise it, and we must thus content ourselves with mentioning a few of the best; a task which, to say the least of it, is rather a difficult one, so many splendid plants forcing themselves upon our notice and claiming the attention which their charms so well merit.

Double Flowered Varieties.

These form the major part of the collection and occupy by far the larger portion of the ground; and although at the time of our visit the display of bloom was yet in its infancy many beds having yet to open, the following varieties were exceptionally noteworthy. Lady Dartmouth produces large pure white flowers which are like most of the other members of this class of plants deliciously rose scented. Not less attractive is Marie Lemoine, a rather stronger growing variety, the flower in this instance being very double, almost globular in shape, and in colour white with a creamy centre. Her Majesty, another desirable white flowered sort, has the guard petals of especially large size and good substance the centre florets being tinged creamy white. Somewhat different to the foregoing is Mons. Ferrin with its dwarf compact habit and large pure white flowers which are occasionally laced with crimson, an additional charm being thus imparted to it. Humei Carnea; although an old variety is yet able to hold its own among the newer introductions with its superb rose-coloured blooms which, however, change to blush white in the later stages. Very charming are the delicate flesh-tinted full-double flowers of Deticatissima whilst Loise Mère in which the blooms are of a pretty blush pink shade is not less worthy of mention, the plant being, moreover, of rather dwarf habit and attaining a height of about three feet in an ordinary season. A rather taller variety reaching a height of from four to five feet is Henri, the flowers of which are of a lovely peach blossom colour with a prettily tasseled soft yellow centre. Very beautiful is Rousselon, in which the guard florets are of a soft primrose shade, the centre ones being blush white. This is a rather dwarf variety growing usually to about two feet six inches in height. Grandiflora Superba is well named; the flowers being very double, rich rose in colour with the bases of the centre florets flesh-tinted changing to white with age. Although an old variety James Odier is yet a popular one to judge from the large stock of it which Messrs. Barr & Son have on hand. The bright rose-coloured blooms, the centres of which turn rather lighter in the later stages, are exceedingly attractive.

A gem among its kind is Madame Raquet. Of vigorous habit, it generally grows to a height of between four and five feet, whilst its blooms are of a soft peach blossom colour prettily laced with rich crimson. One of the large anemone-flowered sorts is Grandiflora nivea, in which the centre florets are white laced with crimson, and the outer petals blush. Somewhat like the last mentioned is Grandiflora carnea although a deeper shade of pink is here evident, the centre florets being pure white and the crimson blotches absent. Very showy and effective are the large brilliant rose-coloured flowers of Etendard du Grand Homme. On measuring some blooms of Madame Bernard which exhibit a vivid rose hue we found some of them to be fully six and a half inches in diameter and quite five inches in depth, in fact, a nosegay ready made to hand. Charles Verdier is both a pretty and a distinct variety, of dwarf and compact habit, bearing rather small flowers, which are, however, very neat, and of excellent shape and a rich glowing crimson in colour. Very beautiful is Madame Bourcharlat Ainé also a rather tall growing variety, with its huge rich carmine hued blooms. Another equally fine sort is Mons. Boquil which carries deep satiny rose flowers which when looked at in the full blaze of a fierce June sun are really magnificent. Of the very deep crimson-flowered varieties there is a comparative dearth up to the present time, this section not being so extensively represented as are the pinks and blushes; Madame Charpentier is among the best, having very double flowers and the plant being a vigorous grower; likewise Rubra Triumphans the blooms of the last mentioned being sweetly may-scented and of a rich glowing crimson shade.

Single Flowered Sorts.

In this section are to be found very many fine decorative plants, many of them at the time of our visit being very full of flower, and affording a particularly pleasing picture. Like the double-flowered varieties many of them are very strongly scented, and this, combined with the bold, yet graceful outline of the flowers and the large conspicuous clusters of bright yellow anthers appearing in the centre, stamp the single flowered Paeony as a decorative plant of no mean value, a few examples of which should always be grown if only for the sake of contrast with the doubles, which usually monopolise so large a share of attention. The undermentioned plants, which are all varieties of P. albiflora, are especially worthy a place in any fairly representative collection. Queen of May which has large fine blooms of a lovely rose hue changing later to soft pink, is characterised by an exceedingly strong rose-like perfume. Very charming are the magnificent pure white flowers of The Bride, whilst a variety known as The Moor is appropriately enough one of the darkest-flowered single sorts in cultivation, the blooms being of a rich glowing crimson-maroon, of very fine form and almost perfect outline. Others which well deserve honourable mention, but upon the merits of which space forbids us to descant, are Duchess of Portland, soft pink, frilled white; Gertrude, brilliant rose pink, of exceptionally fine form; Beauty, bright rose, shading to pink; Rosy Dawn, large snow-white flowers, tinged blush upon first opening: and Kaiser, brilliant rose.

Great praise is due to Messrs. Barr and Son for the labour expended by them in the improvement of a class of plants that have for far too long been to a great extent neglected, but for which, having regard to their high decorative value as early summer-flowering plants, we have no hesitation in prophesying a brilliant future.

SOCIETIES.

Scottish Pansy and Viola Association.—The first meeting of the above Society was held in the Religious Institution Rooms, Glasgow, on Wednesday, 5th June, at 6 o'clock. There was a large attendance of members, and over 200 varieties of seedling Pansies and Violas were staged for the opinion of the judges, who expressed their surprise at the size and beauty of some of the varieties, especially in this hot, dry weather. The judging is done by points, 84 being the possible. List of awards and number of points each received:—

Certificates of Merit were awarded to fancy Pansies named Mrs. Gamp (51 points); The Baron (62 points); a First-class Certificate to Mr. Soots (65 points); and a Certificate of Merit to Viola Sunray (56 points), all exhibited by Mr. S. McKee, Belfast. Certificates of Merit were accorded to fancy Pansies Lady M. Hozier (54 points); Jeannie R. Karr (47 points); a First-class Certificate to A. Struthers (64 points), exhibited by Mr. G. McPherson, Avondale. A Certificate of Merit was given to fancy Pansy Mary Bennett (47 points), exhibited by Mr. H. Chalmers, Beith. Certificates of Merit were given to fancy Pansies Jessie Gillespie (47 points); Alex. Lister (43 points); and a First-class Certificate to Col. Buchanan (63 points), exhibited by Mr. Alex. Lister, Rothesay. Certificates of Merit were accorded to fancy Pansies John Mackie (47 points); James Smellie (43 points); a First-class Certificate to Mrs. Wm. Steele (73 points); a Certificate of Merit to Y. G. Busby Gem (56 points); and Y. S. T. W. Smellie (44 points); to Violas Jessie Presswell (50 points); Nellie (58 points), all exhibited by Mr. John Smellie, Busby. A Certificate of Merit was given to a seedling Viola exhibited by Messrs. Dobbie & Co., Rothesay. Some fine varieties were also shown by Messrs. J. D. Stuart, Belfast; by Mr. John Forbes, Hawick, and Mr. Irvine, Tighnabruaich, and others, but not in sufficient number of blooms to gain certificates. The judges, however, expressed a wish that they would see them done up in sprays at next meeting on 26th June.

Royal Horticultural.—*June 11th.*—The exhibits were never more extensive perhaps than they were at the meeting on Tuesday last. There may have been more numerous small exhibits, but not so great a number of large ones. The hardy herbaceous plants, the collections of Paeonies and old-fashioned garden Roses, including many single ones, were largely responsible for the fine display. Orchids were more numerous and in finer condition than at many of the previous meetings, and really constituted a conspicuous feature of the general display. An extensive collection of Orchids was staged by Messrs. F. Sander & Co., St. Albans, and amongst them were some fine masses of Miltonia vexillaria, Epidendrum vitellinum majus, Dendrobium Johnsoniae, a new species, Laelia grandis tenebrosa, Oncidium serratum, Cattleya Sanderiana, Odontoglossum mulus splendens, and others. Smaller plants of other and rarer species were less conspicuous, but certainly equally interesting. Amongst little-known kinds were Angraecum Fournierianum, Phaius Owenianus, Cypripedium Frau Ida Brandt, Laelio-Cattleya Aylingii, and many others. Interspersed in the group were Palms, Ferns, and a magnificent piece of Dracaena Sanderiana (Silver-gilt Flora Medal). A smaller but interesting collection was set up by Messrs. B. S. Williams & Son, Upper Holloway. Here we noted Pescatorea Roezlii, P. R. Rosea, with fleshy flowers, also P. Lehmanii grandiflora, with a curiously bristly lip. Several species now in season were also conspicuous features of the group. The white Utricularia montana and the pale blue U. Endresii though not Orchids would find many admirers (Silver Banksian Medal). A group of Laelia tenebrosa, mixed with a few plants of Oncidium macranthum and Odontoglossum crispum, was exhibited by Messrs. Charlesworth & Co., Heaton, Bradford (Silver Banksian Medal). A showy group of Odontoglossums, Cattleya gigas, and Miltonia vexillaria was exhibited by Welbore Stuart Ellis, Esq., (gardener, Mr. D. Masterton), Hazelbourne, Dorking (Silver Banksian Medal). Laelio-Cattleya Aphrodite was shown by W. R. Lee, Esq. gardener, Mr. Billington), Manchester. Edward H. Woodhall, Esq., St. Nicholas House, Scarborough, showed a small but well-flowered piece of Renanthera Imschootiana. A hybrid Cattleya named C. Mrs. Harris was exhibited by Miss Harris, The Grange, Lamberhurst. The interesting hybrid Cattleya Parthenia was exhibited by M. A. A. Peeters, 62, Chausseé de Forest, Brussels. Thos. Statter, Esq. (gardener, Mr. R. Johnston), Stand Hall, Manchester, showed the beautiful white Cattleya superba alba. A large and very showy collection of Orchids was set up by J. Gurney Fowler, Esq., South Woodford, Essex. Very fine were the masses of Laelia purpurata, Cattleya Mendelii, and Dendrobium thyrsiflorum (Silver Flora Medal). De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, exhibited a very select lot of Odontoglossum crispum, including Pride of Rosefield and Princess May. He also had a fine piece of Oncidium Marshallianum, Crawshay's

Goliath, Laelia purpurata Juno, and others of considerable merit and beauty (Silver Banksian Medal). A large piece of Cattleya Mossiae was shown by T. A. Gladstanes, Esq. (gardener, Mr. H. Denison), Manor House, Gunnersbury. H. T. Pitt, Esq. (gardener, Mr. Raldous), Rosslyn, Stamford Hill, exhibited a collection of Orchids which was extremely varied in character owing to the great number of species and varieties employed. The Laelias and Cypripediums were perhaps the most conspicuous (Silver Banksian Medal). Four plants of a new richly-coloured type of Cattleya, named C. gigas Sanderae, were exhibited by Mr. James Hamilton, gardener to Hamar Bass, Esq., M.P., Byrkley, Burton-on-Trent (Silver Banksian Medal.) A collection of dried flowers of Orchids was exhibited by Mr. Ouza Tukuba, Tokio, Japan (Silver Banksian Medal.) Messrs. J. Veitch & Son, Chelsea, staged a fine collection of Orchids, prominent amongst which were showy pieces of Laelia purpurata, Cattleya Warscewiczii, Laelio-Cattleya Arnoldiana, Dendrobium Dearei, as well as many Oncidiums, Odontoglossums, and others in great variety, set up with Adiantum and Palms (Silver-gilt Flora Medal.) An interesting little group was shown by Sir Trevor Lawrence, Bart (grower, Mr. White), Burford Lodge, Dorking. Amongst others was a blue Disa named D. longicoru, and fine pieces of Thunia Bensoniae, and Cypripedium Elenor. Walter C. Walker, Esq. (grower, Mr. Cragg), Percy Lodge, Winchmore Hill, showed several Orchids of considerable interest. Masdevallia stella, M. Schlimii, M. muscosa, and several others of considerable beauty or interest, were exhbited by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. The charming and pure white Cypripedium bellatulum album, C. Aylingii, C. Stonei candidum, and others were shown by Sir F. Wigan (grower, Mr. W. H. Young), Clare Lawn, East Sheen. Messrs. Hugh Low & Co., Clapton, set up a well-flowered bank of Cattleyas, such as C. Mossiae, C. Mendelii, Laelio-Cattleya Ingrami, Cypripediums, Miltonias, and many others (Silver Flora Medal.) An interesting group of Orchids, chiefly Cattleyas and Cypripediums, was shown by W. Appleton, Esq., Weston-Super-Mare. T. T. Bennett-Poë (grower, Mr. Downes), Holmewood, Cheshunt, showed a fine piece of Cypripedium caudatum Wallisi, with thirteen flowers on four stems. A large group was also set up by Messrs. W. L. Lewis & Co., Southgate. The principal features of the collection were the Cattleyas, Odontoglossums, and Cypripediums, with various other interesting subjects now in season (Silver Banksian Medal.) A collection of dried Orchids was exhibited by Mr. Henry Chapman, The Gardens, Cambridge Lodge, Camberwell (Silver Flora Medal.)

From Messrs. Kelway & Sons, Langport, came a superb display of cut blooms of Paeonies, principally of the double-flowered section, for which a Silver Flora Medal was deservedly awarded. A number of exceedingly fine sorts was forthcoming, the blooms being large, very double, and of superior form. The following varieties were among the cream of the collection—Duke of Cambridge, rich dark crimson; Modeste Guerrin, bright rose; Rev. W. Wilkes, blush pink; Lady Beresford, blush white striated crimson; Czarada, dark crimson; Festiva maxima, white, streaked crimson; and Mona, bright rosy pink, very durable. Some splendid varieties of Delphiniums amongst which were to be seen some fine blue-flowered sorts also came from the same firm, together with a number of stands of cut blooms of double Pyrethrums; Carl Boget, a fine double white variety with extra large blooms being specially noticeable. Mr. T. Bones, Heaton Gardens, Chesthunt, contributed a batch of his new Carnation Yellow Queen. The plants bore evidences of good culture, and carried quantities of well-shaped blooms of medium size. This variety to judge from appearances should prove a distinct acquisition. A very meritorious exhibit in the shape of a number of cut blooms of old-fashioned and Garden Roses, for which Messrs. Geo. Cooling & Sons, Bath, were responsible, was exceedingly interesting as being decidedly an uncommon feature. Well-flowered sprays of Persian Yellow, Rose polyantha, and the single White Perpetual were very noticeable here, also examples of climbing Niphetos, Rêve d'Or, Lauretta and Papillion. (Silver Banksian Medal.)

Messrs. John Laing & Sons staged a very comprehensive collection of hardy cut flowers in their usual complete and praiseworthy style. Conspicuous among them were fine bunches of well-known garden favourites as Inula glandulosa, Geum coccineum, Campanula persicaefolia and C. p. alba, Irises in variety, Spiraea Ulmaria plena, Veronica carnea and Heuchera sanguinea. These together with numerous other subjects afforded a brave display. (Silver Banksian Medal.) Messrs. James Veitch & Sons also contributed an exceptionally showy group of hardy cut flowers, for which a Silver Flora Medal was awarded. Paeonies formed the strong feature of this exhibit, being worthily represented by such fine varieties as Emile Lemoine, Purpurea superba, Compte Osmond, Monsieur Deschamps, Monsieur Rousselon, and Deticatissima. Fine samples of the showy Poppies, Salmon Queen and Prince of Orange, Phlox ovata, Erigeron aurantiacus, Dictamnus Fraxinella, Campanula glomerata dahurica, together with two magnificent spikes of Eremurus robustus materially assisted in the display that was here forthcoming. Messrs. James Veitch were also well to the fore with specimens of their beautiful hybrid, Streptocarpus; the plants composing the collection were all that could be desired in the way of health and vigour. Some exceedingly fine samples of S. gratus were specially well worthy of mention, as was also the fine basket of plants of Lilium Alkeyuri. Hardy cut flowers in quantity were likewise sent by Mr. M. Pritchard, nurseryman, Christchurch, Herts (a Bronze Banksian Medal being given. Messrs. R. Wallace & Co., Colchester, exhibited Irises in considerable variety, these brilliant-hued and gaily marked flowers appearing to great advantage. Iris asiatica, I. Lorteti, and several splendid varieties of I. hispanica were well to the fore. A collection of Callochortus was also shown by the same firm, including C. albus, C. amoenus, C. Lyoni, and C. pulchellus, in the best of condition (Silver Banksian Medal.)

Messrs. Paul & Son, the Old Nurseries, Cheshunt, had an extensive group of hardy cut flowers, which received an award of a Silver Banksian Medal. Examples of the wonderfully free flowering Tropaeolum polyphyllum, Inula Hookeri, Single Roses, Dianthuses, and Paeonies in variety were exceedingly bright and showy. From Messrs. H. Cannell & Sons, Swanley, Kent, came a superior collection of named sorts of Gloxinias in pots. The plants were sturdy, vigorous specimens of their kind, and were exceptionally well-flowered. Many varieties were shown, some of the best being Miss M. Pearson, Spotted Gem, Miss Tudor, and Prince of Wales. Messrs. Cannell also had a bright little batch of the ever-popular Cannas in splendid condition (Silver Banksian Medal.) Hardy plants and cut flowers in considerable variety, and of first-class quality, were shown by Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham. Fine examples of Spiraea, japonica, multiflora, compacta, and S. palmata were forthcoming. Liliums in variety were here to be seen, including L. colchicum, L. pomponium, and L. pyrenaicum; likewise the rather rarely-seen Ornithogalum latifolium, together with Campanulas and Irises of various sorts (Silver Gilt Banksian Medal.) A number of new Carnations were also sent from Hale Farm Nurseries, amongst which some valuable requisitions were to seen.

Messrs. Barr & Son, King Street, Covent Garden, staged a large number of cut blooms of Paeonies in excellent condition. Very gay were Madame Charpentier, Grace Darling, Arethusa, Grandiflora Superba, Superbissima, Madame Vilmorin, Delicatissima, Duc de Cazes, and Delacour Verhille Bunches of such hardy flowers as Dictamnus albus, D. Fraxinella, Anthericum Liliago. Hemerocallis Dumortieri were also shown in fine style by Messrs. Barr (Silver Flora Medal.) Mr. B. R. Davis, the Yeovil Nurseries, Somerset, contributed some neat little double-flowered tuberous Begonias in pots, Donovon and Mont Blanc being the two best varieties shown. From Mr. Anthony Waterer, Knap Hill Nursery, Woking, Surrey, came a number of very fine heads of bloom of hardy Rhododendrons, also cut sprays of Weigela Eva Rathke. A large well-flowered balloon trained specimen of Bougainvillea glabra var. Campbell's Brilliant was sent by Mr. B. Campbell, the Willows, Windsor, that looked as well as it is possible for a plant to look under such unnatural conditions. An exceptionally fine example of Blandfordia aurea was sent by Sir Trevor Lawrence (gardener, Mr. Bain), whilst a magnificent specimen of Carpenteria californica was sent by J. T. Bennett Poë, Esq, Holmwood, Cheshunt (gardener. Mr. Downes.) A considerable quantity of Rose blooms of first-class quality were exhibited by Mr. George Prince, Rose Grower Oxford, Clara Watson, The Bride, Cleopatra, Ernest Metz, Prince of Wales, Princess of Wales, Souvenir D'Elise Vardon being really fine (Silver Flora Medal.) Mr. George Mount, The Rose Nurseries, Canterbury, also obtained a Silver Flora Medal for the really meritorious collection of Rose blooms, exhibited by him, amongst which Annie Olivier, Captain Hayward, Madame Gabriel Luizet, and Ulrich Brunner appeared to advantage. A small group of cut Roses was also contributed by Mr. Frank Cant, Braiswick, Colchester.

The exhibits of fruit and vegetables were rather more extensive than usual for this time of year. A Silver Knightian Medal was awarded to Mr. S. Mortimer for his superior collection of Cucumbers and Tomatos. Mitchell's Hybrid, Jones' Perfection, Sutton's Best of All, and Sutton's Perfection were some of the best sorts shown. Mr. A. Pentney, gardener to A. J. Howard, Esq., Worton Hall, Isleworth, received a Bronze Knightian Medal for a collection of Vegetables, which, considering the present drought, were very commendable. A like award for a similar exhibit was made to Mr. G. Wythes, gardener to Earl Percy, Syon House. Several good dishes of Peas and French Beans here figuring prominently. A bunch of Asparagus Hative, contributed by Thomas S. Staples, Esq., Bellmont Salisbury, received a Cultural Commendation. Several good varieties of Strawberries were shown by Messrs. Laxton Bros., Bedford, the fruit being of large size, good shape and colour. Laxton's Noble, Royal Sovereign, Sensation, and Monarch, the last-mentioned a new variety of excellent flavour, were in especially fine condition. A dish of two dozen Nectarines, shown by Mr. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton, was awarded a Cultural Commendation, the first being of fair size, good shape, and excellent colour.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

Fertilizing Tomato Flowers.—Which is the best method of fertilizing Tomato flowers, and under what atmospheric condition do they set most freely? I should be glad to know the opinion of readers of the Gardening World.—*A. P.*

Names of Plants.—*E. K.*: Swainsonia galegifolia alhiflora, not an Acacia.—*W. J.*: 1, Lathyrus rotundifolius; 2, Trollius asiaticus; 3, Hemerocallis flava; 4, Lychnis alpina.—*L. S.*: 1, Polypodium vulgare camhricum.—*W. M. C.*: 1, Jacobinia magnifica; 2, Mesembryanthemum; 3, Selaginella Martensii robusta; 4, Selaginella Martensii stolonifera. —*F. H. D.*: Dendrohium moschatum not D. Dalhousieanum.

Are Tomatos cross or self-fertilising?—*B. James*: According to the bulk of evidence on this point they are self-fertilising. When two or more varieties are grown in proximity, the seeds collected from each produce plants and fruits as like their parents as two peas according to the old saying, notwithstanding the fact that it is not exactly true. If the varieties have not been well fixed they are liable to degenerate or to become unmixed as it were, reverting to one or other of former parents, or to the original whatever that may have been. Although self-fertilising, it is just possible for one variety to be crossed by another owing to the wind carrying the pollen from one to another. How far the wind might carry the pollen it is difficult to say, but we believe it would be a good plan for seed raisers to plant the different varieties intended for seed at a considerable distance apart, say in different fields or in different houses as the case may be. We think this would tend to give each respective kind greater stability, and help to unmake the opinion that the life of a variety of Tomato does not extend beyond ten years.

Communications received.—Messrs. Sutton & Sons.—J. E. J.—T. C.—J. R. B.—D. R. B.—H. B.—H. W.—K. F. H.—F. Parker.

TRADE CATALOGUE RECEIVED.

Herb and Wulle, Naples, Italy.—Flower-bulbs and Roots.

LONDON SEED TRADE.

June 11th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report some enquiry for Mustard at present low prices. Rape sells steadily at advance. Trifolium incarnatum promises to be plentiful and cheap.

COVENT GARDEN MARKET.

June 12th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples..... per bnshel		
Nova Scotia Apples per barrel	12 0	21 0
Cob Nuts and Filberts, per 100 lbs.	10 0	
Tasmanian Apples, per case	8 0	11 0
Grapes, per lb.	1 0	2 6
Pine-apples. —St. Michael's each	2 6	6 0
Strawberries, Nobles, per lb.	1 0	
Other varieties, ,,	1 0	2 0
Peaches ..... per doz.	4 0	15 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus, per bundle	1 6	4 0
Beans, French, per lb.	1 0	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 9
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Small salading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	1 0	1 6
Turnips ..... per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	6 0
Azalea, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Eucharis ...per doz.	3 0	5 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	4 0	6 0
Iris, doz. bun.	4 0	18 0
Lilac (French) per bch.	5 0	6 0
Lilium longiflorum per doz.	3 0	5 0
Lilium candidum, per doz.	1 6	2 0
Lily of the Valley, doz. bchs.	6 0	15 0
Marguerites. 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Narcissus, doz. bchs.	2 0	4 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.....	1 0	2 0
Pelargoniums, 12 bun.	6 0	9 0
Peonys, doz. bchs. ...	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Ranunculus, doz.....	2 0	4 0
Roses (indoor), doz.	0 6	1 0
,, Tea, white, doz.	1 0	2 0
,, Yellow, doz. ...	2 0	3 0
,, Safrano (English), doz. ...	1 3	2 0
Red Roses.....	3 0	6 0
Pink Roses	5 0	7 0
Roses (French) Moss, doz.....	1 0	1 6
Roses (French) red, doz. blooms. ...	2 0	2 6
Smilax, per bunch ...	4 0	6 0
Stephanotis, doz. sprays	3 0	4 0
Tuberoses, doz. blooms	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
,, specimen plants	5 0	10 6
Cineraria, per doz.	4 0	8 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Erica, various, doz....	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, in var. doz	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Fuchsia, per doz.....	6 0	9 0
Heliotrope, per doz.	6 0	8 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	8 0
Lobelia, per doz.....	4 0	6 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	5 0	6 0
Marguerite Daisy doz	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	15 0
Scarlets, per doz.....	3 0	9 0
Stocks, per doz.	4 0	6 0

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Established over 30 years.

Exceeds all others in general fertilising properties and staying powers.

It promotes a rapid, healthy, and robust growth to plants generally.

It is a clean and dry powder with very little smell.

The highly fertilising properties of this Manure render its money value, in comparison with other Manures, at least double; and users will find that very small quantities will produce favourable and lasting results.

THE ANALYSIS SHOWS—

Insoluble Phosphate	35·74	per cent.
Soluble ,, ...	·83	,,
Nitrogen	8·93	,,
(Equal to ammonia)	10·85	,,

Sold in Tins, 1s., 2s. 6d., 5s. 6d., and 8s. each, and in Kegs, well secured to prevent loss through exposure, 28 lbs., 10s. 6d. 56 lbs., 18s.; 112 lbs., 32s.

To be had from Seedsmen and Florists.

Manufacturers—CORRY & Co., Ltd., London.

FLOWER SHOW FIXTURES, 1895.

JUNE.

19, 20, 21.—York Grand Floral Fete.
22.—Canterbury Rose Show.
25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Bath Rose and Begonia Show.
11.—Helensburgh Rose Show.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.
28, 29.—Bath Autumn Show.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.

(*Continued on next column.*)

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.
29, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

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THE NEW EARLY STRAWBERRY FOR 1895.

"Stevens' Wonder."

The earliest variety in cultivation and very prolific, solid fruit, good flavour, high perfume.

Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. *See Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16.

Having purchased the whole of the stock of this grand new early Strawberry from the raiser, we have pleasure in offering it as follows:—

Strong plants in pots, £5 per 100; 15/- per doz.
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For Index to Contents see page 686.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 22nd, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 25th.—Opening day of the Royal Agricultural Society's Show at Darlington.
Royal Horticultural Society; Meeting of Committees at 12 o'clock.
Cowes (Isle of Wight) Rose Show.
WEDNESDAY, June 26th.—Auction Sale of the Broomfield Collection of Established Orchids by Messrs. Protheroe & Morris.
THURSDAY, June 27th.—National Rose Society's Show at Gloucester.
Conclusion of Orchid Sale at Broomfield.
FRIDAY, June 28th.—Exeter Flower Show.
Sale of Orchids at Protheroe & Morris' Rooms.
SATURDAY, June 29th.—Windsor Rose Show.

CULTIVATION OF STRAWBERRIES NEW AND OLD.—Looking back for a period of thirty years, we take it for granted that most gardeners will agree with us that more changes and improvements have been accomplished amongst Strawberries than in any other class of hardy fruit. At the same time it is our opinion that the raisers of new varieties are more active in their particular line of business than are the growers or cultivators of the plants. While the thanks of the whole community are due to the former we do not in the least ignore the achievements of the latter, and which in some cases are worthy of all praise. Still, there is ample room for a more general adoption of the principles of high cultivation that are being carried on by the few with so marked success. We refer to some of the leading growers for market, and to a few gardeners in private establishments, who make a special feature of Strawberry culture in the gardens under their control. This need not apply to cultivation on an extensive scale, but rather to intensive or high cultivation of even the smallest quantity grown, on the principle that "what is worth doing is worth doing well." By adopting methods of good cultivation and the selection of varieties suitable to the soil of any particular garden, better crops would be obtainable from a given area of ground than when hap-hazard methods are pursued.

Good gardeners make their new plantations for the principal supply of standard and well-tested varieties upon which they can depend, while every new variety which they obtain is planted in moderate quantity till its capabilities are proved. Others there are, however, who plant every new variety they can get until their plantations are made up of a host of good, bad and indifferent sorts. Even after they have tried them for many years in different parts, it may be, of a large garden, they still persist in retaining all, as if loth to part with a friend whose acquaintance they mean to maintain at all hazards and for all time. This is a crying evil in many a garden, and which should be remedied at the earliest possible opportunity compatible with convenience. It is bad cultivation, and worse than waste of time, to cumber the ground with sorts that have once for all been proved will give no adequate return for the time, labour, and space accorded them. A variety that has been proved useless in one garden may be excellent in another; hence the necessity for every gardener to test what varieties will recoup him for his trouble in the soil at his command. For instance, Dr. Hogg is admitted by all to produce fruits of excellent flavour; but in certain soils it is a worthless cropper; therefore it should be discarded except where it succeeds. The choice amongst old as well as modern varieties is almost unlimited.

Equally important to good cultivation is the trenching and heavy manuring of land intended for plantations. Retentive soils, such as are known amongst geologists as brick earth, are better adapted for the production of heavy crops of Strawberries than are those of a sandy nature. Nevertheless, some growers obtain marvellous crops from rich alluvial silt that to the naked eye appears little else than sand. Well made farmyard manure and good tilth have much to do with the good results obtainable. Contemporaneous with this fact, it must be borne in mind that plantations on light soils are of very short duration. Mr. Norman, gardener to the Marquis of Salisbury, Hatfield, finds it necessary to make a fresh plantation every year, and to trench the old one after the harvesting of one crop only from it. Those who are favoured with more substantial and retentive soils allow their plantations to bear for a variable number of years before destroying them. Many old cultivators boast of obtaining satisfactory harvests from plants that may have been from six to ten or twelve years old. Crops that repaid the owners twenty or thirty years ago will not give satisfactory remuneration at the present day. Even where the soil is exceedingly fertile, the duration of a plantation should be limited to three years at the utmost. The crops obtainable during the first three years will be heavier, and the fruits of better average size, than during any subsequent period. This fact should be borne in mind even by those whose soils are perfectly adapted for the growth of Strawberries. We referred to mulching and irrigation in last week's issue, and still maintain that it would pay to adopt some means whereby plantations could be heavily watered during May and June, in any season when drought prevails.

In the space at our disposal we can only make a brief reference to some features of old and new varieties. Amongst very old sorts Black Prince and Carolina or Old Scarlet are still cultivated for their earliness, but more particularly on account of their good flavour and general suitability for preserving. Myatt's Seedling is seldom or never heard of now although it used to be highly esteemed for its large and late fruits, not only in the garden of the squire but also in that of the cottager. Many others have been discarded and forgotten in the same way before the influx of more modern improvements. British Queen, Keen's Seed-

ling, President and Sir Joseph Paxton are still with us, and merely testify to the survival of the fittest; for all of them are highly esteemed for one quality or another. All are heavy croppers, and while Sir Joseph Paxton is extensively cultivated by the market growers, because it travels well, the rest are of excellent quality. Auguste Nicaise, Stevens' Wonder and several others of large size have been proved to be highly suitable for forcing purposes, and hence they find a place in modern collections. Several are notable for their earliness in the open ground; hence their serviceableness in the garden. Amongst these we should name Royal Sovereign, King of the Earlies and Noble. The latter is very poor in flavour compared with the previous two, and no earlier; therefore it has been superseded by them, and in some establishments is already discarded. Latest of All, Waterloo and Elton Pine recommend themselves for the production of late crops, and for this reason many gardeners continue to grow them. Vicomtesse Hericart de Thury, in the opinion of many, is considered the most serviceable and all round useful sort either for heavy or light soils or for forcing purposes.

Gardeners' Royal Benevolent Institution.—At the instigation of N. N. Sherwood, Esq. (Renter Warden), the Worshipful Company of Gardeners have given a donation of £5 5s. to the funds of the Gardeners' Royal Benevolent Institution.

National Amateur Gardeners' Association.—A conversazione in connection with this Society will be held at the Memorial Hall, Farringdon Street, E.C., on Tuesday evening, July 2nd. The reception by the President, Mr. T. W. Sanders, will commence at 7 p.m. This day, Saturday, the members of the Society will pay a visit to Aldenham House Gardens, Elstree, Herts.

Paintings of Orchids.—Early in July Mr. William Gale will have an exhibition of paintings in oil of Orchids, sketches of the Swiss Oberland, and Eastern and other subject pictures, at the Gainsborough Gallery, Old Bond Street.

Devon and Exeter Rose Show.—The Rose Show of the Devon and Exeter Horticultural Society is to be held on Northernhay, on Friday, 28th inst. The full band of the 2nd Battalion Devonshire Regiment, from Plymouth, has been engaged.

Double Gooseberries.—Thinking it must be rather an unusual occurrence for a Gooseberry tree to bear double Gooseberries, I send you a few which a tree of mine is bearing. Almost the whole of the berries, and they are many, on the tree are double. It has borne fruit in previous years, but never nearly all double like this year.—*F. Arnold Baker, in the "Field."*

Early Vegetables.—At Devonhurst, Chiswick, the first dishes of Pea Ringleader, Potato Ringleader, and Cauliflower magnum bonum, were gathered on the 31st May. The Cauliflower was sown indoors in January and planted out the third week of March. Royal Sovereign Strawberry has been ripening from the 1st of this month both at Devonhurst and at Falkland Park, South Norwood Hill.

The Strawberry Supply.—An enormous quantity of Strawberries is now being sent away daily from Swanwick, Botley, and neighbourhood to the London and provincial markets. Some idea of the traffic may be gained from the fact that special trains are regularly running, conveying this fruit only, and on one morning no fewer than ninety pair-horse vans were required to convey the fruit from Waterloo Station to the markets, the task of checking and making out the accounts being, as may be imagined, no easy one for the staff of the Parcel Department at that station.

Wolverhampton Gardeners' Society.—The Wolverhampton Gardeners' Society held their June meeting at the Midland Cafe, Queen Square, on the 4th inst., when the Chairman (Mr. Carter, head gardener to the Hon. Philip Stanhope, M.P.) read a paper on "Strawberries." The lecturer exhibited eight remarkable fruits of the Auguste Nicaise Strawberry, weighing ¾lb., grown by himself in pots at the Wodehouse Gardens, Wombourn. The fruits were well formed and finely coloured. Several speakers stated they had never seed such fine Strawberries grown in pots before. Owing to the summer shows and other attractions the next few months the meetings were postponed till October. Members propose to arrange an excursion to Chatsworth or some other noted gardens. A hearty vote of thanks to the Chairman closed the meeting.

Orchids for the Queen.—Dr. Paterson, Fernfield, Bridge of Allan, having forwarded his usual loyal offering of a box of choice Orchids to Balmoral for Her Majesty's gracious acceptance on the occasion of her birthday, has received the following reply on the Queen's behalf from the Hon. H. C. Legge, the Equerry-in-Waiting:—"Balmoral Castle, on the 5th June.—The Equerry-in-Waiting presents his compliments to Dr. Paterson, and begs to inform him that he is commanded to thank him very much for the lovely Orchids he was good enough to send the Queen, with which Her Majesty was greatly pleased." The Orchid flowers consisted of very fine Cattleyas, Laelias, Vandas, Odontoglossums, &c.

Syndal Chamber of Belgian Horticulturists.—At the meeting of this Society, on the 9th inst., Certificates of Merit were awarded to 25 plants of Pelargonium Odier by M. Emile Lossy; to Anthurium Scherzerianum pomponatum rubrum and A. S. p. album shown by M. De Smet-Duvivier; to Philica elegantissima and Nidularium acanthocrater shown by M. Petrick; to Anthurium Madame Wallem shown by M. A. De Smet; to Amaryllis (Hippeastrum) splendens, shown by M. Pynaert Van Geert; to Impatiens Sultani salmonium grandiflorum and Hypericum Moserianum tricolor, shown by M. Debois; to Anthurium Scherzerianum Madame Edgard Wartel, presented by the Ghent Horticultural Society; to Odontoglossum crispum Janssens and Vincent and O. Pescatorei Janssens and Vincent, presented by MM. Janssens and Vincent; to Odontoglossum crispum guttatum, shown by MM. E. Vervaet & Co.; and to Laelia grandis tenebrosa, exhibited by M. Jules Hye.

Dutch Horticultural and Botanical Society.—The Floral Committee on May 11th awarded First-class Certificates to Messrs. E. H. Krelage & Son, of Haarlem, for the following varieties of Darwin Tulips: Paul Bandry, Tra Angelica, and Marcella; and for the varieties of Flemish Tulips: Boscette, Henri Jules, and Annie Marie; and to Mr. F. Van Der Wissel, of Epe, for Picea excelsa fastigiata. Certificates of Merit were also awarded to Messrs. E. H. Krelage & Son, of Haarlem, for the varieties of Darwin Tulips: Gretchen and Jhr. Schorer; and for the Flemish Tulips: Dolobella, Palma, and Dolores, and to Tulipa Franconiana; to Messrs. A. Glijm de Vos & Co., of Utrecht, for Annysogonum decussatum and Begonia decora; and to Messrs. Peter Van Velsen & Sons, of Overveen, for Myosotis alpestris umbellatus.

Certificates awarded at Brussels.—At the sixtieth meeting of *L'Orchideenne*, a society of lovers of Orchids, Brussels, on the 9th June, the following awards were made: Diplomas of Honour of the First-class for novelty were awarded to a hybrid Odontoglossum (crispum x luteo-purpureum ?) and Acineta eburnea, from M. Linden; and to Cattleya Albertii, from M. Van Imschoot. Botanical Certificates were accorded to Bulbophyllum Dearei and B. anceps, from M. Linden. Certificates of Merit were awarded to:—Odontoglossum crispum and Odontoglossum crispum from M. Madoux; to Cattleya Mossiae chirguensis, from M. Van Wambeke; to Laelia purpurata princeps, Cattleya Mendeli Empereur, and Laelia elegans var., from M. Linden; to Cattleya Mendeli var., from M. Madoux; to Cattleya maxima Leopoldi, from M. Knight; to Odontoglossum crispum var., from M. Madoux; to Cypripedium selligerum majus, from M. le Dr. Capart; to Cochlioda Noetzliana var. aurantiaca, from M. Knight; to Odontoglossum crispum var., from M. de Lombaerde; to Odontoglossum crispum var., from M. Madoux; to Odontoglossum crispum, from M. Van Wambeke; to Odontoglossum crispum var., from M. Madoux; to Cypripedium ciliolare var., from M. Linden; to Cattleya Mendeli, from M. de Lombaerde; to a group of three Odontoglossums, from M. De Craene; to Anguloa Madouxiana, from M. Madoux; to Laelia purpurata var., from M. Miteau; to Phalaenopsis Luddemaniana, from M. Madonx; to Vanda Marriottiana, from M. Linden; and to Cattleya Mossiae var., from M. Varjenevsky. Certificates of Culture and of good flowering of the first class were awarded to three plants of Laelia purpurata, from M. Van Wambeke; to Cattleya Mossiae var., Thunia Marshalliana, and to Saccolabium ampullaceum, from M. Linden.

Messrs. Sutton & Sons' Annual Excursion.—This most pleasant excursion was held on Thursday, June 6th, when for the first time Folkestone and Dover were visited. Starting punctually at 7 a.m., a heavy special train conveyed members and employés of the firm and friends with absolute punctuality over the long journey, the South Eastern Railway Company having, through Mr. J. W. Trowbridge, the new station-master at Reading, made the most perfect arrangements for the journeys. The party, which numbered just over 600, was accompanied by Mr. and Mrs. Herbert Sutton, Mr. Arthur Warwick Sutton, Mr. Leonard G. Sutton, and the Misses Sutton. Folkestone was reached at 10.15 and Dover shortly after, and the happy party dispersed to enjoy themselves in various ways until the return journey which was commenced at 7.30 and concluded at 11. Many visited the great military camp at Shorncliffe, inspected the Admiralty Pier, the Castle and Forts of Dover, and the pretty little hamlet of St. Margaret's Bay, many drove to Sandgate and Hythe, and many others betook themselves to the beautiful downs behind Folkestone, bent, and successfully, upon collecting interesting botanical specimens which abound in that favoured region. The majority, however, found full occupation for a pleasant day in Folkestone itself, the harbour, the beach, the pier, and the magnificent Leas affording them plenty of points of interest. The day proved fine, though dull and not very warm, and there was a very boisterous wind, so that only a few ventured on the steamboat trips to Calais and Boulogne as arranged. As usual, each married man received an invitation for his wife, and with the liberality which marks the firm on all occasions, not only was the train provided, but every person was presented with a sum of money sufficient to fully defray the expenses of the day.

Veitch Memorial Medals.—At the Royal Horticultural Society's meeting on Tuesday, June 11th, Sir Trevor Lawrence being in the chair, the ceremony of formally presenting three Veitch Memorial Medals to their respective recipients was performed. The three gentlemen so honoured were Mr. James Bateman, Mr. Moore, of Glasnevin, and M. Victor Lemoine, of Nancy. In a short but appropriate speech, the chairman said that it gave him peculiar pleasure to be able to hand a Veitch Memorial Medal to Mr. James Bateman, who had a spent a long and useful life in horticultural and botanical investigations, and who had as far back as the year 1843, given to the world that valuable work the Orchidaceæ of Mexico and Guatemala, a book characterised by the thoroughness with which it had been prepared, and the minutely correct plant description it contained, and which had so far not been surpassed by any of the more recent productions. Mr. Bateman replied at some length and said how sensible he felt of the honour that was being paid to him in thus presenting him with a Veitch Memorial Medal. Mr. Moore, of Glasnevin, also acknowledged the presentation of the medal to him, and said that it would be a great encouragement to him to make still more strenuous efforts in the future to assist horticulture by every means in his power. M. Victor Lemoine was unfortunately unable to be present, and Mr. Veitch received the Medal for him from the hands of the chairman, remarking upon the pleasure he felt that M. Lemoine's services to horticulture had been thus acknowledged.

Edinburgh Botanical Society.—The Edinburgh Botanical Society met on the 13th inst. in the Royal Botanic Garden—one of the vice-presidents, the Rev. Dr. Paul, Roxburgh, in the chair. Mr. R. Lindsay, curator at the Garden, read his monthly report on vegetation, which stated that the weather of May had been warm and dry, and, if not all that could have been desired, had been very favourable to vegetation generally. No frost occured during the month, and vegetation made very rapid progress. The foliage of all the ordinary deciduous trees and shrubs was now in perfect condition, being most luxuriant and healthy. Ornamental and fruit trees had flowered

very profusely. Among the finest in blossom were the single and double Cherry, Pear, Apple, Horse Chestnut, Laburnum, and Pavia. No frost having occurred when the trees were in blossom a heavy fruit crop might safely be anticipated. The rock garden was very attractive during the month, many more plants having come into bloom than was usually found in May. No fewer than 346 species and varieties come into flower, as against 227 for May of last year. Mr. R. L. Harrow, in his "Notes on Plants in the Plant-houses," stated that about 220 plants had flowered since last meeting, rather more than 200 of these being species. This exceeded the number recorded for 1894 by nearly 100 species. Of these a large number were new to the collection, to which they had recently been added. The exhibits displayed included a fine series of Alpine plants from the Botanic Garden, and an interesting series of modern forms of the Viola, the result of crossings, shown by Mr. Grieve.

Arbor Day in the United States.—A day has been fixed upon annually for the planting of trees, by a great number of the states of the American Union. The law which has established Arbor Day in the State of New York dates only from 1888, and in three years it has planted on a fixed day more than 25,000 trees.

SUMMER SCHOOL OF HORTICULTURE.

PROSPECTUS.

A SHORT course of elementary instruction in horticulture will be given at the County Technical Laboratories, Chelmsford, during the first three weeks in July, 1895. The classes will be held daily from nine till five o'clock for lectures, laboratory practice, and garden work. Twelve scholarships are offered by the committee for competition. Candidates must be residents in the county, be between the ages of fourteen and twenty-five, and be either already employed in a garden, or seeking such employment. Selected candidates working satisfactorily will receive free instruction, use of instruments, tools, etc., and a maintenance allowance of fifteen shillings a week during the course. One railway fare to and from Chelmsford will also be allowed. A limited number of applications are invited from persons interested in the study of horticulture, and desirous of attending the course with a view of teaching the elements of horticulture in evening classes or continuation schools. These will be admitted to the classes free, upon conditions that may be ascertained by writing to the secretary. Applications must be made on printed forms which may be had on application to the Secretary, County Offices, Chelmsford. The application forms must have been filled up and sent in on or before Friday, the 14th inst. The staff-lecturer on biology (D. Houston, County Technical Laboratories, Chelmsford), will be pleased to give intending candidates any information respecting the course.

SYLLABUS.

The proposed course of study is intended to give sound elementary instruction in the cultivation of plants, based upon a knowledge of plant physiology. The teaching throughout will be practical: every lecture will be abundantly illustrated and immediately followed by demonstrations and individual practical work by the students themselves. There will be weekly revision and tutorial classes at which questions may be asked and answered, and puzzling or obscure matters more fully discussed or explained. Students will be required to attend each class meeting, to keep a daily record of the work done, and will be expected to devote two hours beyond class time each day, to writing up notes, etc. The course will include:—(1) Three lectures on chemistry as applied to horticulture, with demonstrations in the chemical laboratory. (2) Fifteen lectures on the physiology of plants, with garden demonstrations and individual practical work in the biological laboratory. (3) Nine lectures on horticultural operations and practices by Mr. J. Fraser (late of Kew Gardens), editor of THE GARDENING WORLD, accompanied by greenhouse and garden demonstrations and individual practical work by the students. (4) Two lectures and demonstrations on diseases of plants due to fungi. (5) A lecture and demonstration on injuries to plants due to insects. A perusal of the time-table will give the best idea of the scope and arrangement of the subjects intended to be taught in the proposed course.

EARLY PEAS.

MR. COCKERILL's note last week on this subject is not so serviceable as it might have been, had he given us the date on which his Peas were sown, together with the aspect and the nature of his soil. That emanating from Mr. Pentney on "American Wonder" is far from more instructive, showing as it does how this useful variety should be treated to ensure satisfactory results. The same remarks will apply with equal force to "Chelsea Gem," for it is in their adaptability for forcing that the true value of these dwarf kinds are to be found. That there are other early varieties more satisfactory for sowing in the open there can be no question about. Experience has taught me too, that some sorts do much better in certain soils and localities than do others, so when I have discovered a good thing, suiting my requirements and conditions, I stick to it, however old-fashioned its name, for novelty alone is no recommendation to me.

I give you herewith a list of a few varieties with dates of sowing and gathering, but would premise that my soil is a very stiff loam on a clay subsoil, and practical men know well that such a soil more than nullifies many advantages of climate for early vegetation, as compared with that of an open friable character. "Veitch's Selected Extra Early" was sown on turf strips in a cold frame on 12th March, and the first gathering was made on the 1st June. The same variety sown on the same date in the open gave the first gathering on the 6th June. Veitch's Exonian sown on the same date gave the first gathering on the 8th June (my first trial of this excellent Pea, and it has come to stay). Dickson's First and Best sown on the same date was first gathered on the 12th June (this is a very old favourite of mine, as, in addition to being fairly early, it is an extremely prolific and continuous bearer). This last named is growing on a border with a western aspect, the others on a southern border.

Veitch's Exonian sown on the 18th March in open quarters I am now gathering from, obtaining plenty of plump well-filled pods. Veitch's Earliest Marrow sown on the same date and side by side, will be at its best next week.

For a succession I have Gladiator, Dr. Maclean, Veitch's Perfection and Criterion, all of which are varieties for mid-season hard to beat. For general and late supplies I stand or fall by Autocrat, Emperor of the Marrow, Bristish Queen, and Ne Plus Ultra. Autocrat is a grand late Pea of medium height, but where a tall grower is not objected to Ne Plus Ultra has yet to be beaten for late supplies. The foregoing remarks are intended solely for utility purposes. For exhibition I am well aware there are more showy kinds. Neither do I pretend to have named anything like a full list of useful sorts, for our great seed firms show a commendable rivalry in raising, noting and fixing by careful selection and cultivation any useful deviation from an original type of one and all our garden products. It remains for us gardeners to test intelligently, select what answers our purpose and conditions, and if we attempt to report to do so impartially.—*J. Seward, June 17th.*

IN the GARDENING WORLD received this morning (14th inst.) I notice your correspondent, "Thos. Cockerill," mentions some varieties of Peas sown on the same date. They are varieties which I have not grown, so cannot confirm his statements. There is not much to be said in their favour if we may be allowed to compare them with an old Pea, William the First, a sample of which I send you. I gathered the first dish yesterday, but might have done so on the 10th inst. They were sown in the open quarter on the 13th of March. Excuse me referring also to Mr. Pentney's experience of Pea Veitch's American Wonder; he sowed them "in pots on the 6th February, and placed the pots in a cool vinery. He planted them at the foot of a south aspect wall in March, and gathered his first dish during the second week of May." Peas grown as the above cannot well be said to have been grown in the open. Gardeners have enough to do without adopting such coddling practices, for so small a result. —*G.T., Urtica Villa, Knap Hill, Woking, 14th June, 1895.*

Monument to Mr. A. J. Downing.—A movement is on foot to erect a fitting memorial to the late A. J. Downing, the eminent writer on horticultural topics, and founder of the park systems of America.

LADY GARDENERS IN CONFERENCE.

IN connection with the women's branch of the Horticultural College, Swanley, a meeting was hel in the Indian room of the town residence of Lord Brassey, 24, Park Lane, London, on the 14th inst., Lord Grey occupying the chair. Lord and Lady Brassey, Dean Hole, and many other notable people were unavoidably absent, but Earl Grey and several others turned up during the course of the meeting. The fine room, entirely encased with oak carving from floor to roof and galleries, was crowded with people, the larger proportion of whom were ladies. The chairman introduced Miss Goodrich Freer, who sketched the progress of the women's branch of the College, which was founded in 1891. In the course of her remarks she said that women had as much right to be trained to work as men, and that quality more than quantity of work was to be expected from them. They generally had great taste in the arrangement of flowers and similar work. Of those who had already passed through the College, some were superintending gardening operations at home, some had occupations in market gardens, and two, at least, had situations as head gardeners. There was no intention to train women to do the work of labourers; but, on the other hand, most of the students were specialists in some branch or other, and the College was giving them an education on a good, solid, and scientific basis.

Mrs. Williamson was the next speaker, who discussed the work of the College from an educational point of view. She said that work was compatible with an educated life, and that gardening in itself was a powerful educator. Botany, physiology of plant life, chemistry, geology, and other cognate sciences were all related to the science of gardening, and should receive attention. Education in the future should co-operate with nature to improve upon the natural conditions of plant life. Amongst other things the suitability of environment must be studied, and the duty of the educator was to train the eye and the mind from this point of view. It was from such a study that the painter often gleaned his first ideas in the working out of his picture.

Professor Henslow spoke of "The Relation of Science to the Art of Gardening," and took occasion to mention several instances where the practical man had rendered considerable service to science, and, on the contrary, described cases in which science had come to the practitioner's aid, and that both had often worked together for the mutual advantage of both. He entertained an attentive audience for a considerable length of time, touching upon various experiments that had been made, and suggestions proved or disproved as the case might be. He instanced the starting points in the hybridising and cross-breeding of flowers and fruits, and the improvements that have been effected in Strawberries, Parsnips, Radishes, Shirley Poppies, and other subjects, mostly by practical men. He described the discovery of manurial and commercial value of coprolites as a source of phosphate of lime, and later on expressed some doubt as to whether any more of our wild plants could be improved and rendered fit for human use, but saw no absolute reason why it could not be done.

Mr. J. W. Luckhurst, of the Horticultural College, Swanley, described the working out of science in relation to the work done at the College. He gives practical demonstrations at the College, and said he was deeply indebted to science in his practical work. He invited the students to come to him with questions and difficulties, and after a time they did come, showing that they were in earnest by their attention and note taking. He himself was indebted to a knowledge of artificial manures in making the cropping and management of a large farm pay. Foreign competition, he said, was abominable when we should produce the necessary crops ourselves. Horticulture will be more important in the future than in the past to this country. He hates rule-of-thumb practice, and gives the students a reason for everything he instructs them to do. Miss Currey, Lismore, Ireland, spoke of gardening as a profession for women, and instanced the work in which she took special delight in her own experimental garden. Mrs. Westlake pleaded for the endowment of scholarships for those who after a year's training proved themselves worthy of such support. Mr. Powell moved a vote of thanks to the speakers, and spoke of the good work being done in the training of women who were conscientious and patient in their work. Mrs. Fawcett supported the vote and indicated a desire to place herself in the position of a student that she might learn and enjoy the secrets and advantages of the profession. She was warmly applauded. Lord Grey, in replying, said that he was pleased with what he had seen at Swanley, and that the College was a national experimental institution producing work of lasting value.

PLANTS RECENTLY CERTIFICATED.

The following subjects received awards according to merit from the Royal Horticultural Society on the 11th inst.:—

FLORAL COMMITTEE.

Blandfordia aurea.—The leaves of this noble plant are 2 ft. to 3 ft. long, and as slender and graceful as those of the Grass Tree of Australia. The arge plant exhibited bore eighteen scapes, 3 ft. to ft. high, and each carried a raceme of funnel-haped pendent flowers at the apex. They are orange coloured, with six short yellow segments, and on the whole were very charming. We have never seen a larger nor better grown plant. First-class Certificate. Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

Bentinckia nicobarica.—The leaves of this Palm, as shown, were 3½ ft. long, deeply pinnatisect, with very broad segments, and bifid at the apex. The plant was well furnished with leaves, and must always present a strong contrast with other and better known Palms grown for decorative purposes. First-class Certificate. Messrs. F. Sander & Co., St. Albans.

Cyrtanthus obliquus.—Many fine, old, and showy bulbous plants are undeservedly neglected at the present day. The flowers are funnel-shaped, pendulous, and orange-scarlet, with short yellow segments that are tinted with a peculiar shade of green. They are bold, effective, and might with advantage be more frequently seen. First-class Certificate. Messrs. F. Sander & Co.

Streptocarpus Distinction.—This is a variety of a very large-flowered strain, and marks a stage in the progress of this popular class of plants. The flowers are light blue with three very broad violet bands on the lip. Award of Merit. Messrs. J. Laing & Sons, Forest Hill.

Carnation Corunna.—In this we have a handsome bright yellow variety of apparently strong constitution, and suitable for border culture. The petals are minutely toothed at the margin, but the flower as a whole is neat and refined. The variety was raised by Martin Smith, Esq., but shown by Mr. Jas. Douglas, gardener to Mrs. Whitbourne, Great Gearies, Ilford. Award of Merit.

Paeony Solfaterre.—The outer petals of this variety are broad, spreading, and white, forming a guard to the numerous, and more erect, creamy-white central ones, which are narrow and jagged at the ends. It is a beautiful variety, and strongly-scented. Award of Merit. Messrs. Barr & Son, Covent Garden.

Begonia B. R. Davis.—The flowers of this beautiful double variety are very large and dark crimson-red. The broad wavy petals are arranged round a single centre. Award of Merit. Mr. B. R. Davis, Yeovil, Somerset.

Begonia Mont Blanc.—Here again the blooms are very large, semi-globular, and pure white. The petals are slightly wavy, and on the whole make a handsome flower. Award of Merit. Mr. B. R. Davis.

Begonia Lucerne.—The double flowers in this case show a curious combination of colours. At first they are orange with a rosy-pink centre, but when fully developed the orange hue becomes more predominent and is more or less tinted with rose. Award of Merit. Mr. B. R. Davis.

Paeony Lady Beresford.—The flowers of this variety are very large, with broad, satiny-pink, almost white petals, and are pleasing and attractive. Award of Merit. Messrs. Kelway & Son, Langport, Somerset.

Paeony Duke of Devonshire.—Here the blooms are large, very full in the centre, and of a dark rosy-purple. The outer petals are broad, forming a sort of guard to the rest. Award of Merit. Messrs. Kelway & Son.

Delphinium Beauty of Langport.—The flowers of this distinct variety are semi-double and white, with small yellow petals in the centre. The shade of colour is very unusual amongst this class of improved Delphiniums, and will be esteemed for the sake of contrast with the various shades of blue. Award of Merit. Messrs. Kelway & Son.

Iris asiatica.—This is a strong-growing and free-flowering form of bearded Iris with large and showy flowers. The falls are dark violet-purple, and the broad obovate standards of a rich blue. Award of Merit. Messrs. R. Wallace & Co., Colchester.

Calochortus Lyoni.—As in other species of Mariposa Lily, the outer segments are green and inconspicuous, but the inner ones are large, wedge-shaped, and white, shaded with the faintest pink on the face, but more decidedly with rosy-purple on the outer surface. Near the base on the inner face of each of the three large segments is a maroon blotch bearded with long hairs. Award of Merit. Messrs. R. Wallace & Co.

Rose Lawrence Allen.—The flowers of this hybrid perpetual Rose are similar in form to those of Mrs. John Laing, but paler in hue, being of a beautiful pink shading off to satiny-pink at the revolute edges of the outer petals. In the early stages more especially the flowers are very full, compact, and handsome. Award of Merit. Messrs. Geo. Cooling & Sons, Bath.

Rosa Rugosa Blanche de Coubert.—Improvements continue to be effected in this beautiful Japan Rose. In this case, as the name indicates, the flowers are white. They are semi-double, very fragrant, and the bold leaves of the type are still retained. Award of Merit. Messrs. Paul & Son, Cheshunt.

Inula Hookeri.—The golden-yellow flower heads of this hardy border plant measure about 2½ in. to 3 in. in diameter. The long rays are supported by numerous, slender, and very hairy bracts. The plant is very choice amongst a collection of herbaceous plants. Award of Merit. Messrs. Paul & Son.

FRUIT AND VEGETABLE COMMITTEE.

Melon The Lady.—The fruit of this Melon is of moderate size, with a creamy-white and smooth skin or very slightly netted. The variety would be placed in the scarlet-fleshed class; but the flesh, which is of great depth, is white except a small portion next to the seeds, which is scarlet. It is an excellent Melon of rich flavour, and luscious when fully matured. Award of Merit. Her Majesty the Queen (gardener, Mr. Owen Thomas), Windsor.

Tomato Excelsior.—The fruit of this variety is of moderate size, slightly compressed, and smooth, resembling Perfection to a considerable extent except in size. When fully matured the skin is of a deep crimson-scarlet and showy. No doubt it would make a useful market sort on account of its convenient and desirable size. Award of Merit. The Rev. the Marquis of Normanby, Mulgrave Castle, near Whitby.

Spinach Long Standing.—The leaves of this variety are of large size, dark green, and keep in fit and usable condition for a long time by comparison with those of other sorts. Another variety shown alongside of it, and grown under the same conditions, had run to flowers. Award of Merit. Shown by the Royal Horticultural Society from its gardens at Chiswick.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids received certificates according to merit from the Royal Horticultural Society on the 11th inst.

Cirrhopetalum robustum. *Nov. sp.*—The lanceolate leathery leaves of this bold species are about a foot long. The flowers are produced in short bracteate racemes, but arrange themselves in the form of a half circle when fully expanded. The oblong sepals are greenish yellow, but the lateral ones which are partly united along the edges are shaded with purple on the inner face at the base. The much smaller petals are shaded and mottled with red. The hinged lip is blackish purple, with a red band along the concave centre. It is very distinct from others of the genus we have seen, and attractive even if not showy. First-class Certificate. Messrs. J. Veitch & Sons, Chelsea.

Cattleya superba alba. *Nov. var.*—All parts of this beautiful variety are pure white with exception of a yellow blotch on the centre of the lip and which narrows as it passes down into the tube. The whole plant is dwarf and the flowers neat and attractive. The form of the flower reminds one of Laelia Perrinii to some extent. First-class Certificate. Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, near Manchester.

Cypripedium bellatulum album. *Nov. var.*—Only a few plants of this have been introduced to cultivation through the agency of Messrs. Charlesworth & Co., Heaton, Bradford, and the albino is so beautiful and pure that one could wish that hundreds had been imported. The flower is pure white, except a small yellow spot on the staminode, and as far as form is concerned it is true to the type. The purple shading and other markings have, so to speak, been washed out of the leaves which are green. The variety is one of the choicest of its class. First-class Certificate. Sir Frederick Wigan (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

Cattleya gigas Sanderae. *Nov var.*—The sepals of this grand variety are soft rose, and the petals some shades darker. The lip is the finest feature of the flower, however, being of a large size, and rich crimson-purple, with two golden eye-spots near the opening or throat of the tube. First-class Certificate. Hamar Bass, Esq. (gardener Mr. James Hamilton), Burton-on-Trent.

Renanthera Imschootiana.—This dwarf and pretty species was first sent to this country in 1891, so that it is practically new, and probably never before seen in public in the flowering state. It is allied to R. coccinea and R. Storiei, but bears its reddish-vermilion flowers in a simple raceme, on a scape about 2 ft. high. The flowering plant shown was only 6 in. high, so that it is much more adapted for general cultivation than the better known R. coccinea. Award of Merit. Edward H. Woodall, Esq., St. Nicholas House, Scarborough.

Laelia grandis Wigan's var. *Nov. var.*—The flowers of this variety are relatively small but novel and pretty. The sepals and petals are clear yellow but the lip is white, striated with rose, and deeply shaded with rose-red in the tube which is also lined with purple and white towards the base of the interior. Altogether it is a choice addition to a collection. Award of Merit. Sir Frederick Wigan.

Laelia purpurata Richmond Gem. *Nov. var.*—The sepals and petals of this fine Laelia are pure white thus contrasting with the intense purple lip. The interior of the tube is striated with slender purple lines on a creamy-white ground. It is a handsome addition to the existing varieties of this popular and useful species. Award of Merit. Sir Frederick Wigan.

Cypripedium Elenor. *Nov. hyb.*—This hybrid was obtained from C. selligerum majus crossed with the pollen of C. superbiens. The upper sepal is white shaded with soft rose with darker veins and shaded along the centre. The pink petals are spotted with black all over and are 2½ in. long. The lip is brownish purple. The petals and the upper sepal are the finest parts of the flower. Award of Merit. Sir Trevor Lawrence, Bart. (grower Mr. White), Burford Lodge, Dorking.

Disa cornuta.—In this we have a blue Disa, and what there is of it is both novel and pretty, but it would have been more highly esteemed if the flowers had been larger or more numerous. The upper sepal is large, hooded, light blue, and terminates behind in a long horn. The lateral sepals and the lip are darker blue, but the long, slender petals are directed into the hood and very much hidden. Botanical Certificate. Sir Trevor Lawrence, Bart.

Cypripedium Frau Ida Brandt. *Nov. hyb.*—Here we have a hybrid of complicated parentage. The seed parent was C. Io grande, itself a hybrid between C. Argus and C. Lawrenceanum. The pollen parent was C. Youngianum, a hybrid from C. superbiens, crossed with the pollen of C. Roebellinii. The compound hybrid under notice surpasses both its parents in colouring and elegance of shape. C. Youngianum is apparent in the slightly drooping and spotted petals. The dorsal sepal is nearly 3 in. in diameter, and pea green at the base shading into bright rose-pink and white, and marked with numerous chocolate spots along the veins. The petals are nearly 5 in. long, and clear green shading into pink-magenta spotted with maroon. The lip is of a warm pinkish-brown. Award of Merit. Messrs. F. Sander & Co., St. Albans.

Scuticaria Hadweni.—The sepals and petals of this interesting Orchid are yellow, and blotched transversely with brown. The lip is white, striped lengthways with rose, and strongly turned up at the sides. The leaves are terete and about 10 in. long. Botanical Certificate. W. C. Walker, Esq. (gardener, Mr. G. Cragg), Percy Lodge, Winchmore Hill.

Oncidium insculptum.—This may be described as one of the tall climbing Orchids, bearing numerous short lateral branches of flowers. The upper sepal is orbicular, but the other segments are oval, and all are wavy and of a rich brown with a yellow margin. Botanical Certificate. W. C. Walker, Esq.

Sarcanthus Williamsoni.—The leaves of this species are terete, about 3 in. long, and coiled or recurved like a ram's horn. The small and pretty flowers have white sepals and petals with a purple line along the centre. The three-lobed lip is purple, Botanical Certificate. Messrs. W. L. Lewis & Co., Southgate.

Bifrenaria vitellina.—The flowers of this species are like those of a miniature Dendrobium, and borne in short racemes of three or four blooms. The sepals and petals are deep golden yellow with an orange-brown band along the back of the former. The side lobes of the lip are striped with brown lines, and there is a maroon blotch in the centre. Botanical Certificate. Messrs. W. L. Lewis & Co.

Habenaria dilatata.—The stems of this terrestrial species are about 12 in. to 18 in. high, and bear each a long raceme of pure white flowers of moderate size. It is a native of North America, and most likely is hardy. Botanical Certificate. Mr T. S. Ware, Hale Farm Nursery, Tottenham.

Masdevallia campyloglossa.—The flowers of this species are somewhat triangular in outline, and white with purplish nerves; the sepals are gradually drawn out to slender points, but are scarcely tailed in the truer sense of the term. Botanical Certificate. R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell.

Masdevallia gemmata.—The lateral sepals are united in somewhat boat-shaped form are deep brownish-purple ending in yellow tails ¾ in. long. The upper sepal is ovate, but similar in colour to the rest. Botanical Certificate. R. I. Measures, Esq.

Masdevallia Wageneriana.—The flowers of this neat and pretty little species are triangular in form, and pale, clear yellow with reflexed tails about 2 in. long. Botanical Certificate. R. I. Measures, Esq.

Masdevallia demissa.—The short tube of this species is bronzy-yellow. The lateral sepals are reflexed, and all are fuscous or dusky yellow ending in tails ½ in. to 1 in. long. Botanical Certificate. R. I. Measures, Esq.

THE PLANT HOUSES.

The Stove.

As most of the plants should now be in vigorous growth, and will accordingly have filled their allotted space with roots, such subjects as it is not desirable to pot on must be given a little material stimulant. Recourse may therefore be had to the manure tub, in which a supply of cow manure should always be soaking. Carefully free this from all sediment, and put sufficient of the strained solution into each can of water to colour it nicely. Although cow manure is perhaps one of the mildest stimulants, and hence one of the safest that can be obtained, there is also a medium of strength beyond which it is not advisable to go in giving it to plants. For climbers planted out in borders a good method of applying manure is to give a light dusting of Clay's Fertiliser or of Standen's, forking this lightly in with a small hand-fork, and giving a good watering immediately after.

Gymnogrammas. — These lovely stove Ferns, although they always excite our admiration whenever we see them growing in anything like condition, do not usually meet with so much favour amongst the gardening fraternity as their beauty entitles them to. This is doubtless due to their somewhat touchy constitutions, a little too much attention with the watering-can often being responsible for the loss of many fine plants. During the winter and early spring months particularly they must be kept rather drier at the root than the majority of Ferns usually are, although this must not be taken to mean that they are to be allowed to suffer from lack of the necessary water. During the summer months, given fairly vigorous root action, it is often astonishing to see the quantity of water that some Gymnogrammas will take. In all cases, if they are accommodated in the stove amongst a general collection of plants, they must be given a corner to themselves, and due care must be taken that they are out of the way of the syringe; for water dropping upon the foliage is very injurious, robbing as it does the plants of a great part of their beauty. At this season of the year snowy fly is usually more or less of a pest, and a sharp look-out must therefore be kept for its appearance, for it is always a most troublesome insect to get rid of once it gets a hold. The best method of dealing with it, however, is to apply to the affected fronds a sponge damped with a solution of Lemon oil. To this the insects will adhere, and if proper caution is exercised not to rub the fronds no injury to the plants will follow.

Selaginellas.—Numbers of these are very suitable from their dwarfness as edging plants for the stages. The two most commonly met with are S. Kraussiana and its variety S. K. aurea. Others which are also very useful for a like purpose are S. uncinata, S. Emileana, S. apus, and S. molliceps. These are all propagated very readily by cuttings, which, if taken now and inserted in shallow well-drained pans filled with light sandy soil, will root very quickly, and soon make nice plants. A stock of this kind of material never comes amiss.

Pits and Frames.

The bright sun will have kept things busy in this department, at least with regard to the giving of water, especially as it has been accompanied with such drying winds. Airing and shading, where required, also need strict attention, and thus it often happens that the gardener is apt to grumble and say that he has no time for anything else, and that his work is getting behindhand.

Chrysanthemums.—These will necessarily be one of the chief considerations now, as it is quite time that they were in their flowering pots. Where large numbers have to be potted, and the operation thus a lengthy one, a start is usually made by the beginning of June. For cultivators, however, who have only a comparatively few plants to operate on, the middle of the month is quite soon enough, starting with the strongest individuals first, and leaving the weakest ones until last. All plants which are expected to come in before Christmas must be in their flowering pots by the end of June at the latest. Where potting is in full swing now a few remarks may be of service. The compost, of course, will have been carefully mixed. This should consist of two parts of good turfy loam to one of dried cow or horse manure, with the addition of a sprinkling of crushed bones, a little soot, and a goodly quantity of river sand. A bright look-out must be kept for wireworms, which are often present in the loam in greater or less numbers. Firm potting is an essential, as conducing to short-jointed growth. It is likewise important that the pots are not filled too full of soil, a mistake that young gardeners often make. The level of the compost must be at least an inch and a half below the top of the pot. Some growers allow two inches, thus leaving room for a more liberal top-dressing bye and bye than would otherwise be possible.

Newly Potted Chrysanthemums. — It may safely be said that one of the most critical stages in the cultivation of the Chrysanthemum is that represented by the two or three weeks immediately subsequent to potting. The plants should be stood outside under the shade of a wall or hedge. Morning and evening a light dewing over with the syringe must be given, whilst watering at the root must be conducted with the greatest caution, for if the soil is allowed to become sour and sodden good-bye to all hopes of real good blooms presently. Should the points of any of the shoots become attacked with green fly give a dusting of Fowler's Tobacco Powder, taking care, however, to wash this well out within an hour of its first application, for if allowed to remain the young leaves are almost sure to be injured in some degree.

Herbaceous Calceolarias.—Although seed may be sown at any time from the middle of May to the end of July, the present is quite the best time to do so, for while but little is gained by sowing too soon it is not wise to defer the operation for too long if good strong plants are required that shall have reached a good size by the time winter sets in. Drain some shallow pans thoroughly, having about a couple of inches of fine light soil upon the surface, and filling the pan up to within an inch of the top. Carefully level the soil, pressing it down with any flat surface, and on this sprinkle the seed, which will need very careful handling, as it is very minute. A little fine sand may then be thinly shaken upon the seed to keep it in its place, a sheet of glass placed over it, and the pan stood in an unheated frame, keeping the latter close, and shading whenever the sun is bright.

Double Primulas.—If these were earthed up or packed around with sphagnum and sand, as advised a few weeks previously, they should now have made roots sufficient to warrant their being divided. The separation must, however, be conducted judiciously, for the newly formed roots are very tender and extremely liable to injury if roughly handled. The young plants, after being severed from each other, must be potted off singly according to their size. As a rule forty-eights will be found a handy pot to use. The compost should consist of equal parts of good fibrous loam, from which much of the dust has been shaken, and leaf soil, which must likewise be examined before using to see that it is free from fungoid growths. To this may be added cow manure, dried and rubbed through a sieve, and a goodly quantity of sharp sand. After potting the plants may be kept rather close, and, indeed, they never take kindly to too much exposure, as they like rather warmer treatment than do the single-flowered Chinese Primulas.—*A. S. G.*

THE ORCHID HOUSES.

East Indian House.—The principal work in this division is keeping up a nice, genial, growing atmosphere, by frequently damping the walls and stages, and by pouring water on the paths, &c.; and during the hottest part of the day of such dry times as we are now getting it will be advisable to damp the paths outside the houses, also the blinds. This helps to keep the temperature down inside. When going round for the last time at night, sprinkle the walls and floors with manure water, such as is made from drainings from the cow sheds or stable. The ammonia given off during the night will much benefit the plants without leaving any unpleasant smell in the morning, besides helping to keep down insects. This may be done in all divisions.

Cattleya House.—Now that the Cattleya Mendelii, Laelias, &c., are over we shall keep this house somewhat close and moist, so as to induce the plants to break away freely, and thereby lay the foundation for another season. Some, as I mentioned in the last calendar, will require re-potting, whilst others will go round again if simply top-dressed. Allow the plants a little time to plump up after being hard flowered before disturbing them; a good sponging will help them to do this.

Laelia grandis tenebrosa.—This promises to be a most useful free-flowering Orchid, and of easy culture—in all imported plants (if they have any old leaves) making flowering growths the first season. There is not a great variety seemingly amongst them, but when you do get a good one it is grand. Treatment the same as L. purpurata suits it well.

Cool House: Disas.—The spikes of this lovely cool house Orchid are well advanced, and should be helped by weak doses of manure-water. Guano is good for them, but where procurable I would rather use weak cow manure, it is so much cooler, and seems to be just what they require. Thrips and green fly are rather troublesome if allowed to get a hold, and will soon weaken the plants. A little tobacco powder dusted into the heart of the growths will keep them in check if taken in time.

Epidendrum vitellinum majus.—This pretty little Mexican Epidendrum when well grown and well flowered is an object which catches the eye at once, on account of its colour. Whilst it enjoys the shade and moisture of the Odontoglossum house, it seems to require the extra heat and air of the intermediate house, so that perhaps the best place is a shady end of the Mexican house. Peat and sphagnum in equal parts we use, with plenty of drainage, as it will take a lot of moisture at the roots when growing.

The night temperature should range in the warm house from 70° at night to 80° by day; Cattleya house, 65° at night, with a rise of 10° or 15° during the day; cool house, 50° at night.—*C.*

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne F.R.H.S. Price, 1s. post free, 1s. 1½d. from the Publisher of the Gardening World, 1, Clement's Inn, Strand, W.C.

HINTS FOR AMATEURS.

NOTES ON CELERY.

SUCH is the importance of a crop of Celery that it does not need an apology to write about it at this time of the year, or, indeed, at any time. It is one of the two crops which cannot be absent from any vegetable garden, the other being, of course, Potatos. Celery must not be absent from the lordliest garden, and it ought not to be wanting in the lowliest. Nor indeed is it, for we need only to peep into the smallest plot of ground or even a backyard of a garden in the late summer and early autumn, and we may see it growing, and conspicuously so, "in its stockings," as is the familiar description given of it by even the boys and girls who see it with its wrappings of either brown paper or newspaper, or even commoner things than these. The lowly grower may have only his dozen or two of plants, whilst the large gardener may count his by hundreds, and not a few hundreds either, and each grower is as much interested in his crop as the other; nay, it more frequently than not is the case that the lowly grower is more deeply, more personally interested than is the gardener who grows it in quantity, and for the very good reason that every plant is to him an object of special importance, to figure on the one hand on the exhibition table and get him the first prize, or else as a toothsome and healthy help to his daily meals. Both of these objects are good, and if the grower is very successful the two may be combined, the prize may be won, and the prize-winner sticks may be afterwards enjoyed to their proud owner's bread and cheese or other meal, and make that bread and cheese all the sweeter in consequence.

The first great question which must be settled by the grower is, What am I growing my Celery for? Is exhibiting the great thing? or do I want it for early table use? or, is it for use as a cooked vegetable, or a salad ingredient through the long winter months? The two first mentioned considerations may be worked together, but the last scarcely can be. The large gardener, or professional gardener we mean, who grows for consumption by his employer's household Celery to be used as another cooked vegetable with Potatos, as so many do use Celery now-a-days all through the autumn and winter months, he will be later in sowing, later in planting, and later in earthing up, but as he practically knows all about Celery growing we need not waste our time on him. Every private gardener, of course, manages his garden and his crops according to the requirements of the establishment he caters for. We will therefore turn our attention to the amateur and cottage garden grower of Celery, and see what we can say to assist him in getting his crop of this vegetable favourite as good as we can.

First of all then, now that we are seriously got down to our work, is the question of variety, and here locality comes in, for, as every grower knows, every neighbourhood, and particularly every neighbourhood that has its local show, has its own special variety, which suits the soil and climate of that neighbourhood better than any other. Let each small grower, then, rely upon this, and as, generally, some one grower in each locality who has the necessary time and conveniences raises plants in large quantities to supply his less fortunate brethren, and as these plants were sown under glass in either February or March, and are pricked out now and almost ready for putting into the trenches, the amateur grower will secure his plants from him as early as suits his arrangements. Incidentally, we may here say that the above time is the time for sowing, and they are pricked out as soon as they have got two or three leaves on a bed prepared in some such fashion as this: A few bricks or boards are set up on end on a piece of hard ground, making a bed sufficiently large to hold the number of plants at four inches apart which the grower requires. On this hard ground is placed two or three inches of good rotten manure, and made firm; then two or three inches of nice fine soil riddled through a half inch mesh sieve, and the plants are put out in lines four inches apart all over it.

At planting time the plants are cut out down through the soil and manure to the hard ground with an old knife or trowel, and carried straight to the trenches and planted. A little water given at planting to plants prepared in this way makes it that they scarcely show that they have been removed, but go on growing without check. We have given the methods of raising plants, because any grower who may think it worth while to remember what we have written, or who may preserve the article for future use, will have the first step in cultivation by him to refer to. Before planting the trenches have to be prepared. It is no use saying much as to choice of land, because every grower has to make the land he happens to have at his disposal grow his crops, whether it is ideal soil for the purpose or not. Certainly, a moist, fat, loamy soil is the best, as anyone may know who considers the Celery's own choice of position when growing wild; because it is always found at the edges of ditches or drains, or in damp valleys. When a grower has settled where his trench or trenches are to be, he digs it out a a good spade's depth and width. We are no advocates for very deep trenches, and the width settles itself, as a full spade's width is wide enough for a single row of plants, and exhibitors never grow it in any way but in single rows. Those who do not intend to exhibit can plant more than one row in each trench. Into this trench the operator puts a little of his manure, and with his fork mixes it with the crumby soil in the trench; afterwards the remainder of the manure, and mixes it with some of the top soil, and then everything is ready for planting.

As it has been the custom for many amateur gardeners to dig the trench and shovel out the loose soil, and then put in 6 in. or 8 in., or more, of pure rotten manure, finally returning 3 in. or 4 in. of soil to receive the plants, they may possibly want to know why we recommend this plan of ours. The reason is that the amateur's plan will grow large sticks it is true, but those sticks will be composed of stems hollow and pipy, and the whole plant will be deficient in weight and solidity, whilst our plan, if the necessary after attentions be properly given, will result in sticks solid and sound all the way through. These are points which the judges at the show look at and look at very carefully, and perhaps it will explain to some disappointed exhibitor why his fine and large Celery has been passed over, and his neighbour's solid and sound, if not quite so large, sticks have taken the prize. We have now made the trenches and planted them, and there remains the after attentions. These are cleanliness, occasional earth stirrings, a strip of matting put round the stems to keep them together, a pinch or two of some patent manure, as With's or Beeson's, now and then along the soil of the trench, but not close up, watering at times with water from a brook or that has stood in the sun; a dusting of soot all over the leaves to keep off the fly as the plants advance, and proper earthing up.

This brings us to the fact that there is proper and improper earthing up of Celery. The "stocking" or "wrapper" method of blanching is purely an amateur or cottage gardener's dodge, professional gardeners not having much to do with it, though some years ago one of the best professional gardeners of Yorkshire, Mr. Simpson, of Wortley Hall Gardens, invented and sent out paper collars with a fastening, to put on each stick to keep the stems together and slide up as the soil covering was added. This method is only a summer or before-frost-comes way of blanching, and is very useful for applying to Celery which has to appear at the late summer and early autumn shows, and the only word we desire to to say on the subject is a warning not to put the wrapping too high at first, or by so doing the sticks may be disposed to "run" or "bolt," as gardeners term the starting off into flowering. This "bolting" is fatal to all prize winning, and it is to find out this that judges put their knives into each stick if they have the least suspicion that this defect in the Celery has set in.

For winter blanching, and to protect the plants from frost, earthing must be resorted to, and this is done generally at two, sometimes indeed with dwarf growing Celery it is done at one operation, the stems having been kept together up to the time of earthing by a strip of matting being put round each plant. Before this earthing each plant is gone over, and all the young suckers around the base are rubbed off; with the spade a bank is raised all along the line, and then each plant is held with one hand and with the other the crumbly soil is put loosely but closely all round the stems and so on up to the top. Earthing is best done after the plants have had a good soaking with rain. There is one difficulty in earthing up Celery when the ground happens to be one of those heavy clays, which are like bricks when dry and like glue when wet, and that is to get the requisite small soil or crumbs to put round the plants. Once this was our experience, but, having plenty of clean river sand about us, we built up our trench sides of the heavy clay and then surrounded the plants with the sand, and we never had better blanched or sweeter Celery. As to the earthing of the winter crop we would say leave it as late as possible, and do it either all at once or at twice, and see that the ground is well wet at the roots. Celery will always be a favourite vegetable. It is a native of our land, and has all the sturdy British virtues: strong of constitution, accommodating in its requirements, and health-giving to those who use it.—*P., in Alfreton Journal.*

AN AMATEUR'S GARDEN.

How often one hears of bulbous plants, flowering trees, and shrubs not thriving in the smoky atmosphere of London. Taking a walk to Wandsworth Road (Clapham Pavement), not many minutes' walk from the densely populated locality of Vauxhall, I was surprised to find plants of almost all kinds growing and luxuriating as one might look for in the freshness of the open country only. Here, through the patient indulgence of Madame Koeber, who has in the course of years made the soil so fertile, she flatters herself to grow plants where many fail, by her skill with her garden favourites.

The area is from half an acre to an acre. At the time of writing there are Apples, Pears, Cherries, Currants, and Gooseberries all flourishing, and promising well for a bountiful supply of fruit later. Lilies of the Valley have been flowering by the thousand, and here and there flowers may yet be picked. These are growing under a Sumach tree, and look well. Thorns are blooming in variety, also Laburnums, Lilacs in variety, and the Guelder Rose. Along the left side of the garden is a very old Wistaria Sinensis, covering a wall space of about 60 ft. to 80 ft., and one side is trained so as to cover a summer-house, which makes a most noble effect. The Wistaria for covering is perhaps one of the most decorative, ornamental, and hardiest of climbers we possess; the lovely panicles of their gracefully pale purple flowers are without a rival.

Adjoining the house is a small Fernery, with several British and foreign species. At one end of the garden a fountain plays, in which is planted Aponogeton (the Cape Pond-weed), and other aquatics; surrounding the basin is the broad-leaved Ivy (Hedera Helix canariensis), with a handle-like arch of Ampelopsis quinquefolia, giving it an appearance of a huge basket. There are also Lilies in variety, Hemerocallis, Lupinus, Oenotheras, Carnations, Wallflowers, Centaureas, German Irises, and other equally showy hardy plants, all strong and healthy.

The lawn, although small, has a beautifully fresh green sward. As will be seen the photograph will give a little insight as to what can be done under such trying conditions of London smoke, and, at the same time, teach amateurs to try again if at first they should fail, as an amateur's failures are many. The universal cry in London is for a garden of trees, flowers, shrubs, a green sward, and a summer sky under which one can enjoy the fruits of one's labour, for therein lies the pleasure that amateurs derive from their labours.—*W. L.*

THE HERB BED.

THIS is just one of the small things connected with the garden and which are of great importance, for no garden, whatever its size, is completely furnished without proper provision for a supply of these very necessary materials for flavouring purposes. A failure in the supply will often prove a cause of irritation and annoyance to the presiding spirit of the household, more especially in country districts, where any deficiency in the supplies cannot be so readily supplemented by purchase as in towns.

PARSLEY holds the foremost position, and is in more general request; for besides the large use made of it for flavouring soups and stuffing, the large use made of it for garnishing table dishes, renders a most ample supply of it a prime necessity in many places, and the more beautifully curled the selection grown

the better. A superior strain of seed may cost a trifle more, but in this instance the extra cost is a good investment, for a good curled leaf will always be mucb admired, whilst a plain coarse one will produce a feeling of repugnance in those familiar with a better article. We have generally grown a good market strain, and some of the Fern-leaved variety, which is very pretty and has the merit of withstanding the rigour of a severe winter better than the older variety. Sow at intervals from the end of February till April; then again in the end of June sow in drills not a quarter of an inch deep but 1 ft. apart if in a bed. Thin out to 6 in. apart before the plants get crowded. Gathering may be commenced when 2 or 3 in. high; and when they begin to run up for seed cut them down to the bottom. To ensure a supply during a prolonged frost, make a sowing in any rough pit or frame where a covering can be put on to keep the snow off from it, for the clearing off the snow to get at the Parsley does more harm than the frost, for much of it gets bruised and broken in the process.

Thyme.—There are several kinds of this, but the common, upright growing one and the Lemon-scented are enough to meet all requirements; the first is generally used for stuffing and the Lemon for flavouring soups, &c. A few plants of each is sufficient to meet tbe wants of any ordinary bousehold. When the plants get to a large size lift one or two and pull them to pieces, replanting in a fresh spot. This will keep the stock in a healthy vigorous condition.

Mint.—The garden cultivation of this is almost confined to Spearmint—Peppermint seldom finding a place in private gardens. Spearmint is often wanted early in tbe season for Mint sauce; to force it take up some good strong clumps and place in a gentle heat. Fresh plantations are made yearly when the young shoots are from four to six inches in lengtb; planting tbem in lines with a dibber about six inches apart from plant to plant, and the rows twelve inches, is far the best way of managing this herb. The tips of the shoots strike readily as cuttings, and wben the stock has got low this plan may be adopted.

Sage.—Of tbis there are several varieties, but only two are much grown, the green and the red leaved; the latter is used in gargles for sore throats. The most general way of propagation is by plucking pieces of an old bush and planting them deeply in the soil; or seed may be sown in April and the plants thinned out to six inches apart before they get too crowded.

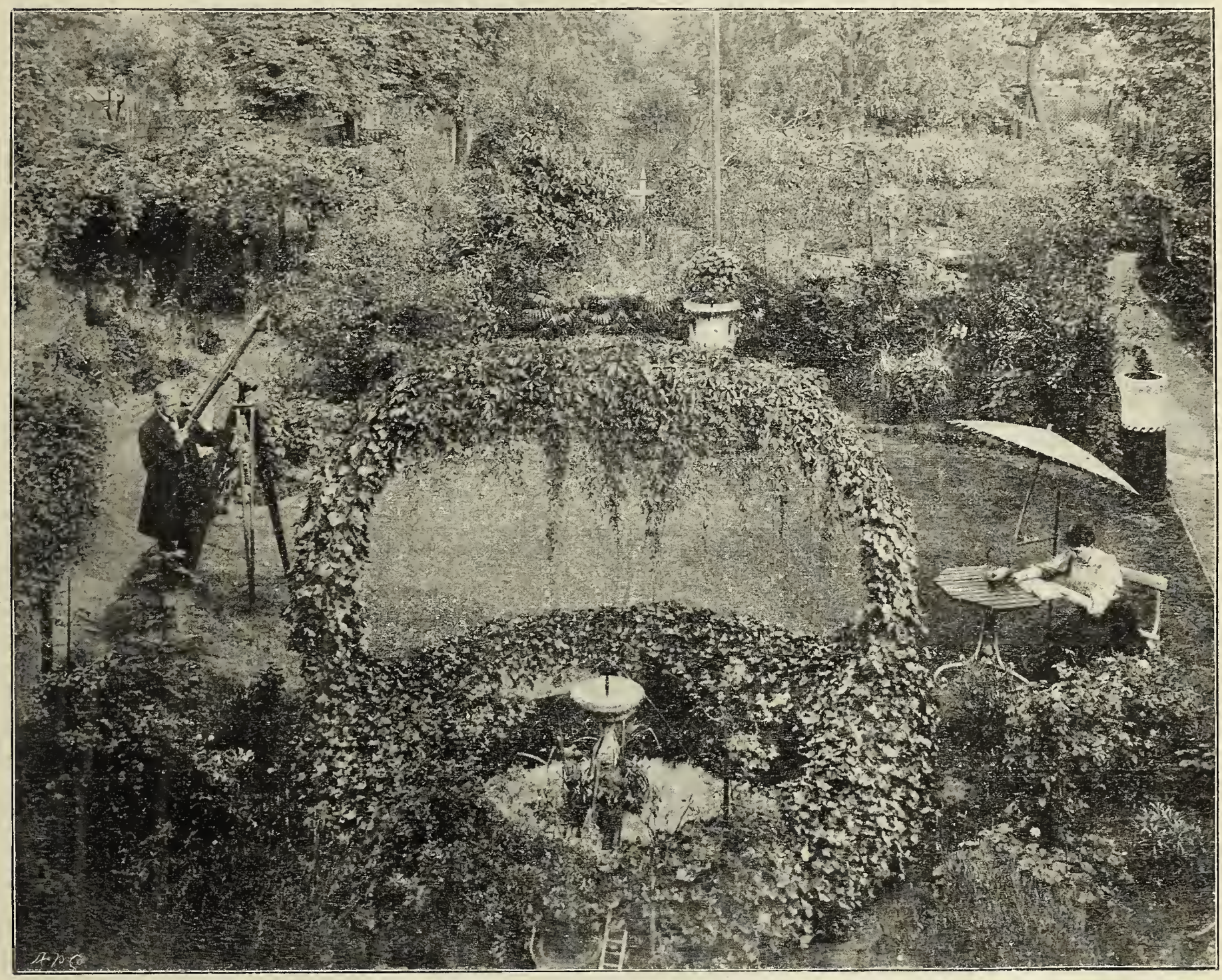
Tarragon is used chiefly in salads; poor dry soil suits it best. It may be propagated by parting the roots, or by cuttings of the young sboots during the summer, treated much the same way as Verbenas; and when rooted pot off into thumb pots, shelter in a cold pit during the winter, and plant out wben growth commences in tbe spring. We have found this by far the best plan. Wbere not wanted for salad-making it is seldom grown, and the use of it for that purpose varies very much, a plant or two meeting the requirements of many, whilst two or more dozen good plants will be none too much for others.

Savory, both winter and summer, may be raised from seed sown in April on rich soil and thinned out moderately. The winter Savory may be propagated by cuttings 5 in. in lengtb, planted in a shady border, giving an occasional watering during dry weather.

Fennel.—One or two plants of this are generally enough for most establisbments, but in some instances it is asked for very early in the year, when it is naturally dormant, and to meet tbe requirements of the *chef* it becomes necessary to pot up a plant or two, so a larger supply of plants must in these instances be provided. Propagate by offsets or seeds, and never allow it to run up into flower. By this treatment the same plants will last for years.

Sweet Basil, although not grown at all in many places, meets witb a large demand in others wbere it is used in soups and salads. Sow in a gentle heat early in April, and plant out in a frame, or pot into 3-in. pots and plant out at the end of May on a warm border. Water when required till tbey get established. The young tops are used. By not allowing them to flower a supply of young tops will be kept up till the autumn.

Chervil is not very generally grown, yet in the making of a first-class salad it is an important ingredient. The principal sowing should be made in August, and for a supply during tbe summer months during February at intervals till July. A sunny place is generally advocated for its culture. At the



An Amateur's Garden.

same time, we may say for ourselves that the most abundant crop we ever saw or had off it grew under a very large Lime Tree, where some seeds were thrown away thinking them too old to germinate.

MARJORAM.—There are two kinds of this—the Sweet, which is an annual, and the Pot Marjorum. The same treatment recommended for Savory will answer well enough for these respectively. There are other herbs, namely, Rue, Horehound, Balm, &c., which have been used for medicinal purposes, but are rarely used now and not much asked for.—*W. B. G.*

ROSE CULTURE UNDER GLASS.

AT the meeting of the Royal Horticultural Society, which was held in the Drill Hall at Westminster on June 11th, Dr. Masters being in the chair, a goodly number of the visitors to the show flocked into the end of the hall usually devoted to the delivering of the lectures, to hear Mr. Frank Cant's paper upon "Rose culture under glass." As a large proportion of the audience was composed of amateurs it was a curious and, perhaps, a happy coincidence that Mr. Cant had treated his subject chiefly from an amateur's point of view. The essayist began by stating that although it was quite true that several treatises upon the Rose, and the particular methods of cultivation necessary to produce it at its best, that were excellent in their way existed, there was yet very much real truth in the amateur's complaint that these were much too technical for his limited understanding of things horticultural to grasp, and thus they were not likely to be of such good service to a large number of Rose growers on a small scale, as they might otherwise have been. Whatever may be the general opinion with regard to the truth of these remarks there can be no doubt about it that to those who would like to grow Roses under glass, and who naturally want to know how they may best do this the information contained in Mr. Cant's paper should be valuable in the last degree.

As the essayist is one of the best cultivators of Roses in the kingdom it is not at all wonderful that his remarks should have been characterised by great practicality, and the advice given was communicated in as simple a manner as possible, and free from all undue technicalities. In describing an ideal Rose-house the lecturer said that it should be span-roofed and run north and south, thus giving the plants it contained the full advantage of the morning sun, but shielding them in a measure from its rays during the middle of the day. The house should likewise be fitted with movable lights, as during the summer months it was important that it should be thrown open as widely as possible. Two methods of culture might be followed, and both, if consistently carried out, would result in success, viz., planting out in beds or borders, or by growing in pots. A centre bed should therefore, he said, be made and planted with teas, which in habit might be either standards or as climbers, thinly trained to the supports and roof of the house. A path should run round these, whilst the hybrid perpetuals might be accommodated in pots placed on stages running round the house next to the side lights. For planting out Roses the first week in November was the best time of the year, the plants being pruned a month or two later. With regard to pot plants he declared that it was useless trouble to lift plants from the outside garden and to pot them up, expecting them to produce plenty of bloom the next year, for this they would not do.

For soil the essayist recommended good turfy loam, which had been laid for about six months in alternate layers with cow manure; firm potting being likewise an essential. Watering was, in his opinion, one of the most important operations connected with the culture of Roses under glass, for upon its proper performance depended in a great measure success in their treatment, for careless and injudicious watering was a fruitful cause of that worst of all the enemies of the Rose, viz., mildew. The essayist then proceeded to give general directions with regard to the usual routine of forcing. In doing this he said it was necessary to transform the months of January, February, and March into April, May, and June, starting with a comparatively low temperature such as outside plants receive during the beginning of April, and gradually increasing this as growth proceeds until the flowering period is reached. The syringe must be kept busily engaged throughout the whole of this period until the flower buds commence to open, when it must be discontinued. By thus maintaining a fairly moist atmosphere Red Spider, which always proves such a nuisance when the air was allowed to become dry and arid would effectually be kept in check. Aphis or Green Fly was usually to be found amongst Roses under glass, and although it would be necessary in order to make sure that they were totally annihilated to adopt the "catch 'em and kill 'em" dodge still judicious fumigations would stop their ravages. For the purpose nothing could be better than McDougall's fumigating sheets, which, while they were much cleaner and easier to use than the evil-smelling tobacco rag or paper were very effective in destroying Aphides, and at the same time quite harmless to vegetation.

BEARDED IRISES.

THE German Irises, or the Bearded Irises (sometimes spoken of under the collective name of Iris barbata), are fast growing into favour for their beauty and diversity of colour, and for their close resemblance to the Orchid. The common Iris germanica is most admired, being more generally known and cultivated in many gardens, but those who are not acquainted with the varieties of this family cannot conceive the intense beauty and delight that is to be found in them. Few garden flowers can boast of the beautiful combinations of colour that are found in a collection of them, as they seem to have appropriated almost every conceivable colour and shade. Indeed, language and the brush of the artist have failed to describe them justly. The glaucous leaves and branching flower scapes range from a few inches high to three and four feet in different types, and this gives additional beauty and value to them either as garden border or rockery plants. Many are delightfully fragrant.

They are described in such a manner that is easily understood; the "standards" are the erect petals; the "falls" the reflexed ones; the beard is a brush of hairs on the falls of a soft primrose to a deep orange. The culture of these Irises is very simple, as generally they will thrive and flower in the most unpromising of gardens; indeed, one may plant them with impunity either on the margins of lakes or streams, on sunny banks, or in a shade, but they are seen to advantage when planted with a background of low growing trees or shrubs. For a unique collection I recommend the following list to be grown in all gardens, as they are invaluable both as a garden plant, and also for cutting for table decoration. They last well in water, often for a week or ten days, and each bud develops as perfectly as when left on the plant.

I. germanica atropurpurea; s. and f., claret-purple.
I. germanica Crimson King; s.. deep crimson; f., crimson-purple.
I. germanica Kharput; s., rich blue; f., violet-purple.
I. germanica Fontarabie; s., violet-blue; f., violet-purple.
I. germanica Purple King; s. and f., purple.
I. aphylla Madame Chereau; s. and f., white, frilled blue.
I. aphylla Bridesmaid; s., pale lavender; f., white, shaded lavender.
I. amoena Glorietta; s., white; f., white, tipped violet.
I. amoena Alice Barr; s., white; f., white, shaded lavender.
I. amoena Mrs. H. Darwin; s., snow white; f., white, violet at base.
I. amoena Victorine; s., white, mottled blue; f., violet-blue, mottled white.
I. neglecta Cordelia; s., pale lilac; f., velvety-crimson.
I. neglecta Boccage; s. lavender; f., claret, mottled white.
I. neglecta Florence Barr; s., rose-lilac; f., white, tipped rose.
I. neglecta Miss Maggie; s., lavender; f., suffused soft rose.
I. neglecta Virginie; s., lavender; f., violet.
I. squalens A. F. Barron; s., bronze; f., madder-brown.
I. squalens Arnols; s., claret; f., velvety-purple.
I. squalens Jacquiniana; s., bright copper, shaded; f., rich maroon.
I. squalens Phidas; s., brown-bronze; f., deep crimson.
I. squalens Walneriana; s., lavender, flushed bronze; f., pale violet.
I. pallida Aulmatica; s., lavender; f., clear lavender, rose tinge.
I. pallida Khedive; s. and f., soft lavender.
I. pallida Queen of May; s. and f., soft rose-lilac.
I. pallida Walner; s, lavender; f., purple-lilac.
I. pallida Garibaldi; s. and f., rose-lilac.
I. variegata Aurea; s. and f. chrome-yellow.
I. variegata Chenedolle; s., chrome-yellow; f., crimson, white, and purple.
I. variegata Darius; s., chrome-yellow; f., lilac, brown, and white.
I. variegata Enchantress; s., clear yellow; f., madder brown.
I. variegata Gracchus; s, primrose; f., crimson, reticulated white, margined primrose.
I. variegata John Fraser; s., chrome-yellow; f., crimson, reticulated white.
I. variegata Sans Souci; s., deep chrome; f., reticulated crimson, brown, and white.
I. albicans Princess of Wales; s. and f. white.
I. flavescens; s. and f., primrose yellow.

The dwarf growing varieties, those more adapted for growing as edging or for grouping in small beds, or for the rockery, are exceedingly beautiful, and flower from February to May. The following are some of the best:—

Iris pumila bicolor; s., white; f., purple.
I. pumila Count Andrassy; s., azure-blue; f., blue.
I. pumila lutea maculata; s., primrose; f., brown and yellow.
I. pumila versicolor; s., blue and white; f., sulphur, mottled lilac.
I. olbiensis alba; s. and f., sulphur-white.
I. olbiensis grandiflora; s. and f.. violet-purple.
I. nudicaulis; s. and f., purple.
I. Fieheri; s. and f., deep blue.
I. Chamaeiris alba; s. and f., white.
I. Chamaeiris aurea; s. and f., deep yellow.
I. Chamaeiris italica; s. and f., deep purple.
I. biflora maculata; s. and f., blue.
I. Balcing Miss H. M. White: s. and f., sulphur, flaked purple, very beautiful.
I. Balcing Miss C. M. Owen; s. and f., white, flaked blue, very beautiful.

W. L.

RED SPIDER ON GOOSEBERRIES.

LIKE our old acquaintance the Red Spider of our hot-houses it soon disfigures the subject it attacks, but unlike the enemy of our exotics it is usually present on the upper surface of the leaves, the exception being during moist or dull weather, when it returns to the under surface. This is fortunate as there is a much better chance of dealing with it than if it constantly took its abode on the under part of the leaf.

Miss Ormerod states that in fruit-growing districts spraying with a wash of soft soap alone or mixed with paraffin or sulphur is much recommended, which has an uncertain ring about it, and I should prefer reading that it was a positively effectual remedy. A writer in a contemporary who has been recently appointed to lay out and manage a twenty-acre orchard recommended dusting the trees with sulphur amongst other things. Cheap as that substance and the other articles recommended are, the writer referred to will find his balance on the wrong side if he has many berry trees to dress, and that probably more than once. Last year the berries in this part at one time sold for ninepence per dozen quarts and they are likely to be as cheap this year, a fact which allows no margin for laborious and costly experiments with syringe or water-engine. It would be much better to abandon the culture of Gooseberries for a few years, as many have done the Black Currant in consequence of the mite. Amateurs and those having only a few trees may, if they think fit, apply the sulphur and soft soap remedy, but the soapy water and paraffin I would advise to be used, at first experimentally on a few shoots or single tree to ascertain how the mixture affects the foliage and fruit. With the aid of pocket lens they will be able to see the effect on the insects.

I should like to know to what extent the above insecticides have been effectual, and I object to any hearsay evidence. We had some of our trees badly infested last year, and all were affected more or less, and, from my previous experience with lime and soot, I dusted the trees all over on a still, dry, sunny day. If done in wet weather or when the leaves are wet it is either washed away or rendered useless by forming a convenient travelling ground for the insect. When I first experimented with this mixture I picked off a few badly affected leaves, and dusted them slightly with the aid of a muslin bag. The movements of the insect being always hurried the dry particles impeded locomotion, and it was delightful to see the insect tumbling and tossing amongst the particles until exhausted, when it falls

or disappears from the leaves. The trees are not so much infested this year as I have seen them, but I dressed them one morning, and before the close of the day a thunder shower partly washed it away, and as far as I can see the insect also.

It is as well to apply the dressing the first opportunity after the berries are set if the Spider is present, for it is surprising how soon it spreads, and by dressing thus early there is a chance of the berries being freed of the mixture by rain. When delayed until the berries are ready to pick a few trees might be left undressed for present use. By washing they become quite clean.—*W. P. R., Preston.*

GARDENING MISCELLANY.

GARDENIAS.

SEEING in your paper at various times remarks made as to young Gardenias doing better than old ones, I herewith send you an account of an old one given to me three years ago. I have this spring cut 148 blooms off the one plant. At the present time it is thickly set with buds; this morning (June 10th) I have cut three blooms. I intend keeping an account of the quantity of blooms cut off the said plant. Should it be of any interest to the readers of the GARDENING WORLD I shall be pleased to send you an account later on.—*Thos. Cockerill, The Gate House, Wirksworth.* [Please do.—ED.]

THE OAK-LEAVED LABURNUM.

ONE of the most distinct varieties of the common Laburnum that can be met with is the one named Cytisus Laburnum quercifolia. The flowers are not strikingly different from the ordinary ones, but as implied by the varietal name the foliage so nearly resembles in form that of the Oak as to strike the most ordinary observer with the suitably discriptive name accorded to it. As seen in the Oxford Botanic Garden amidst a wealth of lilac Syringa blossoms this old-fashioned flowering tree is a delightful object.—*Jno. E. Jefferies.*

STOCK PRINCESS ALICE.

WE have seen stocks of various kinds and at various seasons of the year, and for different reasons and for divers decorative purposes appreciated them very much; but a plant sent us by Mr. A. Pentney, gardener to A. J. Howard, Esq., Worton Hall, Isleworth, gives us a fresh idea of the utility and ornamental value of this popular class of plants. The variety is of hybrid origin, and would be spoken of as an intermediate Stock belonging to one or other of the several strains in cultivation. We always reckoned that Stocks were scented, but never thought it possible for them to be so strongly scented as Princess Alice. The scent is identical with that of the old Clove Carnation, and equally strong. The flowers measure a good 1½ in. in diameter, and are made up of broad, imbricated, pure white petals, or the latter may be tinted with the faintest trace of blusb as they are getting old, and in all probability affected by the abnormally dry weather and the burning sunshine. The seeds were sown in August last, and the plants were forced for Easter. A good crop of flowers was cut on Easter Eve. The plants were then put in the open ground, and commenced to grow away again sending out side shoots, which are now in full bloom and fit for cut flowers. They must be very useful for cut-flower purposes, as they diffuse a grateful fragrance of Cloves for a considerable distance around. Mr. Pentney considers it a most useful variety.

LATHYRUS TINGITANUS.

OCCASIONALLY we see this beautiful Pea plant in gardens and sometimes we see the name applied to Lathyrus tuberosus, a perennial species. The true Lathyrus tingitanus is an annual, but may be grown as a biennial, and thereby brought into bloom at a much earlier period than if sown in the open ground in March. It grows rapidly, and therefore should not be sown before the end of October or in November, for it comes up soon after, provided the weather is in any way mild, even when kept in an unheated frame. Under those conditions some cultivators might object to the term biennial, but we do not stick to the epithet at all, for it is truly an annual species. These facts, however, were brought to our mind on seeing plants in bloom in the first week of this month in the seed grounds of Mr. Richard Dean, Bedfont. His plants, or rather the seeds, were sown in pots in a cold frame in the beginning of March, and afterwards planted out. The leaflets are lanceolate and of a beautiful glaucous green, quite different from those of the Sweet Pea. The flowers are of large size and produced in pairs from the axils of the leaves on long stalks that may be cut and used amongst cut flowers generally. The standard is of a deep rose-purple with a crimson base. The wings are of a different shade of rose, and quite conspicuous. The keel is red and small. The plant is a climber, and may be grown precisely in the same way as Sweet Peas, and the flowers are uncommon but certainly handsome.

TREE CARNATION MADAME STEPMAN.

THE flowers of this beautiful Tree Carnation are of great size and of a charming rosy-salmon colour. The petals are very numerous, the outer ones being the broadest, and all are shallowly crenate or almost entire at the outer margins. The only fault we should place to its charge is that the calyx is rather short—a defect that applies to mostly all large flowers. The variety was obtained from seeds by M. Stepman de Messemaeker, of Brussels, who thinks it sufficiently perfect to dedicate to his wife. It has been cultivated and propagated for the past five years, and justifies the most flattering anticipations of the raiser. The better it is known the more is the plant sought after, especially by those who devote themselves to the sale of cut flowers. It form vigorous specimens and flowers freely, the form being fine even in winter. There is a coloured plate of it in the *Bulletin d'Arboriculture* of the 1st June, and which was prepared from a specimen which flowered in the greenhouses of M. Ed. Pynaert during the past winter.

ROBINIA HISPIDA.

A SPLENDID subject this for planting in shrubberies or on lawns. Unlike many other of the Robinias, particularly R. Pseudacacia and its many varieties, it does not assume the proportions of a tree but rather that of a medium-sized shrub of from seven to ten feet in height. The flowers are rather large, of a bright rose colour, and are produced in comparatively long many-flowered pendulous racemes. We noted it recently blooming in a shrubbery close to the main entrance in Kew Gardens.

ROBINIA PSEUDACACIA VAR. DECAISNEANA.

THE Robinias or False Acacias, as they are commonly called, are some of the showiest of our hardy trees, for which we are indebted to North America. R. Pseudacacia var. Decaisneana, like the type, assumes the proportions of a good-sized tree which when covered with a profusion of the drooping racemes of bloom looks really magnificent. While the type has white flowers, however, the variety under notice has blooms of a bright rosy-pink, which shade rather lighter with age. A fine specimen, in full bloom, may now be seen on the south-western side of the Wild Garden at Kew, where it forms a glorious picture.

LAMIUM MACULATUM AUREA.

As a rock plant this is both a distinct and a useful subject, and one which being easy of culture might well receive more attention than it has done up to the present. The plant only grows a few inches in height. The foliage, as the name would imply, is of a rich golden colour, a pale white stripe or blotch running down the centre of each leaf. It is in these beautifully coloured leaves that the chief beauty of the plant lies, for the flowers are comparatively inconspicuous, being small and of a light purple colour.

GERANIUM ARMENUM.

A NATIVE of the Orient, this is one of tha strongest growing hardy herbaceous Geraniums we have, attaining under fairly favourable conditions a height of between 3 ft. and 4 ft., and forming a bushy symmetrical specimen. The flowers are rather large, of regular outline, and are produced in quantities over a considerable part of the summer. In colour they are a rich glowing purple, a black velvety blotch being very conspicuous in the centre, the veins also being of the same colour. G. armenum will grow and thrive upon comparatively poor soils, and that it loves the bright sunshine, the more than usually brilliant hue which its blooms exhibit this season is sufficient proof. As it grows vigorously, however, it is necesary to see that it does not suffer from lack of water during such dry seasons as the present. G. armenum is sometimes met with under the name of G. Backhousianum.

CAMPANULA G. F. WILSON.

AMONGST the Bell flowers there are many plants of value exhibiting among themselves an infinite variety of habit, different in their season of blooming, etc., but none are more beautiful or more worthy extensive culture than the above. The plant is exceedingly dwarf, being only some 3 in. or 4 in. in height. The leaves are of a beautiful golden hue, with the margins very prettily ciliated. But the surprising part is the flowers, which are so large that they seem out of all proportion to the size of the plant itself, besides being produced with almost extravagant profusion. The bells are rich blue in colour, paling somewhat towards the base of the corolla. This pretty little subject is well worthy a place amongst any collection of Alpines. It is now affording a pleasing picture in the rockery at Kew.

CRAMBE CORDIFOLIA.

THE knowledge which a large number of gardeners have of this genus is doubtless limited to their acquaintance with C. maritima, the Seakale. Some doubtless will be surprised to learn that not only does the genus Crambe furnish us with one of our best and most highly prized winter vegetables, but it also contains decorative plants of some value, as a visit to the Royal Gardens, Kew, at the present time will amply demonstrate. A circular bed, some seven feet in diameter, in front of the Palm House is filled with some fine specimens of C. cordifolia. The plants are fully six feet in height, and the huge panicles of white flowers look exceptionally brilliant and conspicuous in the glare of the June sun. The leaves, moreover, are rather ornamental, being large, light green in colour, the lower ones cordate, and the upper ones ovate in shape. A native of the Caucasus, C. cordifolia is a plant that might well find favour for planting in bold masses on our lawns or pleasure grounds, as it boasts not only of a considerable share of beauty, but also of perfect hardiness.

IRIS MARMORATA.

AMONGST other Irises which have done exceptionally well with Messrs. Barr & Sons at their nurseries at Long Ditton this year is the above fine variety. The standard is of a curious sulphur-fawn shade, prettily tinged with rose, whilst the falls are of a rich crimson-purple hue, suffused and margined with lavender in a charming manner. Like the other varieties of the squalens group, in which Messrs. Barr have placed it, it flowers usually about the middle of June, and is a great acquisition to the ranks of summer-flowering Irises.

ORCHIDS AT CHARDWAR.

WHEN calling at Chardwar, Bourton-on-the-Water, Gloucestershire, to-day, I was pleased to find so many good Orchids in bloom. The Phalenopsis are specially fine, one spike of P. Stuartiana having twenty-five grand blooms expanded, and a grand spike of P. grandiflora has twenty blooms. There are several other fine spikes of the latter variety, and a good form of P. Sanderiana. In the same house were several fine Saccolabiums in bloom, one plant of S. praemorsum having six spikes, 24 in. long, and a plant of S. guttatum with eight fine large spikes.

In the Cattleya house I noted a fine display, principally of Cattleya Mossiae and Laelia purpurata, and a grand variety of Laelia elegans, with a spike of six blooms. The Dendrobium house was gay with spikes of D. Phalenopsis Schroderianum, D. superbiens, several grand forms of D. formosum, D. Bensoniae, D. McCarthiae (six grand blooms), D. Parishii, and several good well-flowered plants of D. Pierardii. I also noted a fine variety of Angraecum sesquipedale, carrying three immense blooms The Odontoglossum house contained several good spikes of O. crispum and O. Pescatorei, also splendid spikes of Epidendrum vitellinum, and a good specimen of Oncidium obryzatum, with three grand spikes of sweet-scented blooms, and a good spike o O. phymatochilum.

Many Cypripediums were in bloom, and among others I noticed several forms of C. Lawrenceanum, C. Curtisii, C. bellatulum, very fine, C. Roezlii, C. Sedenii candidulum, C. ciliolare, C. Chamberlainianum, &c. The Dendrobes are making splendid growth, and the collection generally making good progress, and is a source of pleasure to the proprietor, and a credit to the grower, and much admired by the many visitors to Bourton-on-the-Water, and will no doubt stimulate many horticulturists in the district to largely increase their collections of Orchids.—*J. C.*

LEGENDS OF LABURNUM ADAMI.

A PARAGRAPH in THE GARDENING WORLD of June 8th, on Cytisus purpureus, reminds one of one of the most interesting flowering trees that adds beauty to the months of May and June, and one that during its flowering period forms a permanent puzzle to many people. This is not particularly astonishing when occasioned by a tree possessing the characteristics of Laburnum Adami, a tree that is not unfrequently mistaken for its relative, the happily named Golden Chain, the widespread popularity of which is indicated by its distribution. Indeed, few trees are as generally well known as the Laburnum, or lend themselves to being as readily and accurately described by the casual observer, and there are few more universally popular. No wonder then that the presence of a flower-laden tree of L. Adami imparts a new interest to the tree that seemingly is nothing more than an old familiar favourite asssuming a most perplexing inconstancy, and it is not until its identity is discovered that speculations which are rife cease, together with the strange explanations that its appearance evokes. In the meantime it may have grown into a veritable prodigy, and a large circle of admirers gazed upon its varied flowers with astonished admiration, and from the learned ones the accounting for such an unusual sight in many instances may be more ingenuous than scientific.

This, however, is not to be much wondered at, for if memory serves correctly it was from almost the date of its introduction made to illustrate the theory of a graft-hybrid production, presumably without there being any sufficiently reliable date to justify such a claim. The graft-hybrid theory, judging from available references, seems to have rapidly spread, and, stolon-like, rooted wherever it liked, with the result generally assnred to a favourable reception. It became—grew, as it were—to the position of an article of a scientific creed of gardening. It is at this date one of the surviving errors with which we are occasionally confronted, from which the origin of others may be occasionally traced. As an instance of this, an account of one growing in the churchyard of the village of Chastleton is furnished to a provincial paper. After describing it as a "tricoloured" Laburnum, it proceeds to inform readers that "some of the branches bear pink, some yellow blossoms, and the third colour comes from a parasite, we believe, of the Acacia species, which has small purple flowers." It is evident that this tree produces in addition to flowers after its kind, a fair crop of confusion.

A good specimen of this interesting tree has been noticed at Sunnymede, situated on the outskirts of Oxford, as the city is approached from Banbury. It is a thriving tree, and enjoys a shady situation, from whence it can be readily seen from the highway, and the present season is the first of its producing the regulation number of forms of flowers that so pronouncedly distinguishes its kind.

It will be of interest to many of our readers to recount the particulars relating to the introduction of Laburnum Adami, as given by Mr. Rivers, of Sawbridgeworth, in 1836. It occurs in Loudon's *Gardeners' Magazine*, p. 224, of that year in an account of a tour in France, and it was at Paris that he remarked, "the purple Laburnum, of which so much has been said lately, was growing here in great perfection. It came accidently from seed among some common Laburnums in 1828, in the nursery of M. Adam, whence its name of Cytisus Adami in some catalogues. A fine plant was shown me by M. Camuset, which appeared to be half Cytisus purpureus and the remainder purple Laburnum.

On examination the curious fact was ascertained that the purple Laburnum, which is evidently a hybrid between C. purpureus and C. Laburnum, had partly returned to the habits of one of its parents, the C. purpureus. This is surely a most unusual occurrence. Here was no trickery of grafting practised, for I saw nearly a similar effect produced in the present year on a tree which I had sent to Ickleton (Cambs.), in 1834, which presented precisely the same appearance. At the extreme end of one of its shoots there came forth a branch of the pure Cytisus purpureus with its small leaves and peculiar habit, appearing as if budded on the purple Laburnum."

The M. Camuset referred to was head of the nursery department in the Jardin des Plantes, and would be as interested as much as anyone at the time in the tree that has occasioned these notes.—*Jno. E. Jefferies.*

A NOVEL WAY OF BUDDING ROSES.

THE winter now drawing to a close has slain so many Roses and maimed most of those left so grievously that any means likely to make good our heavy losses seems well worth trying. In most localities the common wild Dog Rose has escaped with its life and but little injured, and in gardens and most nurseries a large reserve of buds are still safe under glass. My new plan or suggestion is simply to bring these two together now instead of waiting another month or two for the usual season of converting Dog Briars into real living Rose plants. The May budding of Briars is not put forth as a substitute for June, July, or August budding, but as an addition. The slaughter of the innocent Roses has been so tremendous that all our possible efforts to fill up our blanks in beds and borders will be all too feeble to effect their purpose, Ever since the slaughtering forces of zero February frosts have been felt, efforts have been put forth in various directions to recover or make up our losses. Fortunately our Dog Roses, owing to the lateness of the season, are still comparatively dormant. And while they remain so they may be converted into Rose trees to bloom throughout the current summer and autumn.

Standard Roses have suffered most this winter, and our first efforts should be directed to filling up blanks among these. One of the best modes of procedure is to take up the Briars, tie or wire them round with moss, and plunge the roots in a bottom heat of 65 to 70 degrees, keeping the heads five or ten degrees lower. In ten days the roots will be in active growth, the sap in motion in the heads. The result of the latter will be that buds or small sections of Rose wood or buds of the ordinary kind so soon as they can be had, may be inserted in the old wood of the Briars without waiting for the current year's wood to bud upon. By the time, in fact, that the latter could be had the Briars will already have become Roses in bloom doing their utmost to make up last winter's blanks.

As the buds or wood sections take to the stocks the latter may be potted up or planted out. Roots or dwarf stems of Dog Roses are equally useful for stocks as standards. Rooting or calloused cuttings of Briars or other Roses might have been and may still be transformed into flowering Roses for the summer and autumn by budding or grafting in heat at once. Some years since the writer had a call for about 1,000 Rose plants out of season and without means of purchase. He had abundance of Dog Rose root cuttings, and a considerable number of Rose buds that had been grown under glass. The cuttings were calloused in a strong bottom heat. So soon as this first step to rooting was taken they were budded and grafted, and laid again in bottom heat covered with 2 in. of Cocoa fibre over the tips of the buds and the scions. In about three weeks from the time of grafting and budding most of the Briars were already Roses fit for potting and ready for planting out when the summer weather came. Few who have not tried these or other express modes of changing Dog Briars or other stocks into the choicest Roses can have any adequate idea of how rapidly and safely the transformation can be effected. Under glass, and with a skilful use of heat, almost anything is possbile in the budding and grafting of Roses. But fashions of budding Roses have run so exclusively into the two months of June and July that possibly not a few rosarians will hardly believe that Roses will take at other seasons and other places, close to the base of the current summer's growth. Should the heavy losses of February, 1895, lead to the more general adoption of winter budding and grafting on dormant or newly awakened stocks, possibly our present severe losses may tend to the future enrichment of rosarians and our Rose beds and borders.—*Agricultural Economist.*

TREES AND SOIL.

THERE cannot be a doubt that many of the failures in tree planting can be directly attributed to errors in judgment in the selection of particular species to the wrong classes of soils. We have good examples of how certain trees and shrubs affect particnlar classes of soils in the common Rhododendron, and most of the so-called American Peat plants, none of which can for long survive in that of a chalky or calcareous formation, while the cluster and Aleppo Pines (Pinus pinaster, and P. Halepensis) succeed best in almost pure sand on the sea coast.

Again, we generally associate the Scotch Pine, Larch, and Mountain Ash with poor gravelly soils or rocky ground: the Ash with that of the best quality, what may also be said of the Walnut and the Beech with that of a calcareous formation. The Willow and Alder do best in rather damp soil; in fact, that of a water-logged character does not come amiss to either while the various species of Poplar revel in that of almost a similar, perhaps drier nature.

Amongst the later introduced Conifers the same law with reference to soil holds good, and many failures by not planting the Umbrella Pine (Sciadopitys verticillata) in dampish peat, and Menzies Fir (Picea Menziesii) on dry gravelly soils have been brought about. These are only a few of the many instances that could be pointed out in which trees have become unhealthy, or died out altogether when planted in unsuitable soils and situations. The Larch will not remain long healthy when planted in gravelly soils—heart-rot or "pumping" being brought about at an early age, and many examples of such could be pointed out in almost every part of the country where the tree is extensively cultivated. But it would only be superfluous to multiply examples, and it is wise on the part of the planter to consider well the species of trees that have been found to succeed best when planted in particular classes of soil.

The following is a brief summary of the trees that have been found best suited for the soils with which they are asscciated in the following list:—

Acacia: rich soil or gravel.
Alder: rich damp soil in proximity to water.
Ash: alluvial deposit, or rich yellow loam.
Beech: gravelly or chalky loam.
Birch: poor upland slopes and light soils.
Cherry: rich, dampish vegetable soil.
Chesnut: deep, rich sandy loam.
Chestnut (horse): good firm loam, dampish.
Elm (English): deep dry loam.
Elm (Scotch): upland rocky soils.
Hazel: good loam, on chalk preferable.
Hornbeam: poor clayey soils.
Lime: firm, well-drained loam.
Maple (English): loam on chalk.
Maple (Sugar): deep sandy soil.
Mountain Ash: rocky soils and gravelly loam.
Oak: deep, rich and rather stiff loam.
Poplar: preferably a moist rich soil.
Sycamore: rich, open loamy soils and alluvial deposit.
Walnut: rich wheat soil.
Willow: dampish and fairly good soils.

CONIFEROUS TREES.

Douglas Fir: rich gravel or sandy soil.
Larch: fairly rich loam in upland situation.
Pine (Scotch): light and poor gravelly soils.
Pine (Austrian): calcareous formation.
Pine (Corsican): loam on deep gravel.
Pine (Cluster or Pinaster): deep sand on the sea-coast.
Silver Fir: good rich loam.
Thuja gigantea: fairly rich soil of almost every description.
Thujopsis borealis: gravelly or sandy loam in sheltered situations.

Amongst the coniferous trees the above are the only species that can, at present, be considered sufficiently valuable for afforesting purposes. Of course it must be distinctly borne in mind that perhaps every species above enumerated will succeed in other soils than those recommended, but with a wide and intimate knowledge of the individual kinds and their requirements we may conclude that for general planting the above instructions as to soil are well worth of attention.—*A. D. Webster.*

SOCIETIES.

Royal Botanic.—The above Society held its special Floral Fete on Wednesday, June 12th, in Regent's Park. Although the forenoon was dull and threatening the latter part of the day was considerably brighter, and thus the show was attended by large numbers of people, many of whom were doubtless attracted by the Children's Floral Parade which was one of the notable features of the day's proceedings, the Prince and Princess of Wales having promised to attend. As usual a large marquee was set aside for the accommodation of various groups of flowering and foliage plants which arranged as they were upon the grass mounds and banks within the tent appeared to great advantage and reflected great credit both upon those to whose lot it fell to grow the necessary material, and to those who were entrusted with its arrangement. Messrs Hugh Low & Co., Upper Clapton, N. E., received a large Silver Medal for a very nice little group of Orchids exhibited by them, conspicuous among which were the new Laelio-Cattleya Ingramii, Cypripedium Gertrude Hollington and C. Curtisii viride. Cattleyas, Cypripediums, Miltonias, and Odontoglossums in variety made a brave show. A large group of flowering and foliage plants contributed by Messrs. John Laing & Sons, Forest Hill, was awarded a Silver-gilt Medal. This group contained a great deal of excellent stuff, and tuberous Begonias, Caladiums, Gloxinias, Streptocarpus, Odontoglossums, Miltonias, as well as two fine pieces of Dendrobium suavissimum were very bright and showy. The arrangement of the plants was likewise thoroughly deserving a meed of praise. From Messrs. William Paul & Son, Waltham Cross, came a very pretty group in which cut Roses played a very important part. Some well grown and shapely Araucarias and Japanese Maples were also noteworthy here, a Large Silver Medal being given.

Mr. W. Rumsey, Joynings Nurseries, Waltham Cross, also sent stands of cut Roses and plants of the same in pots; the showy blooms being relieved by the pots of Adiantum cuneatum which surrounded them. Mr. Charles Turner, of Slough, obtained a a Large Silver Medal for an exhibit of Pelargoniums in pots and cut Roses. His examples of the former, although not excessively large, were covered with a remarkable profusion of bloom, Princess Teck, Outlaw, Marie Lemoine, Iona and Gold Mine being some of the best. The Roses were really grand and than the examples of Ulrich Brunner, Mrs. John Laing, Marie Van Houtte and Pride of Waltham, nothing finer could be desired. A very tastefully arranged group of flowering and foliage plants in which Caladiums played a conspicuous part was staged by Messrs. John Reed & Sons, Roupell Park Nurseries, a Silver Medal being given. Hydrangea paniculata grandiflora and Saxifraga Cotyledon pyramidalis were worthily represented by well flowered plants. Messrs. Kelway & Sons again occupied a very prominent position with a magnificent display of single and double flowered Chinese Paeonies. The blooms in their stands were arranged in long curving lines on one of the banks running round the tent, and from this vantage point could be easily viewed by the spectators. Cannas and Delphiniums also came from the same firm. This fine exhibit was appropriately awarded a Silver-gilt Medal. Mr. B. R. Davis, of Yeovil received a Large Bronze Medal for a neat little collection of the double flowered section of tuberous Begonias. A like award was made to Messrs. R. Wallace & Co., Colchester, for a bright and pleasing display of Irises, Liliums, and Calochortus.

Mr. Frank Cant's cut Roses were really good and well deserved the Silver Medal they received. Among other good varieties represented Madame Gabriel Luizet, Souvenir D'Elise Vardon and Lady Mary Fitzwilliam may be mentioned as being especially noticeable. Mr. George Mount, of Canterbury, was also rewarded for his display of cut Roses by a Silver Medal, many of the best varieties being worthily represented. Very fine Gloxinias were sent by Messrs. Sutton & Sons, Reading, the plants being strong and bearing a profusion of extra large flowers (Silver Medal). Messrs. J. Cheal & Sons, Crawley, Sussex, showed hardy cut flowers in quantity. Mr. J. O. Clarke, gardener to Ludwig Mond, Esq., The Poplars, Regent's Park was responsible for a prettily arranged group of plants in which Palms and Grevilleas predominated, and which received a Bronze Medal. Great praise is due to Messrs. J. Veitch & Sons for a group contributed by them of cut flowers of Irises and Chinese Paeonies. Three fine spikes of Eremurus robustus were very noteworthy here (Small Silver Medal). A Large Bronze Medal was awarded to Messrs. Geo. Cooling for an interesting exhibit of old-fashioned and garden Roses.

Messrs. Sander & Co., St. Albans, staged a group of Orchids and Ferns in their usual meritorious style, Oncidiums, Cattleyas and Miltonias in variety producing a grand display, the exhibit receiving the high award of a Silver-gilt Medal. A Silver Medal went to Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park, for a miscellaneous group of plants containing much that was worthy of praise. Messrs. Barr & Sons were awarded a Silver Medal for an extensive collection of double flowered Paeonies comprising very many of the best sorts in cultivation. A Large Bronze Medal was awarded to Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, who had Gloxinias and Tropaeolum Coolgardie in fine order. A very extensive and praiseworthy exhibit was that of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, N. who had cut hardy flowers in profusion and of the finest quality, Poppies, Campanulas, Liliums and Spiraeas being specially bright (Large Silver Medal). Messrs. J. Carter & Co., High Holborn, received a Large Bronze Medal for a collection of well-flowered examples of their prize strain of Gloxinias. A bright and attractive group of hardy flowers sent by Messrs. J. Laing & Sons, also received a like award.

CHILDREN'S FLORAL PARADE.

This was undoubtedly one of the prettiest features of the show, a great deal of taste in the floral decorations being exhibited by the competitors. A procession was formed headed by a band of youthful musicians. Following these came a number of children's mail carts very prettily clothed with flowers and greenery; white and yellow Marguerites being strongly in evidence. Several small ponies in their unwonted dress behaved exceedingly well and evidently shared some of the amusing self-importance of their youthful riders. Very charming was the gaily decorated sedan chair sent by U. P. Youens, Esq., for, apart from the quaint dresses of the bearers, Irises, yellow Marguerites, Spiraea astilboides, Liliums and Smilax were employed here with very pretty effect. The diminutive occupant also carried a large bouquet of pink Carnations and Asparagus. Other noteworthy representations were groups called "Stolen by the Fairies" and "Lalla Rookh." The coveted Red Banner which was the distinguishing mark of the best exhibit in the procession fell to "A child's pony cart" sent by Mrs. Bernard, Campanulas being used in its decoration with other common subjects with exceedingly fine effect. Her Royal Highness the Princess of Wales graciously distributed the awards to the successful exhibitors as the procession filed past the Royal dais. Needless to say, the triumphal march of the children was an exceedingly pretty spectacle, and one generally appreciated if we may judge from the crowds of people who surged about the ropes striving to obtain a peep at the flower-decked ranks as they passed along their allotted course.

Obituary.

MANY of our horticultural friends will learn with great regret of the death of their old and highly steemed colleague, MR. ROBERT CREASER KINGSTON, for so many years gardener and estate manager to Christopher Sykes, Esq., of Brantingham Thorpe, Brough, East Yorkshire, who, after a brief illness of but a few hours, passed peacefully away on Thursday, June 6th. Mr. Kingston was born in the East Riding of Yorkshire in 1818, and after receiving a good education he went as under gardener at Stapleton Park Gardens, which were then under the able management of the late Mr. Seymour. From Stapleton our friend went as foreman in the Royal Horticultural Society's Garden, Chiswick, where he served for some years with great credit. In the year 1841 he took charge of the gardens at Brantingham Thorpe, then owned by the late R. Fleetwood Shaw, Esq. In a very few years Mr. Kingston became well-known as a leading horticulturist and botanist, as well as a most successful exhibitor at the leading exhibitions in the country.

At that time the collection of Orchids, stove and greenhouse plants, and British and exotic Ferns at Brantingham Thorpe was one of the best in the north of England. In later years flower gardening, more especially carpet-bedding, was a very prominent feature, though it is not too much to say that nearly everything was well done during the half century that it was under the charge of our dear old friend. About thirty years ago the estate passed into the hands of Christopher Sykes, Esq., and during that time much of the estate has been remodelled and improved in such a charming manner by Mr. Kingston as to call forth the highest praise from his generous employer and his many distinguished guests during their enjoyable visits to this beautiful place.

Besides being an excellent gardener and botanist, Mr. Kingston was an ardent entomologist; in fact, it can be truly said of him that he dearly loved the beautiful works of nature, and up to the very last he was an ardent student of her laws.

Before closing this very imperfect notice of one of whom so much could be said, I should like to say a few words about him as a man and a friend. To one and all he was ever kind, courteous, and sincere, and many of his gardening friends will recall with pleasure the cheery and hospitable welcome they always received at his hands, and truly the hours passed with winged feet whilst enjoying his company and conversation, which bubbled over with information both scientific and practical. Towards the young men who had the privilege of serving under him he was always most considerate, yet ever urging them on in the search for knowledge—in fact, always doing his utmost to prepare them to fight life's battle. Many of his old pupils are now scattered far and wide. Several of them have made names for themselves as good honest men, well versed in their calling, and some few are looked up to as horticultural leaders in the New World as well as in the old, and to each and all of them the memory of their dear old master will be always green, for he was truly one of nature's gentlemen. On Monday last in the presence of his family and of his employer (C. Sykes, Esq.), as well as a very large number of friends, the remains of "Kingston, of Brantingham Thorpe," were quietly and unostentatiously laid to rest in the beautifully situated churchyard at Brantingham, and many were the expressions of sympathy with his widow and family in their great bereavement.—*C. L.*

We also regret to learn of the death on the 13th inst. of Mr. ROBERT CRAIKE, gardener and bailiff to Miss Staveley, of Old Slemingford Hall, Ripon, Yorkshire, aged 54 years.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

REMOVING BEGONIA BLOOMS.—*G. G.*: The paragraph you refer to was partly metaphorical and perhaps liable to be misunderstood. In any case we should not advise you to take off the tops of the shoots, because, although the plants might throw out a number of side shoots, they would be much smaller or weaker than the leading ones, and not likely to prove so satisfactory as you might desire. The shoots that come naturally are always the strongest in this particular class of plants. All that you need do is to remove the blooms only while yet quite young, as well as those that are expanded. This will ease the plants greatly, and enable them to make a vigorous growth, so that the next crop of flowers will even be finer than the first. Feed the plants well after removing the flowers. They should bloom more or less finely all the season, but if the flowers are removed at present the later stages of the plants will be more vigorous than if they were allowed to produce an abundance of flowers early in the season. Never allow them to produce seed unless you actually want it.

THE SALMON BERRY.—*M. McLaren*: The Salmon Berry (Rubus spectabilis) flowers in April and May in the southern counties of England, whether it is grown in the open or planted against a wall. It fruits with moderate freedom in some gardens, but in other cases fruits are very sparingly developed. The flowers are ornamental, but the fruits will never prove very remunerative in this country, judging from what we have seen of the species.

AMERICAN CRANBERRY.—*M. McLaren*: This fruits very freely in this country if planted under favourable conditions. It must have a peaty soil, and the beds must be kept in a boggy condition till the fruits are ripening, when the water may be allowed to run off. If the peat is kept constantly moist, it need not

actually be flooded; but you must remember that it is a bog plant like our native species Oxycoccus palustris which grows in bogs in forest districts of the north of Scotland as well as upon moors. The American Cranberry has been partly naturalised in boggy places in some parts of Flintshire. In any case you might make up a peat bed for it, and flood it if you can till the fruits begin to ripen.

FLOWERING OF ONCIDIUM SPHACELATUM.—*John Proctor*: This species takes a remarkably long time to develop and pass through its various stages. Seeing that your specimen has commenced to throw out its side shoots, it will require eight or ten weeks longer to develop the branches and expand the flowers. Of course if the temperature is kept tolerably high the development will be greatly hastened, but you will hardly get it in bloom much under the time stated.

SPORTIVE PELARGONIUMS.—*K.F.H.*: Many classes of garden plants, such as Roses, Chrysanthemums, Carnations, Pansies and others are very liable to sport. The new forms are propagated as varieties, and prove more or less constant, but reversion is pretty frequent. Sports often give rise to other sports. The regal Pelargonium Duchess of Albany which you send is not a hybrid in our opinion, but is simply an improved form of P. cucullatum, obtained by the crossing of varieties for many generations. For this reason they are very liable to sport like the specimen, which you send and for which we thank you. By rooting the shoots which sport in this way you could add to your number of varieties.

GENTIANA ACAULIS.—*M. McLaren*: It is moisture rather than shade which is beneficial to the Gentians. This is more particularly the case in the south of England, where the climate is much drier than in the north of Scotland; and we speak from experience because we have grown G. acaulis both in your county and in the neighbourhood of London. The soil in which it is grown should be fairly retentive of moisture during the summer months and trodden quite firm after planting. We should not advise you to lift the plants before September or October, when the weather will be cool and moist. If you have a difficulty in keeping the soil moist during summer, you may work some peat into it when digging just before planting. This will keep it cooler than other soils would be. Retain soil about every clump or tuft you replant; tread the soil, then put in the pieces in a line with a trowel. In the meantime you could make up a good compost of substantial loam with some peat in it, and give the plants a top-dressing round and over the roots to keep the plants healthy till autumn. Give them a good soaking of water occasionally in dry weather. In moist soils several species of Gentian may be grown with or without peat.

MIMICRY OF PLANTS.—*Scotch Subscriber*: Information on this subject is scattered through a number of papers and books, and we do not remember where to lay hands upon most of them, but you will find something on the subject in *Flowers, Fruits and Leaves*, by Sir John Lubbock. From p. 92 to 96 you will find an account of mimicry amongst seeds and fruits, and on pp. 127 to 131, mimicry amongst leaves. The book is published by Macmillan & Co., London. Price 4s. 6d.

NAMES OF PLANTS.—*F. Parker*: 1, Salvia rutilans; 2, Iris sibirica; 3, Aloe mitriformis; 4, Kerria japonica flore pleno: 5, Cystopteris fragilis; 6, Spiraea discolor ariaefolia; 7, Lonicera flexuosa aurea reticulata; 8, Polypodium Dryopteris.—*K. F. H.*: 1, Centaurea montana rubra; 2, Festuca glauca; 3, Trifolium subterraneum; 4, Hesperis matronalis; 5, Pelargonium (see separate answer); 6, Lychnis diurna.—*D. R. B.*: 1, Stachys lanata; 2, Astrantia major; 3, Heuchera americana; 4, Erigeron purpureus; 5, Crucianella stylosa; 6, Inula Hookeri; 7, Horminium pyrenaicum; 8, Hemerocallis Dumortieri; 9, Centranthus ruber; 10, Francoa (please send when in bloom); 11, Asphodeline lutea; 12, Centranthus ruber, dark var.; 13, Centranthus ruber albus; 14, Spiraea Aruncus; 15, Hesperis matronalis alba; 16, Scrophularia nodosa variegata; 17, Sedum rupestre macranthum; 18, Lupinus polyphyllus; 19, Lilium davuricum; 20, Spiraea Filipendula flore pleno; 21, Thermopsis montana; 22, Barbarea vulgaris flore pleno; 23, Dictamnus Fraxinella alba; 24, Salvia sylvestris; 25, Centaurea montana alba; 26, Aconitum variegatum; Helleborus foetidus; 28, Hieracium Pilosella; 29, Lilium Martagon; 30, Doronicum Pardalianches; 31, Veronica gentianoides. Please have mercy on our time and patience; send fewer specimens on any one occasion.—*H.W.*: 1, Astrantia major; 2, Veronica incana; 3, Veronica Teucrium latifolia; 4, Spiraea Filipendula flore pleno; 5, Lathyrus niger; 6, Campanula grandis; 7 Geranium Endresii; 8, Lycium barbarum.

COMMUNICATIONS RECEIVED.—W.B.G.—A.P.—A.D.W.—M.T., Stirlingshire.—Longmans & Co.—J.G.P.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gadens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s. post free, 5s. 3d., from GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C.

COVENT GARDEN MARKET.

June 19th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples..... per bushel		
Nova Scotia Apples per barrel	12 0	21 0
Cob Nuts and Filberts, per 100 lbs.		
Tasmanian Apples, per case	8 0	11 0
Grapes, per lb.	6	2 0
Pine-apples. —St. Michael's each	2 6	6 0
Strawberries	0 2	0 8
Peaches ..... per doz.	4 0	18 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus, per bundle	1 6	4 0
Beans, French, per lb.	1 0	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 6
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Small salad, per punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	6 0
Azalea, doz. sprays	0 6	1 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Eucharis ...per doz.	4 0	6 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	6 0	8 0
Iris, doz. bun.	4 0	18 0
Lilac (French) per bch.	4 6	5 0
Lilium lancifolium per doz.	4 0	6 0
Lilium longiflorum per doz.	3 0	4 0
Lilium candidum, per doz.	1 6	2 0
Lily of the Valley, doz. bchs.	6 0	15 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Narcissus, doz. bchs.	2 0	4 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.....	1 0	2 0
Pelargoniums, 12 bun.	6 0	9 0
Peonys, doz. bchs. ...	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Ranunculus, doz.....	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	1 0	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 3	2 0
Red Roses.....	3 0	6 0
Pink Roses	5 0	7 0
Roses (French) Moss, doz.....	1 0	1 6
Roses (French) red, doz. blooms. ...	2 0	2 6
Smilax, per bunch ...	4 0	6 0
Stephanotis, doz. sprays	3 0	4 0
Tuberoses, doz. blooms	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
" specimen plants	5 0	10 6
Cineraria, per doz.	4 0	8 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Erica, various, doz....	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, In var. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Fuchsia, per doz.....	6 0	9 0
Heliotrope, per doz.	6 0	8 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	8 0
Lobelia, per doz.....	4 0	6 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	5 0	6 0
Marguerite Daisy doz	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	15 0
Rhodanth, per doz.	5 0	9 0
Scarlets, per doz.....	3 0	9 0
Stocks, per doz.	4 0	6 0

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FLOWER SHOW FIXTURES, 1895.

JUNE.

25.—R.H.S. Drill Hall Meeting.
25.—Cowes (Isle of Wight) Rose Show.
27.—National Rose Society at Gloucester.
28.—Exeter Flower Show.
29.—Windsor Rose Show.

JULY.

3.—Sutton Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.
10.—Hitchin Rose Show.
11.—Bath Rose and Begonia Show.
11.—Helensburgh Rose Show.

FLOWER SHOW FIXTURES.—*Continued.*

11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
12.—Royal Botanic Society's Evening Fete.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellinghorough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.
28, 29.— Bath Autumn Show.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days).

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.

NOVEMBER.

16.—Bacup Chrysanthemum Show.
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.
29, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

[The Editor will be greatly obliged if Secretaries will kindly forward the dates of their Society's Shows for inclusion in the following list as soon as fixed.]

The Amateur Orchid Grower's Guide Book. By H. A. Burberry (Orchid Grower to the Rt. Hon. J. Chamberlain, M.P.). Containing sound, practical information and advice for Amateurs, giving a List with Cultural Descriptions of those most suitable for Cool-house, Intermediate-house, and Warm-house Culture, together with a Calendar of Operations and Treatment for each Month of the Year. In Cloth (Crown 8vo. 5 by 7½), price 2s. 6d.; post free, 2s. 9d. Publisher, GARDENING WORLD, 1, Clement's Inn Strand, London, W.C.

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H. J. JONES respectfully invites all Begonia growers (both private and trade) to inspect his show of Begonias, which is admitted by all who have seen them to be the finest display in the country.

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FROM 6s. PER DOZEN, UPWARDS.

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Charles Turner invites an inspection of this marvellous Rose, which is now in great beauty at his

LANGLEY NURSERY, SLOUGH,

And will be worthy a visit during the early part of July.

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A MAGNIFICENT STOCK IN IMMENSE VARIETY.
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With the improved process of manufacture, and the tests it is subjected to by the makers, and ourselves in 4½ acres of glass houses, we are able to ask all plant growers who have not tried it to do so with confidence,

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OLDFIELD NURSERIES, ALTRINCHAM;
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THE NEW EARLY STRAWBERRY FOR 1895.

"Stevens' Wonder."

The earliest variety in cultivation and very prolific, solid fruit, good flavour, high perfume.

Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. *See Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16.

Having purchased the whole of the stock of this grand new early Strawberry from the raiser, we have pleasure in offering it as follows:—

Strong plants in pots, £5 per 100; 15/- per doz.
„ Runners, £3 per 100; 9/- per doz.

READY FOR DELIVERY EARLY IN JULY.

Early Orders requested as stock is limited.
Further particulars upon application:—

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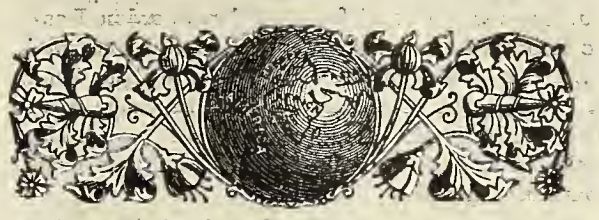


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JUNE 29th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 2nd.—Rose Shows at Sutton, Diss and Maidstone.

WEDNESDAY, July 3rd.—Rose Shows at Ealing, Croydon, Farningham, Brockham and Sittingbourne. Lee, Blackheath and Lewisham Flower Show.

THURSDAY, July 4th.—Continuation of shows at Sittingbourne, and Lee, Blackheath and Lewisham. Norwich and Eltham Rose Shows.

FRIDAY, July 5th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

SATURDAY, July 6th.—National Rose Society's Show at the Crystal Palace. London Pansy and Violet Society's Show at the Crystal Palace.

HARVESTING THE STRAWBERRIES.—The Strawberry harvest in many a private garden is a matter of no small importance, but one has only to learn a few statistics of a large fruit farm to realise the extent of the work that has to be accomplished in the short Strawberry season, and the risk and responsibility with which the owner of such a farm is saddled to make his harvest a success. As far as Britain proper is concerned the first note of the call to arms in this field of labour came from Cornwall, Devon, and other counties favoured by the warmth and earliness of their southern latitude. From these points the Strawberry harvest practically travelled northwards and eastwards. The railway traffic in Strawberries alone for the past fortnight has been very heavy, and in travelling southwards, both in an easterly and westerly direction one meets with trains consisting of vans specially constructed for the conveyance of fruit and labelled for London as well as Birmingham, Manchester, and other large provincial towns where the fruits must fetch the best prices owing to the extent of their markets and northern situation. Later on supplies must be obtained from local districts, and which must then have the effect of lowering and equalising prices, as between northern and southern markets. By and by, the northern growers, if enterprising enough, might retaliate by sending consignments of fruit to the south when the harvest there has been brought to a close. Last week the fruits were fetching 4d., 6d., and 8d. a pound, retail price, in the London shops, according to size, which, from what we can see, is very nearly synonymous with quality in public estimation.

What we saw and heard on the harvest fields in the north-west of Kent last week may not be devoid of interest to our readers at this season of the year, when Strawberries constitute the all absorbing topic amongst fruit growers and others interested in the culture of a class of fruit that seems to be gaining in importance every year. There the harvest operations were in full swing from the early morning till late in the day. The tonnage of Strawberries, per day or week, that is taken away from some of the railway stations is hardly credible, except to actual eye-witnesses. This refers to districts where Strawberries and other fruits are competing with Hops for a large share of the most fertile land in the county. The crop is a bountiful one owing to the absence of late spring frosts and other destructive agencies during the flowering period. In a 40-acre field at Swanley it is no uncommon thing for the pickers to gather 800 to 900 pecks of Strawberries before breakfast, and 2,500 pecks have been gathered in three days. We noted that extra horses and vans, belonging to another owner, were being employed in taking away the baskets of fruit and bringing back empties. On another farm not far off, 1,900 pecks of Strawberries have been gathered in one day. The number of pickers on a field of any extent, is very great, and moving slowly along in a bent position at work, their appearance is strongly suggestive of a large herd of cattle and sheep of all sizes and ages, grazing on pasture land. The garb of the workers generally is sober in hue, and, if not particularly picturesque, the whole assemblage must constitute a pleasing appearance, and give rise to agreeable reflections in the mind of the farmer who is not over-worried with business matters. More particularly would this be the case under such favourable conditions for harvesting this easily-injured fruit, as has prevailed in the south for many weeks past. All kinds of crops sadly want rain; but that is another matter, although even yet the unripened Strawberries might derive advantage from a couple of hours of gentle rain.

No wheeled vehicles are permissable beyond the edge of the field, nor indeed much beyond the gate where a little space just affords room for the vans to be drawn clear of the public highway. Boys are practically the carriers between the pickers and the vans, and they trudge slowly along between the rows (which are about 2ft. apart) with their heavy burden. They carry four to six baskets according to their strength, two in each hand, and sometimes one basket is slung round the neck in front with another behind so as to balance the young carrier on all the cardinal points. Every important and knowing man you meet is full of Strawberries—we mean metaphorically and mentally—for the first thing he has got to tell you, whether a stranger to him or not, is about the weather and Strawberries. Those two words and their story are practically bracketed together as if inseparable and the only topics worth talking about at present. Notwithstanding the importance of the industry and the diligence with which the workers ply their task, there seems neither fuss nor bustle, but the whole business is conducted with a quiet and steady earnestness from early morning till night. To the London and other pickers the work must prove wholesome as well as remunerative, practically combining

business and pleasure. It must indeed be a boon to city people as well as a veritable holiday. They become squatters for the time being, just as in the case of the hop-pickers later on, and as the shades of gloaming are falling, one may note the flicker of their camp fires round the edges of the field.

Some peculiarities of the season may be noted, and prominent amongst these is the fact that the harvest must necessarily be of short duration owing to the uncommonly dry character of the weather even in this favoured part of England. The size of the individual fruits is smaller than usual, but the first picking or two leaves little to be desired even on this score, where the land is naturally fertile and fairly moist below. There is a complaint, however, that the fruits are not assuming their wonted brightness or depth of colour—a fact which may be noted in the shops and stalls of the markets in London. The dry weather is supposed to be accountable for this deficiency although it cannot be explained very clearly. The bulk of the marketable Strawberries still consists of Sir Joseph Paxton, but newer and earlier varieties are being planted and increased. The dry weather is particularly favourable to Noble, for the fruits are firmer and carry better than in wet seasons, when they get smashed and greatly destroyed in transit to market owing to their softness and perishable character. One cultivator said he had twenty new varieties under trial including a very prolific American variety which, however, is partly dioecious and requires some other sort to be planted alongside of it to furnish the pollen necessary to insure fertilisation. Some of the new varieties, such as Royal Sovereign, threaten to make Strawberries too productive and unremunerative. The moral evidently is to make smaller plantations and secure present results, reserving the rest of the farm for something else. Surely this must be regarded as evidence of progressive horticulture, and a triumph of modern gardening.

Kent Cherries.—The first consignment of Kent Cherries was sent to London on the 22nd inst.

Mr. W. J. Gilks has been appointed gardener and Orchid grower to H. Smith, Esq., Summerhill, Kingswinford, Staffs.

Mr. Brown, the head gardener at Kennington Park, has been presented by the residents in the district with an illuminated address expressive of their appreciation of his good work in the park under his charge.

Gardening Appointment.—Mr. Hugh F. McMillan, of the Royal Gardens, Kew, has been appointed Curator of the Royal Botanic Gardens, Peradeniya, Ceylon. He sailed on the 25th inst.

A Nurseryman as Magistrate.—Mr. P. C. M. Veitch, of the firm of Messrs. Robert Veitch & Sons, Royal Nurseries, Exeter, was recently made a Magistrate and Justice of the Peace for the City of Exeter.

Next Year's Bulbs.—Hyacinths in Holland are doing badly, and the blooming quality of the bulbs for the ensuing year, will, it is said, be indifferent. If that is the case, first quality bulbs will be dearer than last year, unless the prophets are all wrong.

Snow in June.—On the 11th inst. a thunderstorm raged over several parts of Aberdeenshire and snow fell at Longside and other places. In the Badenoch district of Inverness snow lay heavily on the hill tops on the morning of the 12th, and more snow with showers of sleet fell during the day. Fears were entertained for the safety of the Potato crops if frost should intervene during the night. At Inchandown, near Invergorden in Ross, snow also lay while the wind was bitterly cold. During the day Ben Wyvis was white. Ben Nevis was covered with a resh fall of snow on the 10th and 11th inst.

A new early flowering Rose.—A new rose has been ntroduced by M. deVilmorin, of Paris. It is dwarf, and the flowers are of the small pompon type. But its most remarkable feature is its rapid growth. Seeds may be sown in the middle of January, and the plant will be in flower in the middle of April. Indeed, M. de Vilmorin has obtained flowers in considerably less time. It is the result of cross-breeding with Japanese plants, and careful selection.

Strawberry Crop in Devon.—The Strawberry crop in the Beerferris district is the heaviest the growers have had for some years. The fruit is of fair size.

Destructive Frost at Northallerton.—On the night of the 14th inst. a severe frost prevailed at Northallerton, which wrought sad havoc amongst Potatoes, Vegetable Marrows, Dahlias, and other tender outdoor plants. Four degrees of frost were registered, and some acres of Potatoes in exposed situations have been blighted.

Strawberries and vegetables in the far North.—Ripe Strawberries were picked at Burdshaugh, on the 12th inst., and at Kincorth, on the 15th; both places are in the neighbourhood of Forres. Peas and garden Turnips were gathered for use at Invergordon, Ross, Scotland, on the 14th, and a bountiful and well developed crop of garden Potatos was ready to hand at Fortrose, in the same county, by the same date. The season in the north of Scotland is generally reckoned to be four or five weeks behind that of the south of England.

Gooseberry and Currant Sawfly.—On Friday, May 10th, about 6.30 p.m., it was noticed that the Gooseberry bushes on a plot of about forty rods at the Essex Industrial School were badly attacked by the caterpillars of the saw-fly. Immediately this was discovered a number of boys was set to pick off the grubs. This was continued on Saturday, and by the evening they had collected about thirty pounds of the caterpillars. Half of the bushes were sprayed with one insecticide, and the other half with another antidote. The boys were set to pick the bushes again on the 13th, 14th, and 15th getting only a few caterpillars, and by the end of the week practically no caterpillars were to be found as reported in *Biology Notes*.

Market Gardeners' Compensation.—The Earl of Dudley, in moving the second reading of this Bill, explained that it had passed the House of Commons without opposition. Its object was merely to extend the conditions of the Agricultural Holdings Act, especially with reference to compensation, to certain cases of market gardeners which were not provided for by the Act.—Lord Carrington, on behalf of the Government, assented to the second reading.—The Marquis of Salisbury said that the Bill, subject to a more careful consideration of its details in Committee than was ordinarily given, was one the general tenour of which he regarded as high beneficial.—The Bill was read a second time.

Tuberous Begonias in America.—Concerning this useful class of plants, "A.L." in *American Gardening*, says:—"The advent of the tuberous Begonia was hailed with joy, because it is one of the most satisfactory plants in the garden, and it is hardly less valuable as a house plant. For show we have nothing to compare with it, neither have we a plant that is so thoroughly at home in sunshine or in storm, as this. The second year of its cultivation in this country, we called at a florist's, where it was being grown as an experiment, and asked the grower how he liked it. His reply was: "It is the grandest flower ever introduced into this country." Asked how it compared with the Pelargonium for bedding out in masses, he replied: "There is no comparison between them. Take it," said he, "after a shower, and it looks like a duck, while a bed of Pelargoniums looks like a wet hen." The comparison was an honest opinion plainly expressed. Whatever it lacked in beauty it made up in force, for that is precisely the difference between the two."

Revival of the Newcastle Rose Society.—As we have strongly urged the desirability of reviving the Newcastle Rose and Horticultural Society, both in the interests of the many working-men Rose-growers there are in the borough, to afford them encouragement, and to furnish a pleasant exhibition attractive to those who love the "Queen of flowers," but are not personally engaged in its cultivation, we feel satisfaction that the movement is likely to achieve success. We have all along felt sure that if there could be a shaking out of the supineness which appears to creep over so many good agencies in Newcastle, if interest is allowed to slacken for a time, we should see the Horticultural Exhibitions again. It would be well if in the next revival the Society is put upon as sound a basis as possible, so as to shut off any approach to the ephemeral in character.

Hailstorm Insurance Corporation, Ltd.—The Statutory General Meeting of The Nurserymen, Market Gardeners, and General Hailstorm Insurance Corporation, Limited, was held at Simpson's, Ltd., Strand, on Friday, 21st June, 1895. The chairman (Mr. Harry J. Veitch), reported that the shares had been applied for freely thus providing perfect security for policy holders. Though established only four months, 100 policies had been issued on 6,720,832 square feet of glass valued at £80,542 2s. 8d. and producing £415 11s. 8d. in premiums. This amount would be considerably augmented by the midsummer and Michaelmas business. No claims had yet been received. The capital had been invested in Government Stock. Twenty-six agents had already been appointed in the United Kingdom. The Corporation directors would take no remuneration in any year when less than 5 per cent. on the subscribed capital was made, and then only such sum as the shareholders in general meeting voted to them. From the tone of the meeting the report was considered very satisfactory. Messrs. Harry J. Veitch, James Sweet and James Webber were appointed trustees, and the meeting closed with a unanimous vote of thanks to the chairman.

Tooting, Balham, and Mitcham Horticultural Society.—This flourishing local association is specially interesting to lovers and growers of fruit, flowers, and vegetables, and the monthly meeting held on Thursday last, at Ye Olde Bell Coffee Palace, Tooting, was intended to be of service to amateurs, a paper read on "Orchids for Amateurs" being so comprehensively written by Mr. A. B. Greenfield that it was useful even to professionals like Mr. Stott, the critical and practical secretary of the Society. Those who wish to gain information on gardening, and to win (possibly) one of the many prizes offered to local cultivators of the soil, should write to Mr. Stott for the rules and regulations of the Society, his address being "The Laurels," High Road, Tooting. The more gardeners we have, the better for everybody. The annual exhibition of Chrysanthemums, and other flowers, fruits, and vegetables will take place in November.

Shirley Gardeners' Mutual Improvement Association.—The monthly meeting was held at the Parish Room, Shirley, on the 17th inst., when the chair was taken by Mr. B. Ladhams, F.R.H.S., and there was a good attendance of the members. Mr. G. E. Axford, florist, Fair Oak, gave a paper on the "Cultivation of Roses under Glass," which was very interesting, he being a grower for market on a large scale. A discussion ensued on the merits of Roses on their own roots versus budding on the various kinds of stocks, and the different methods of combating insect pests. A small show of cut Roses was held previous to the meeting, and there were eight competitors for three small prizes for the best twelve blooms, which were awarded to Messrs. Verdon, Tubbs, and Hallett respectively. A Certificate of Merit was awarded to Mr. W. Burrough Hill, and Mr. W. H. Rogers, J.P. and Mr. C. Ingram were highly commended for their exhibits of cut Roses. Certificates of Merit were awarded to Mr. B. Ladhams for hardy perennials, cut Roses, &c., to Mr. C. Dymott, for seedling Pelargoniums of dwarf habit, "Harry Dymok," and to Mr. H. Curtis for Ferns. A vote of thanks to the exhibitors and to Mr. Axford closed a pleasant evening. Mr. E. Molyneux and Mr. Axford judged the exhibits.

SEED MERCHANTS AT CRICKET.

HURSTS *v.* SUTTONS.

Played at Reading on Wednesday, 19th inst., and resulted in a win for Hurst & Son by 66 runs. This is the first defeat sustained by Suttons' C.C. this season. Messrs. Sutton & Son provided a splendid lunch, also tea, and a more enjoyable day could not have been spent anywhere, and both firms are to be congratulated on what is now to be an annual fixture. The presence of Mr. Martin Hope Sutton added greatly to the interest of the game, he not having been present during a match for many years. The chair at luncheon was taken by Mr. Arthur Sutton, and Mr. N. N. Sherwood returned thanks on behalf of Hurst & Son. Amongst the visitors present of both firms we noticed Mr. J. Kay, Mrs.

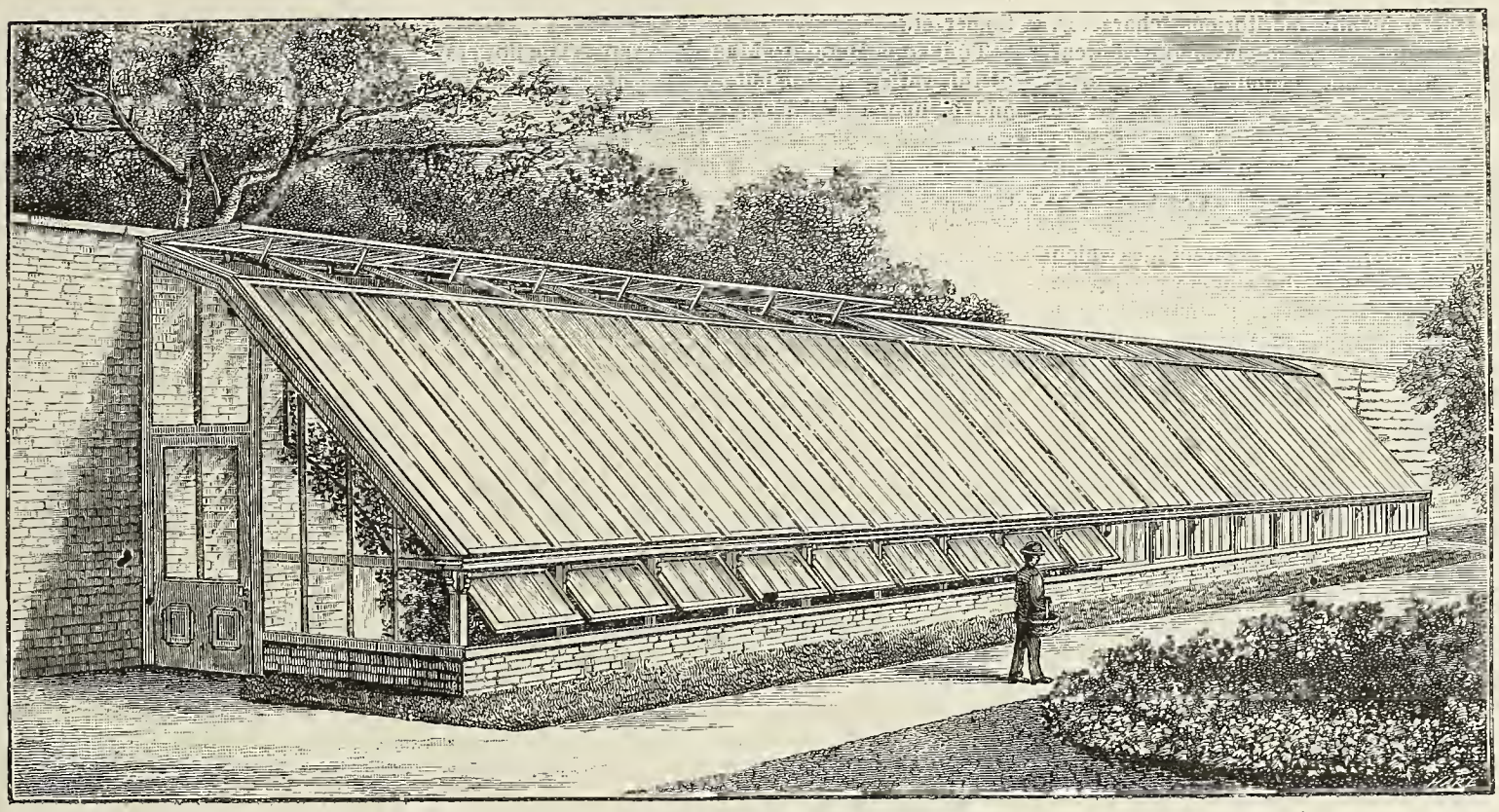
W. Titt, Mr. Titt, Junr., Mr. William Sherwood, Mr. L. Sutton, &c.

SUTTON & SONS.

1st Innings.		2nd Innings.	
Allum c & b Main	0	b Swinfen	6
Shorter c Thake b Swinfen	2	run out	0
Grant b Main	2	c Portch b Main	6
Bennett c Sampson b Main	1	b Swinfen	0
Hawes (Capt.) b Main	7	b Swinfen	10
Barrett c Cochrane b Swinfen	25	b Main	0
Bartlett c Sampson b Swinfen	1	b Swinfen	11
May c Cochrane b Swinfen	2	b Swinfen	9
Austin c Swinfen b Sampson	0	not out	1
Bowsher b Sampson	0	b Portch	4
Curtis not out	3	b Portch	16
Extras	3	Extras	10
	46		73

HURST & SON.

1st Innings.		2nd Innings.	
S. N. Sampson (Capt.) c Barrett b Austin	19	c Barrett b Bennett	11
W. J. Portch b Austin	0	b Austin	14
F. Swinfen b Bennett	9	c Bartlett b Austin	20
W. J. Cochrane b Austin	7	c Curtis b Austin	0
J. B. Squire b Austin	0	b Austin	7
C. Veitch b Bennett	10	b Austin	5
C. Addiscott b Austin	9	b Austin	13
W. Bruce b Bennett	13	b Austin	9
W. Main b Austin	8	b Austin	14
J. Day not out	3	b Austin	0
J. Thake b Austin	0	not out	2
Extras	4	Extras	8
	82		103



RANGE OF LEAN-TO PEACH HOUSES. (See p. 696.)

POPULAR FLOWERS AT SWANLEY.

No matter at what season of the year we visit the nursery of Messrs. H. Cannell & Sons, at Swanley, the zonal Pelargoniums, single and double, arrest the eye as soon as we walk in the direction of the houses. They are by no means the only feature of the place at the present time, but one is unable to get away from them until a thorough inspection has been made. Notwithstanding the severity of the past winter the sky overhead was clear and the Pelargoniums produced a blaze of colour the whole time. If this class of plants is less popular now for bedding purposes than they were twelve to twenty years ago, their use and popularity as pot plants has increased in an equal ratio, and for conservatory work in summer and winter they are becoming more and more indispensable. The improvements that have been effected amongst them during the past ten years is simply marvellous.

SINGLE ZONALS.

The individual pips of many varieties make the face of an English lever watch look small. Mrs. Hall is a large salmon flower shaded with scarlet, and the trusses are borne on stalks 10 in. to 12 in. long, being thereby highly suitable for cut flower purposes. W. P. Wright is equally large and bright scarlet. A dwarf variety is Phoenna with scarlet flowers shaded magenta. Madame Jules Chrêtien is of the Souvenir de Mirande type and the best of its class, throwing huge trusses of flowers out of doors and under glass. The flowers have a white centre, shaded rose and broadly edged with scarlet. The large flowers of Duchess of Portland are rosy-pink with a white blotch. There are several orange-flowered varieties including Sunbeam and Golden Rain, but Sunray is the best of its class with brilliant orange flowers tending to yellow. Maud of Wales is a purplish pink variety of great size and quite distinct from other shades of this class. The scarlet flowers of Enid are of large size and borne in great trusses. Mr. Owen Thomas is crimson-scarlet with a white eye in the way of Dazzler and Jean Sisley which were the best of their day but now long superseded. The soft rosy-salmon flowers of Galatea are of a very pleasing shade. Cannell's Favourite and Brilliant are fine varieties the best of their class. New Star is a distinct looking variety of a rosy salmon with a white centre and flowers as round as a full moon. A fine type is King of the Purples with rich purple blooms.

For bedding and other purposes, Henry Jacoby has long been popular, but it has been superseded by Lord Salisbury, which has larger flowers. The orange-scarlet flowers of Oliver Wendel Holmes are produced in massive-looking trusses, as are those of the dark rosy-magenta Sherlock Holmes. The pure white flowers of Swanley Single White display their orange anthers for a time in the centre, but these in the course of time drop, leaving the flower in unsullied purity. Madame Melba, on the contrary, is white with a pink centre. The brilliant crimson-scarlet flowers of Lord Rosebery are set off with a white eye. The soft blush flowers of H. de Perceval are delicately pretty, and notable for their great size. The upper petals of Marquis of Dufferin are brilliant scarlet, while the three lower ones are deep crimson-magenta. A handsome variety is Ethel Lewis, with warm pink flowers, and a white blotch at the base of the upper petals. With such short descriptions as the above it is difficult to convey anything like an exact impression of the endless tints and hues and the subtlety of their blending, which language is scarcely capable of conveying. A large number of varieties must also remain unnoticed.

DOUBLE ZONALS.

The tendency of the improvements amongst double sorts is to obtain much larger flowers with broader petals than has ever been seen until recent years. The original doubles, which were so much prized in their day, had small crowded flowers with crowded petals, and are fast disappearing from cultivation even in remote corners of the land. The flowers of Gustav Emich are only semi-double, but of huge size and bright orange. Similar in form are those of Girome, but they are cerise, shaded with purple. Hermine is the best double white in cultivation, either for summer or winter work. The plant is dwarf, but healthy in constitution, with green foliage and flowers well carried above it. Californie, with its orange flowers of huge size, no doubt is intended to recall the gold of that country. The large and brilliant, glowing scarlet, Raspail Improved, is one of the most popular of the whole range of double varieties. The great size and glowing hue of the flowers is doubtless responsible for the high estimation in which it is held. The medium-sized orange flowers of Lady Candahar are borne in compact trusses. Beauté de Poitevine is a semi-double with salmon flowers of huge size. For want of a better term we may describe Madame Charlotte as mottled salmon; the dark zone of the leaves makes a fine contrast with the flowers. Violet Daniels produces huge trusses of salmon flowers tinted with pink. A very distinct sort is Cardinal Lavigerie, whose magenta-purple flowers are borne in huge trusses. As amongst single kinds, so amongst doubles, there are some of extremely delicate tints of colour. Leon Xandrof is one of these, for the blush-white flowers are suffused with pink, and the plants are dwarf with dark green foliage. Very full are the white flowers of Boule de Neige, and the trusses are large. The reddish-scarlet flowers of M. A. Ricard are large and semi-double. Delicate and pleasing in colour are the large, soft pink flowers of M. Caro, borne in compact trusses that form a fine contrast with the green foliage. The flowers of Madame Jonas are white, with a soft scarlet zone in the centre, and altogether distinct. Bright clear scarlet are the flowers of Althea; and those of Le Contable are deep rosy-pink and of large size. A variety that will doubtless attain great popularity in private establishments, at least, is a new sort named Double Jacoby, with the dark maroon-crimson hue of its single namesake. The flowers are borne in large trusses well above the foliage on scapes 10 in. to 14 in. long. It is certainly a bold and handsome sort that must find numerous admirers.

FRENCH AND REGAL PELARGONIUMS.

The collection of this class of Pelargoniums is pretty extensive, and besides the races named it includes those known as show, fancy and decorative varieties. Gold Mine is a smooth flower of large size, and orange with two small crimson blotches, and, like Radiant, would be classed amongst the show kinds; the latter is rose, shaded with purple, and has two crimson blotches. W. C. Boyes is large and soft

salmon, with two crimson blotches. Chief Secretary is a well-known exhibition sort, with smooth, soft pink flowers, having two large black blotches. Cameleon comes in the same class, with soft scarlet flowers. The regal varieties have six or more wavy and crisped flowers of great beauty, and, though they do not conform to the florist's standard, they are much admired by the general public. In this group we would place Mrs. Innes Rogers, with rosy-carmine flowers blotched with maroon; Duke of Fife, rosy-scarlet, with a white centre, white edges, and very handsome; also Bush Hill Beauty, white, suffused and lined light rose; Duchess of Fife, white, feathered with crimson on the upper petals; Edward Perkins, scarlet, with a rose centre; Queen Victoria, scarlet, with a white edge; and Princess of Wales, scarlet, with deeper veins and a white edge. We noted several of the small-flowered, pretty and extremely floriferous fancy varieties, including Cloth of Silver, with rosy-purple flowers and a white edge. Countess is a French variety, with soft rosy-scarlet flowers and a white centre. Curious, interesting and pretty in this class is a double, named Cannell's Double, with white flowers. The outer petals are broad, and the inner ones numerous and of small dimensions. Double kinds are very uncommon in this class. Ivy-leaved Pelargoniums, chiefly doubles, are represented in great numbers.

TUBEROUS BEGONIAS.

Many cultivators have seen and noted Messrs. Cannell & Sons' Begonias at various places all over the country, so that it is almost unnecessary for us to speak of their highly meritorious character. Seeing is believing, however, and once more we went and had a look at them, and recommend others to do the same. The scarlet flowers of Campania are notable for their great size, seeing that they are sometimes 7 in. across. Bessie Pitcher is white with a broad scarlet margin. Fashion is circular and orange coloured, with a darker centre; of course we refer to the flower and not to the abstract idea which the term conveys. More of the single varieties are unnamed seedlings than named. So numerous are the good ones which turn up that it would deplete the dictionary to find names for them year after year. We noted fine varieties with white flowers, salmon, blush with a salmon edge, bright yellow, scarlet, crimson, pink, orange, maroon-crimson, and other colours. A larger proportion of the double varieties are named, doubtless on account of their great popularity for pot culture. There is a house-ful of the two sections, and each house 100 ft. long. G. Bryceson is a floriferous sort with salmon flowers, and those of Edith Wynne are pure white with broad petals. The cream-coloured flowers of Mrs. Goschen are very full and fine in form. The glowing scarlet and crimped flowers of Future King are handsome and telling. The blooms of Miss Francis Willard are like a huge Camellia in shape, but wavy, crimped, and rose-coloured, with white edges to the petals. Jeremiah Lyon has rich scarlet flowers, conical in shape, and the best of its class. The blush flowers of Lady Roberts are produced in great profusion, and are delicately tinted and pretty, particularly in the early stages. Lady Whitehead is a clear yellow, with very broad petals. A large batch of yellow seedlings has given rise to several meritorious varieties, with bright yellow, primrose, and creamy-yellow flowers. Other double but unnamed sorts have large, very full, salmon, rosy-pink, and creamy-white flowers, and other shades of colour, often light in hue and attractive, meet the eye in every corner of the house. The doubles at present do, indeed, outvie the single ones for display, and compete with the Pelargoniums for attention.

MISCELLANEOUS.

The Calceolarias have been extremely floriferous, but are now going into seed. In the Carnation house some fine varieties are flowering, including the rosy-pink Princess of Wales and several of the Malmaison type. The large collection of Cannas is very showy, the handsome Koenigin Charlotte being grown in quantity. It has scarlet flowers, with a golden edge to the segments. The Gloxinia house is gay with all the hues of the rainbow. The variety named Petunia has pleasing light blue flowers, and Beacon is dark crimson. Other hues we noted were white, crimson-scarlet, purplish-violet, and all shades of spotting, while the edged and banded flowers of great merit are plentiful all over the house. A fine batch of Cockscombs is now coming into bloom. he collections of Caladiums and Coleus are so extensive that we cannot find space to dilate on their merits. In the ordinary sense of the term we can hardly speak of them as popular flowers. This statement will hardly apply to the succulents including the Cacti, many of which are in bloom, including one of the night-flowering species of Cereus, to wit, C. peruvianus. The Old Man (Pilocereus senilis) and many others of a more grotesque character are there in force. In another house is Datura chlorantha. Out of doors the collections of Paeonies have flowered well, and many herbaceous plants are now in full bloom and very gay. Aquatics are plentiful, and so are the numerous subjects on the rockeries, where we noted Cypripedium spectabile and the pretty Linaria pilosa in bloom, and Fragaria indica in fruit.

PLANTS RECENTLY CERTIFICATED.

THE following plants received Certificates of Merit at the Royal Botanic Society's Floral Fete, June 12th:—

PAEONIA PRINCE OF WALES.—The blooms of this variety are very large, full double, and bright rose-pink in colour. It should prove an acquisition to a class of plants that already contains many fine subjects. Messrs. Kelway & Son, of Langport.

TUBEROUS BEGONIA MONT BLANC.—For description see p. 678. Mr. B. R. Davis, Yeovil Nurseries, Somerset.

TUBEROUS BEGONIA MRS. PITTARD.—The flowers of this variety are of fair average size, very double, and in hue a bright rosy-cerise, a distinct salmon flush being also apparent. Mr. B. R. Davis.

TUBEROUS BEGONIA MRS. GRAHAM.—This desirable sort has flowers of large size, nicely double, of very good shape, and of a very attractive orange-salmon shade. Messrs. J. Laing & Sons, Forest Hill.

CALADIUM FLAMONT ROSE.—This variety has cordate leaves of fair size, the central portion of which is of a pretty rosy-pink veined with bright crimson. A deep bordering of dark green runs round the edge. Messrs. John Laing & Sons.

PENZANCE SWEET BRIERS.—Two very attractive single forms of these were shown. Lord Penzance has flowers with a creamy-yellow centre, and the tips of the petals tinted with blush, whilst Lady Penzance has the same creamy-yellow centre with a deep salmon flush on the outside of the petals. Both varieties have flowers of large size and good shape. Messrs. Keynes Williams & Co., Salisbury

IRIS ASIATICA.—For description of this see p. 678. Messrs. Wallace & Co., Colchester.

DRACAENA GODSEFFIANA.—For the description of this fine foliage plant see p. 634. Messrs. F. Sander & Co., St. Albans.

DRACAENA SANDERIANA.—This Dracaena was first shown in this country at the Royal Horticultural Society's meeting, on May 20th, 1893, when it was awarded a First-class Certificate by the Floral Committee. The slender stems are thickly clothed with the short, gracefully arching leaves, which are of a deep shining green, prettily margined with pale creamy-white, becoming silvery-white with age. Messrs. F. Sander & Co.

ARISAEMA FIMBRIATA.—This rare and pretty plant appeared at the Royal Horticultnral Society's meeting, on June 12th, 1894, a First-class Certificate being then awarded it. The leaves are trifoliate and the leaflets elliptic in shape, and dark green in colour. The tube of the spathe is gray, lined with pale purple, the lamina large and slightly arched, ovate, and in colour crimson-purple striated white and netted with pale yellow towards the apex. The drooping spadix is very dark in hue, and prettily fringed. Messrs. F. Sander & Co.

BEGONIA RAJAH.—The leaves are obliquely orbicular, having overlapping auricles and a short crispidate tip. The upper surface is of a deep shining bronze, banded with green along the course of the principal veins, whilst the under surface is of a paler bronze shade. Messrs. F. Sander & Co.

CYRTANTHUS OBLIQUUS.—For description see p. 678. Messrs. F. Sander & Co.

SONERILLA MRS. MARGARET MOORE.—This decided acquisition to the group of Pearl or Jewel plants (Sonerilla) was obtained from S. orientalis picta crossed with S. Silver King. The habit of the plant is dwarf and bushy, and the foliage of a dark olive green, the central portion being covered with a silvery film with exception of the veins. The outer portion is marked with silvery spots. The under snrface is of a rich purplish crimson, and a peculiar but beautiful tint pervades the upper surface as if this rich colour were showing through the leaf. Messrs. F. Sander & Co.

ORCHID NOTES AND GLEANINGS.

Masdevallia muscosa.—The flowers in this case are small, but they are extremely interesting on account of the sensitive and moveable lip. They are triangular in outline, straw-yellow with darker nerves, and reflexed segments ending in tails 1 in. long. Botanical Certificate of the R.H.S., June 11th. R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell.

THE undermentioned Orchids received Botanical Certificates of Merit from the Royal Botanic Society on the 12th of June, the occasion of the special floral fête:—

Cypripedium Lady Hollington, *Nov. hyb.*—The dorsal sepal and petals of this new comer are of a dull yellow colour heavily striped with very dark maroon, the lip also having similar markings, but so close together as to well nigh hide the ground colour The plant is dwarf and of compact habit. Messrs. Hugh Low & Co., Clapton.

Laelio-Cattleya Ingramii, *Nov. hyb. bigen.*—The flowers of this grand new variety are of large size, the segments being of good substance, sepals and petals bright rosy-purple, and the lip suffused with intense dark glowing crimson and prettily crisped at the edges. Exhibited by Messrs. Hugh Low & Co.

Cypripedium Frau Ida Brandt, *Nov. hyb.*—For description see p. 678. Messrs. F. Sander & Co., St. Albans.

Dendrobium Johnsoniae.—This species has flowers somewhat similar to those of a Laelia, and measure about 4 in. across. The specimen shown by Messrs. F. Sander & Co. had four to ten blooms on each spike, and the flowers were pure white with exception of a greenish tint in the throat and several broad purple lines on the lateral lobes of the lip. It is a choice and ornamental species.

Sobralia Veitchi rosea, *Nov. var.*—Like the type this comes from S. macrantha crossed with S. xantholeuca, but it is far superior. The segments are white, charmingly suffused with a light rosy-blush. The large spreading lip is of a beautiful rose colour, the margin having a darker rim. The throat is clear light yellow. Messrs. F. Sander & Co.

Thunia Veitchi magnifica, *Nov. var.*—This is a very beautiful variety of a hybrid obtained from T. Brymeriana crossed with the pollen of T. Bensoniae grandiflora. The sepals and petals are pure milk-white. The large and beautifully frilled lip is of a rich purplish-magenta, and has numerous keels covered with fleshy old-gold coloured hairs radiating from the throat almost to the outer edge of the lip. Messrs. F. Sander & Co.

Odontoglossum crispum J. Gurney Fowler, *Nov. var.*—This has been named in compliment to J. Gurney Fowler, Esq., of Glebelands, South Woodford. The flowers are of large size and good substance. The petals are pure white without spot or marking of any description. The sepals are als white, but marked all over with rich reddish-choco-o late blotches. The lip is of fine form and pure white with exception of the bright yellow crest and a bright reddish blotch in front of it. Messrs. F. Sander & Co.

Odontoglossum mulus Sanderianum, *Nov var.*—The flowers of this grand variety are 3 in. in diameter, and clear yellow heavily blotched with rich dark chestnut. The lip is large, beautifully crisped in the upper half, and clear yellow with exception of a chestnut blotch on the middle. Messrs. F. Sander & Co.

Miltonia vexillaria F.W. Moore, *Nov. var.*—This beautiful variety has been named in compliment to F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin. A well grown plant bore three spikes of exquisitely tinted flowers. The lip, in most of the flowers, measures over 3 in. across, and is milk-white with exception of the base, which is lightly tinged with yellow, and has three dark purple lines in the

centre. The sepals and petals are of a soft rosy-blush, shading into white at the margins. Messrs. F. Sander & Co.

THE VEGETABLE GARDEN.

ALTHOUGH rain has fallen in some quantities in various parts of the country in the southern and south-eastern districts, at any rate, scarcely a drop has visited us for a long time. In fact, in many parts vegetables are making but little progress, so badly is rain needed. Watering will, therefore, form the most important part of the general work in this department as long as the drought lasts.

ASPARAGUS.—In ordinary circumstances the cutting of this should now cease entirely. Indeed, in the generality of seasons it is not needed after the middle of the month, as Green Peas usually begin to turn in in abundance. This season, however, the pods of the latter have been fearfully slow in filling, and unless we get rain soon the earlier rows will scarcely pay for the ground they occupy. By ceasing the cutting of Asparagus as soon as circumstances permit the crowns are materially strengthened, and under proper management there is no reason why beds should not last in condition for many years.

KALES OR BORECOLES.—It is high time that the planting out of these should be put in hand if it has not been already seen to. Although Borecoles are deep feeding subjects they thrive better than most vegetables of this kind upon poor soil. It is not advisable to plant them, however, upon land that has been freshly manured. We have now very many splendid varieties from which to choose that may be relied upon to stand our winters and supply an abundance of greens in the spring. We have found the following to be good :—Sutton's Arctic Green and Arctic Purple Kale, Extra Curled Scotch, and the good old Cottager's Kale, while Sutton's Improved Hearting is an exceedingly dwarf and hardy sort, the heads of which curl in like little Cabbages. In planting out a distance of 2 ft. may be allowed each way, although in the case of very strong growing varieties an extra 6 in. may be allowed with advantage, care being taken to water the plants well in.

ENDIVE.—It may be safely said that Endive holds a position amongst winter saladings similar to what Lettuce does among the summer ones. Indeed there are some who prefer its flavour to that of Lettuce. Anyway, it is a most valuable plant, and in any establishment where the salad bowl has to be kept well filled throughout the winter months a good breadth of Endive will be a blessing. Seed that was sown towards the latter part of April to supply early heads will now have produced an abundance of plants fit for dibbling out on a warm border. About 10 in. between the plants and 1 ft. between the rows will be ample space for these early subjects. The main sowing, however, should take place now, in border to furnish heads for mid-season use. This may be conducted on a warm south border in drills about 15 in. apart. As soon the young plants have reached a sufficient size they may be thinned out to the required distance, from 10 in. to 12 in. We have tried Veitch's Improved Green Curled with excellent results, as this blanches easily, and presents a nice appearance in the salad bowl. To come in as a succession nothing is better than the Improved Round Leaved Batavian. The most important qualification of which this variety is possessed is its great hardiness.

RADISHES.—Successional crops of these must be sown at intervals in the coolest parts of the garden, as during the hot weather the roots do not remain long in condition, soon becoming strong. The quantity sown at a time will, of course, depend upon the demand there is for them. In any case, however, the seed should be sown thinly, as it usually germinates freely, and then if thinning is not resorted to at an early stage a great number of the plants are spoilt. —*K. G.*

THE FLOWER GARDEN.

Now that the beds and borders in the flower garden are furnished with their ordinary complement of summer flowering stuff the usual run of seasonable attentions must be given. Pelargoniums must be gone over at intervals, and all old blooms removed, together with any yellow leaves that may be present. Beds which are looked after in this way invariably present a much better appearance than those which do not receive a like attention. Some of the plants used for edging purposes, such as golden Pyrethrum, may require pinching to keep them dwarf, and to prevent them from taking up too much of the room which should rightfully belong to the other plants.

CARPET BEDDING.—Although this is not nearly so extensively practised as formerly it still finds favour in not a few gardens, to some extent at least. It is true that advanced gardeners nowadays advocate a more natural way of growing plants, but still it would not be wise for the present at any rate to entirely do away with it. A piece of more or less elaborate scroll work at least assists in imparting a variety to the charms of the garden, and usually meets with some amount of appreciation. In dull or wet weather, moreover, the carpet bed always preserves the same vivid colouring that it does in fair weather, a result that cannot be obtained from flowering plants, as rain inevitably causes considerable damage to the blooms. As the plants increase in size pinching must be assiduously practised both to keep the plants dwarf as well as to preserve the original distinctness of outline.

HERBACEOUS BORDER.—Here a constant series of attentions will be necessary, for, from the great variety in the subjects it contains both as to habit and period of flowering, some plant or plants are continually requiring attention. Many annuals which were sown in patches for summer flowering will now be needing support. Three or four neat stakes should be inserted at intervals, and a strain or two of raffia or better still fine twine, if it can be obtained, passed around them. For Dahlias, perennial Asters, and other tall-growing subjects stronger stakes will be needed. Two or three of these may be necessary for large specimens; for it savours of extremely bad taste, and careless or incompetent workmanship to see the plants tied in "birch-broom" fashion.

SWEET PEAS.—If the ground upon which these are growing has been well trenched and manured in autumn these will have stood the drought fairly well up to the present. Now, however, it is high time that water be given them, and if sufficient liquid manure can be obtained so much the better, for occasional doses of this will meet with abundant recompense in the way of an increased yield of flowers, as well as in the considerably brighter colours that these will exhibit when thus treated. Not only does a hedge of Sweet Peas produce a gorgeous display in the flower garden, but the flowers stand well when cut, and are thus of very great service for the filling of vases within doors.

HARDY FRUIT GARDEN.

RASPBERRIES.—Although the bloom has been exceptionally abundant this season the recent period of drought will infallibly cause considerable scarcity of fruit unless some measures are taken to make up the deficiency in rain water. In dry hot seasons like the present, it is very necessary that frequent and abundant supplies of water be given the plants otherwise the fruits will be small and comparatively worthless. Heavy mulchings of short, well-rotted stable manure may be given immediately after a watering, as they will not only serve to convey nutriment to the soil but they will also prevent the rapid evaporation of moisture that would otherwise take place.

PEACHES ON WALLS.—As the wood swells an occasional peep must be taken to see that none of the ties which were made in winter are tight enough to exercise undue pressure upon the shoots. Any nails also which appear to be in dangerous proximity to swelling fruit must be drawn out. Proceed with the tying or nailing in of the shoots that are to be left; also attend to the pinching of such growths as are overgrowing their proper limits.

SUMMER PRUNING.—This is one of the most important operations in the whole of the year's culture of hardy fruit trees, for by its aid the cultivator is able to direct the energy of the tree, which would otherwise be wasted in the production of long straggling growths utterly useless for fruit-bearing purposes into the right channel. Most fruit trees that are trained and pruned according to a given principle whether they be cordons, espaliers, fans or pyramids require a judicious amount of regulative stopping at some time or other from now to the end of July at the latest.

PEARS.—These usually call for attention as soon as any. Pinching, however, must not be performed too soon; for if the wood has not reached a certain stage the buds left at the base, to strengthen which stopping has been performed, will break into growth the same year. In pyramidal trees the laterals may be pinched back to three or four leaves, but the terminal shoots allowed to grow away unchecked until towards the end of the summer. By this means the development of flower buds at the base of these shoots will be favoured. Trees trained espalier fashion have the advantage of more light and air than it is possible for the others to obtain and they may therefore be left without fear until the others have been operated on as they will not be so likely to suffer from being crowded as will the pyramids. In old trees sometimes, particularly in those which have been neglected, large quantities of weak spindly shoots will be observed. These must be taken right out so as to throw all the available energy into the stronger ones which are left to produce fruit buds for next year. In cases of this kind it is not wise to pinch back too hard, as to do so means the sudden removal of too large a proportion of foliage.

SWEET CHERRIES.—As the earlier sorts of these will now be commencing to turn colour, preparations should be made for netting them, as the various birds begin to evince a liking for them at a very early stage in the ripening process, and are not long in thinning a crop to an alarming extent.

FRUIT UNDER GLASS.

HOUSES OF RIPE GRAPES.—Such houses will now have their top and side ventilators thrown as wide open as circumstances will permit, and as at this season of the year birds of various kinds often play havoc with the fruit the precaution should be taken of stretching a net across the apertures for the exclusion of these feathered marauders, which will very soon spoil the appearance of a few bunches of Grapes Should the sun prove very hot and the Vines appear to be suffering somewhat from its scorching rays a light covering of tiffany may be spread over the house for a few hours in the middle of the day.

FIGS.—Where the second crop of these is now swelling away apace, the water supply will need extra careful attention, for with the large quantities of foliage the trees are carrying the transpiration of water will be proportionately rapid. But little fire heat will be necessary now as the temperature of the houses will easily keep up to 65° Fahr. by night and this is quite warm enough for all purposes. Liberal syringings morning and afternoon will be of great service. Mealy bug will also be likely to need a little watching as at this season of the year it multiplies at an alarming extent once it gets a foothold. A mixture of petroleum and warm water applied with a soft brush as recommended in a previous calendar will prove a good means of getting rid of it should it persist in putting in an appearance.

PEACHES AND NECTARINES.—Continue to ply the syringe with vigour and regularity upon trees from which the fruit has been gathered; likewise upon the trees in the later houses. Ventilate well and freely, leaving some on all night. Should fly make its appearance in these later houses as it is very likely to do where Roses are accommodated on the back wall fumigations must be given for two or three nights in succession. In doing this however take care that the atmosphere of the house is as dry as possible, aud that no water is standing upon the foliage. Above all do not commence to fumigate until the sun has got down pretty low, say about seven o'clock in the evening. This over-night fumigation may be followed by an extra heavy syringing the first thing next morning, as this will greatly assist in completing the destruction of the insects. Tobacco paper or rag may be used although we have found McDougalls fumigating sheets to be quite as efficacious and certainly much easier to use.—*A. S. G.*

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne F.R.H.S. Price, 1s. post free, 1s. 1½d. from the Publisher of the GARDENING WORLD, 1, Clement's Inn, Strand, W.C.

HINTS FOR AMATEURS.

Watering of Pot Plants.

The operation of watering is one of the most common and most easily managed of the many that pertain to the domain of gardening, and yet many an amateur gardener at the outset finds himself in somewhat of a quandary as to how he shall treat his plants with regard to water. Many a poor miserable-looking plant that has at various times come under our notice has had to suffer for the lack of experience in the application of water which has characterised its owner. How many times do amateur gardeners when in their first stages ask the question, "How often shall I water my plants? Will once a day be enough?" Such people are not unfrequently sadly nonplussed by the answer which they often get from gruff old professional gardeners who, from the vantage ground of their higher technical education and horticultural experience, appear in nine cases out of ten to be utterly incapable of understanding the difficulties of the amateur, and hence are in far too many instances unable to lighten him of his burden of woe. Any advice that may be given usually takes the form of a recommendation to water the plants as often as they require it.

This is answering the first question it is true, but it is giving rise to another one that is equally as formidable and to which no ready answer by word of mouth can be returned, viz., "How shall I know when they require it?" Certain it is that although a few good rules may be laid down and various kinds of advice given on paper, with a view to assisting the tyro to look after his plants properly, practical experience is the best teacher; for this alone can tell the would-be gardener when any one plant requires watering. Now while generally speaking the members of the same class of plants may in the main need similar treatment, still the broad general rules that are laid down to guide the student in his dealings with that particular class are subject to considerable modifications according to the special requirements of the individuals. It must be remembered at the outset that just as no two animals are exactly alike even though bound together by the closest ties of relationship, so no two plants have all things completely and absolutely in common. One plant will need more water than another because it is of a more vigorous constitution, just as one animal will need more food than another from a like cause. But apart from the variations of treatment that become necessary owing to dissimilarities of constitution, there are differences of environment to be reckoned with and to be dealt with accordingly.

All these points go to make watering an operation in which the discretionary powers of the operator have of necessity to be brought largely into play if success is expected. Now the gardener, whether he be an amateur or a professional, who has thoroughly mastered the task of knowing how to treat a collection of, say, common greenhouse subjects with regard to the water supply, has taken a most important step in the right direction, and is at least within measurable distance of the goal of success. Enough has been said to effectually dispose of the idea of its being possible to water plants at the expiration of stated intervals: now for a few general hints with regard to watering, which the operator must modify according to discretion to suit his case as nearly as possible.

In very few cases must plants be allowed to get dry at the root during the summer months, or the foliage starts to droop or, as it is technically termed, flag, and the health of the subject suffers in consequence, even if water is given directly the mischief is observed. The gardener should therefore be able to perceive the need for water before the plant holds out these mute signs of distress. The usual way of discovering the condition of the root is by giving the pot a smart rap, either with the knuckles or a piece of wood, in which case if a rather hollow ringing sound results water is wanted, a dead heavy sound indicating the presence of sufficient moisture. Some plants, however, such as Heaths or others, which have filled their pots very full of roots, will not ring until the soil is almost dust dry, and therefore another expedient than that of tapping them must be resorted to. Lifting the pots so as to ascertain the weight and judging by the comparative lightness or heaviness as to whether water is wanted or not is the safest of all methods, and a little practice will soon enable the operator to tell to a nicety what is required. The appearance of the surface soil must never be taken as a guide as to the condition of the interior, for appearances are notoriously deceptive.

Another very important point to notice is that sufficient water is given at one and the same application to thoroughly soak the ball. Very often the amateur is tempted to give his plants a little water each day with the result that while the outer layers of soil are very much like mud the inner ones are as dry as dust, a state of affairs which, if allowed to exist for very long, is sure to result in the death of the subject so treated be it possessed of ever so strong a constitution. Also with the view to the regular and complete soaking of the ball of the plant at each watering it should be seen that the pots are stood level; for this is a point which the careless or unskilled workman is apt to pass lightly by as being of no consequence whatever, a most egregious mistake as a few seconds' careful thought will soon convince anyone.

Newly Potted Plants.

A word or two concerning the treatment of these may be of service. While watering at all times must be conducted with care it will need exceptionally strict attention when the plants have been newly potted. Too much water at this stage inevitably results in sour sodden soil in which no roots will exist, much less in which new ones will be made. If the compost is fairly damp when used it is not advisable to deluge the plant with water as soon as it is potted. It is far better to wait a day or two, to shade carefully and to syringe lightly overhead. In applying water to newly potted plants, moreover, a rose-can must always be employed, for if the water is allowed to fall in an unbroken stream upon the loose surface soil much of the latter is washed out over the sides of the pots on to the floors and stages where as far as we are aware it is of no use whatever. It is an unmistakable sign of bad gardening when this state of affairs is observed, although it must be confessed that this kind of error is by no means confined to the amateur gardener.—*Rex.*

IS GARDENING HARD WORK?

The question at the head of your leader of the 8th June, p. 643 will doubtless be assumed by the majority of your readers in the affirmative, and perhaps no one will affirm more readily than the under gardener who feels at this time of year more than at any other the extra strain upon his physical strength, especially if he has a day or two of hard mowing in each week; or, as in some cases where the water supply is raised by hand, an hour or so of the pump each day. There are, however, various kinds of degrees of hard work. There is that labour or task which a healthy man enjoys, which he tackles with a zest and a will, and which helps him to enjoy a respite and rest when evening comes, when, with an honest feeling of "Something attempted, something done," he has earned his night's repose; this can scarcely be called hard work. There is a harder when one has difficulties to overcome, in the multitudinous forms in which they present themselves, maybe insects, adverse weather, poor soil, a limited supply of labour or of tools, and a constant uphill struggling against heavy odds to improve when progress seems slow or scarcely appreciable, and one seems unable to make any headway. But the hardest work to my mind is when, after much toil, thought, and care, after every effort to please has failed, and one has done his level best in the position in which he has found himself, whether as head or subordinate, and he fails to give satisfaction and the employer or chief continually grumbles and perpetually worries, seeing nothing but the darkest side of things and one's little mistakes. This is indeed hard work.

But what I would like to point out, especially to those who are under men and beginners, is, that if gardening is hard work and there are trials and difficulties to be met, it affords to very many great enjoyment and pleasure, and has in it much that tends to brighten and make life pleasant. Unlike those whose daily toil lays within our great cities—those wildernesses of bricks and mortar—the gardener follows his avocation amid pleasant surroundings. No brighter plan can be found in which to labour than a well kept garden.

One cannot complain of monotony; the different seasons bring their changing duties varying the round of work. It is pleasant in spring to sow, and under vernal influences work goes lightly. In autumn the harvesting of the crop has a charm of its own.

But apart from and above all these advantages, to my mind the study of plant life, or the science of botany, offers to the student (and every young gardener has opportunities and facilities) a source of perennial pleasure and keen enjoyment. I have experienced and still feel such pleasure and enjoy nothing more than a ramble amongst the wild flowers. A younger brother, also one of the craft, when an opportunity occurs for a holiday takes a tramp, perhaps to a Surrey common or lane, or maybe on the fertile hills of West Middlesex, armed with his "Flora"; he meets and makes many friends among our country flowers, and now, although he has gone to foreign lands to try his fortune, his interesting and graphic letters tell me that he still finds pleasure pure and unalloyed in this delightful study. Oh yes! someone says, but what a lot of hard names must first be learnt and what study is required to understand anything about the names of flowers and the science of botany. A little affliction and perseverance removes great obstacles. As the plants we cultivate grow, little by little, so we may extend our knowledge, and it is the experience of more than one, that when the technical names which we meet in a text book are understood, and one can begin to see and know their meanings, all difficulties vanish and it is found most interesting and fascinating, and a delight.

Nothing of value has ever yet been accomplished without exertion, and the mere effort to acquire useful knowledge brings its own reward. The educational value of this study to the young man who aspires to be a good gardener is immense. A venerable statesman and accomplished scholar, addressing a class of students about three years ago, said:—"Botany is not only in itself a most beautiful and interesting study, exercising the mind without fatiguing it, and stimulating it without leading it astray, but it leads to the most careful observation of nature; and one cannot help thinking there are great treasures in nature more than had heretofore been explored in that and every other branch. The curious sensitive stamens of the Berberis which close over the pistil when touched, the sensitive life-like stigma of the Musk which closes when touched, the beautiful mechanism of the stamens of the Salvia which prevent any large insect entering the flower without distributing pollen upon its back, and is ensuring its being carried to another flower, are but common illustrations of the many wonderful and interesting phenomena of plant life which can be seen by anyone; and I recommend the beginner who finds time hang heavy to look for these little things of interest, and maybe he will obtain a taste of a science which will give him a life-long pleasure."—*A. P.*

HORTICULTURAL BUILDINGS.

In connection with the exhibition of the Royal Agricultural Society being held at Darlington during the week just ended to-day, we make mention of some of Messrs. Richardson & Co.'s hot-house buildings, and intend entering more fully into the report of the show generally in next week's issue. Messrs. Richardson & Co. are the well-known Horticultural Builders and Heating Engineers, and the works of the firm are situated in Darlington. One of the special exhibits of the firm is a conservatory suitable for setting up in proximity to a mansion. It is substantially built, and furnished with a lantern on the top, which is becoming more and more appreciated by gardeners generally, as it furnishes a means of ventilating on the top without admitting rain during showery weather, when cool house plants must not be entirely shut up.

As an instance of another style of conservatory we give an illustration of a Winter Garden which was erected at the Harrogate Hydropathic Establishment by Messrs. Richardson & Co., to whom we are indebted for the present opportunity of figuring it. The structure is of considerable length, width, and height, and is constructed in one solid block with a three-ridged roof, as shown in the illustration. The house is intended to accommodate plants of considerable size, and for that reason the exposed side and end are glazed from the eaves to within a short distance of the ground line. This is necessary for the fullest exposure of the plants to light as far as the conditions of the environment will allow. This par-

ticular form of a winter garden is only one of a great number set up by Messrs. Richardson and Co.; for the plans are almost as varied as are the places at which the structures are built, the convenience of situation, and the taste of the proprietor.

As conservatories and winter gardens are chiefly constructed for the culture of ornamental plants, so the structure illustrated on page 693 represents the utilitarian aspect of hothouse building. It presents a range of lean-to Peach houses in a style that has found favour with a great many proprietors and their gardeners. Being a lean-to structure it can be fitted to the inside of any garden wall, and offers many advantages. The height of the front is only 3½ft. including a foot of brickwork. The structure is about 80ft. long and 8ft. wide, and may be divided into two or more compartments according to requirements. The top ventilators are constructed to be elevated at will, instead of being let down by means of ropes in the old fashioned way. This prevents rain from driving in, it may be when the trees are in flower or in fruit, thereby spoiling the same before the gardener has time to close the lights. Each set of ventilators, if so desired, can be constructed in such a way that the whole may be opened or closed by the turning of a lever in connection with the simultaneous iron gearing to the ventilators. The illustration represents the range of Peach houses as erected for Sir James Kitson, Bart., Gledhow Hall, Leeds, and others by Messrs. Richardson & Co.

Winter Garden at the Harrogate Hydropathic.

GLOXINIAS AND STREPTOCARPUS.

More attention is yearly being given to both these classes of plants, and the consequence is that they are being greatly improved by the number of cultivators that take them up. Messrs. J. Laing & Sons, Forest Hill, have been cultivators of Gloxinias for many years, but latterly they have recognised their merits and importance as decorative subjects and have been giving them greatly increased attention. The result is that their strain is greatly improved compared with that of former years. Some of the varieties are named, but the larger proportion are unnamed seedlings, many of which are very beautiful. Of the named varieties Marginata is glowing crimson-scarlet with a pure white eye. Equally handsome is Mrs. Laing, of an intense violet with a blackish shade and a pure white margin. Princess May is of great size, pure white and very choice. Lord Hillingdon on the contrary is red with a broad white margin; and Monarch is a crimson-scarlet self of great merit. As a contrast to this, The Moor is a blackish purple self. Leopard is richly spotted and netted with purple on a white ground and is a picture of what a spotted Gloxinia should be. A large and showy flower is John Laing, of a crimson-scarlet with a rosy edge. Spotted Gem is densely spotted with rose and purple on a white ground.

The seedlings, like the named ones, are all characterised by their funnel-shaped erect flowers, and being without numbers we can only refer to them by their colours. A seedling from Marginata has crimson-scarlet flowers with a broader white edge. One from Electra is intense violet fading outwards to the white margin. Some have a rosy purple, wavy zone on a white ground, others are blackish violet with a lavender and white margin, or a blue edge. Bright scarlet with a white edge; soft pink with a deep purple zone at the throat; white, zoned with pale purple and crimson-scarlet, are characteristic colours in other cases. A white variety has a small purple spot at the junction of the lobes; and a dark violet-purple sort seems netted with bright red in some stages of its development. A white one with a creamy throat is also pretty.

There are two distinct strains of Streptocarpus here differing greatly in size, but we were most interested in the large flowered type which is the newest and represents the more recent improvements. The finest in our opinion was that named Royal Blue, which had deep blue flowers with nine violet-purple lines in triplets upon the lower lip. Royal Purple is more decidedly purple on the lower lip. Distinction is light blue with three broad violet bands on the lip. An unnamed sort has blackish purple bands on the lip, and another is soft sky-blue with nine purple lines running into the throat. The leaves are relatively large and numerous to each crown. The flowers are also very freely produced on each plant and they vary from one to five on a stalk. The size and number of blooms to a scape as well as the large leaves, all show evidence of the hybrid origin of the strain which we hope to see still further improved

HARDY CUT FLOWERS FROM TOTTENHAM.

A box full of hardy cut flowers recently sent to us by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, contained some remarkably fine examples of showy herbaceous plants. The specimens submitted of Heuchera sanguinea were of an exceptionally brilliant colour. Very fine was Aquilegia chrysantha a rather strong growing variety producing flowers of large size and good substance, and a rich butter yellow in colour. The spurs of the corolla are long and tinted with the same light brown shade as are the sepals This should prove an acquisition. Ixias, too, receive skilled attention

at Tottenham, for the samples sent us were really good. I. Prestios has flowers dead white in colour with a rich carmine blotch in the centre. I. Theseus has likewise a bright rosy blotch in the centre, the segments also being prettily tipped and flushed with the same hue. Of Liliums quite a number greeted our gaze, of which L. colchicum was certainly not the least worthy of mention, the flowers being of exceedingly fine substance, and the characteristic brown spots upon the yellow segments being really charming. A very pretty variety is L. elegans sanguineum growing to a height of from one to one and a half feet, and producing large flowers of bright red hue slightly flushed with orange, a few black spots being apparent, whilst L. e. Prince of Orange is certainly not inferior to it in beauty. L. pomponium bears large numbers of rather small flowers of a bright red hue slightly tinged with orange, and the segments much reflexed. The leaves are very distinct, being long, narrowly linear, deeply furrowed, and tapering to a fine point. Very pretty is L. Martagon album, the white Turk's Cap Lily, the long racemes of which bear numbers of the white flowers with their green centres.

Irises also made a brave show. I juncea has both standards and falls of a rich deep yellow hue. A collection of Spanish Iris comprised some exceedingly pretty varieties. The rich bronzy-yellow hue of Inula glandulosa was lying side by side with the intense blue of Campanula glomerata dahurica. Spiraea Filipendula plena should prove a useful plant for cutting, for the flowers, although very double, have not lost a whit of their natural grace in so becoming. Polemonium Richardsoni album is a gem, the term album being no misnomer in this instance. It should prove a very useful subject. Lychnis vespertina plena is a distinct departure from the type, the flowers being large, very double, and pure white, whilst to judge from appearances the plant itself is a vigorous grower. Very handsome is Achillea serrata plena for the leaves are of a dark shining green, and very deeply serrated; whilst the flowers, which are freely produced on stout stems, are pure white and nicely double. The comparatively rarely met with Erigeron salsuginosus was also well represented. This is a comparatively strong growing variety the ray florets being of a light purple colour, and the dick florets bright yellow. A pretty plant, but one which is not so frequently seen as might be, is Gillenia trifoliata. This genus comes very close to Spiraea, indeed the plant in question was at one time known as Spiraea trifoliata. The petals are ligulate, in colour white and flushed with rose, whilst the calyx is persistent, and assumes a deep red hue in its later stages.

TOMATO CROPS.

The weather up to now has been extremely favourable to Tomatos, and, where their culture is thoroughly understood, we may look forward to obtaining quite an average yield, and in many places even more. The more I see of these plants in going from place to place I can quite see that comparatively few growers thoroughly understand them. I will try to explain my meaning for I am sure that forty-nine out of fifty failures if honestly looked into will be accounted for by errors in cultural practice as I shall endeavour to point out. About the time for sowing the seed I wrote an article or two in the Gardening World on the treatment of Tomatos, pointing out the necessity of keeping the top growth within due bounds and of confining the root run to a limited space.

My own experience again this season tells me that this is the only way to secure good results right from the ground. For instance, in one large house with five beds, each 30 ft. long, 2 ft. 6 in. wide, and 9 in. deep, we have this season planted two rows of plants, first shovelling all the old soil out of the beds except about 3 in. at the bottom. The plants when ready for putting out were in 60-sized pots. They were placed at a distance of 18 in. apart in the row. The roots were just covered with the 3 in. of soil left from last year's top-dressings. They were growing steadily when put in and have kept so ever since. Since planting they have had two top-dressings; the last being on Saturday, 15th inst. Every truss is fairly set with fruit right from the bottom upwards, and there is every appearance of a good crop.

The main thing to watch is top-dressing at the proper time, for if this is not properly attended to the plants soon begin to go back. Now for the opposite side to the question: let any plants be put into soil a foot or so deep with any amount of root run, the result is, as I have seen many a time, such superabundant vigour that cannot possibly be checked, and, if grown on the single stem system, the more lateral pinching is done the more is the strength thrown into the main stem, ending with the result that the plants are played out before they start to set their fruit. I have also about a couple of dozen of plants in ten and twelve-inch pots, which were nine inches in height when placed in their fruiting pots. The pots were well crocked, and when ramming was finished were barely half full. They went like this for three weeks or a month, and have just been top-dressed for the last time. Now this is the most fruitful crop we have, for the plants are now showing their seven and eight trusses each, with five or six fruits set, besides having any amount of strength left. Of course, they are well looked after, and are given any amount of stimulants; for when plants have got plenty of fruit on them you can hardly overdo them in the giving of manure-water.

As to varieties: up to now I see nothing special in many of the new ones that I am giving a trial to. Some very good varieties of my own saving, Prelude, Improved, and Challenger, are miles in front of any of them in point of excellence.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

STRAWBERRY ROYAL SOVEREIGN.

All to whom we have spoken about this Strawberry are unanimous as to its earliness, great size, fine appearance and vigorous constitution. It is the opinion of many that it will be one of the Strawberries of the future—indeed some say "the" Strawberry. Well, at all events, we have seen it in different gardens and under widely different conditions, and must confess to a very high opinion of it. Messrs. H. Cannell & Sons, Swanley, got 200 plants of it in 1893, which, like the present, unfortunately, was uncommonly dry, and about half of the plants perished. Nevertheless the remainder have done their duty admirably as we can testify. Last year these 100 runners planted at Swanley produced three crops of runners from which a sufficient number was obtained to plant three acres of ground at Eynsford where we inspected them. So vigorous is this variety in fertile and fairly moist soil, that it requires to be planted about 3ft. apart each way or at least 3ft. asunder in the lines, and 2ft. from plant to plant, in order to give them the full advantage of space to ripen their fruits by exposure to sunshine, and afford space to gather without treading upon the fruits.

Several other varieties alongside of this one including Empress of India, White Knight, Sensation, Cardinal, Lord Suffield, Gunton Park and La France, and subjected to the same exhaustive process of producing runners, have fared very badly, many of them being dead, while others are greatly weakened and not half so productive as Royal Sovereign, which greatly excels them in weight of crop and other respects. The ripe fruits might be gathered in handfuls. The fruits grown and illustrated by the raiser were conical, and so might be the average run of them, but many of them here are of enormous size and more or less flattened or cockscomb-shaped. They are dark red or scarlet as the popular description goes, with the seedlike achenes moderately deeply inserted on the surface. The flavour is brisk as a Strawberry is reckoned, rich and pleasant in flavour when fully ripened, and gives one the idea that it is made up of something more agreeable to the palate than mere sugar and water. If the future good behaviour of this magnificent variety is maintained it will indeed be an acquisition to horticulture.

POTATOS.

The Potato crop, which is always an interesting topic, is generally looking promising in the Stirling district, but on high lands where the soil is light this cannot long continue if the weather does not change, and a supply of rain comes to the rescue. We find on examining the early kidney varieties on June 10th (such as Veitch's Improved Ashleaf, Old Ashleaf—but I fear not the true variety—and Rivers' Ashleaf alongside of Sharpe's Victor), that they have tubers over an inch long; but the last-named variety has nicely-formed tubers over two inches long, and could be sent for use if such was necessary. They will be ready in good time to succeed some which were sprouted and protected with wire pea trainers and mats placed over them at night. Owing to the dry sunny weather Potatos forced in pits and frames are of good quality. Though Sharpe's Victor is not equal in quality to the kidney sorts forced, it is really worth growing in pots, and planted out in structures, by reason of its dwarf habit and, extreme earliness.—*M. T., Stirlingshire, N.B.*

KILLING WEEDS.

These either in garden paths or on the cultivated ground have to be dealt with sooner or later, and here if anywhere a stitch in time saves nine. There are few gardens the soil of which has not been allowed to be become full of seeds of weeds. The ground is turned up, the crops put in, and the weeds spring up in advance of them, and often get above the crops. Hard work at hoeing and hand-weeding follows. Now much of this might often be avoided by taking time by the forelock and destroying the weeds when very small. One good rule is to have the ground ready for cropping a little in advance of the required time; many weeds will then be in evidence, and can be dealt with as follows:—Take a steel rake and go over the surface, working it 2 in. down and crossways till every little seedling weed is disturbed.

If a bright, sunny, and windy day can be chosen for the job all the better; the sun and wind will make short work with all which come under their influence. If you can afford time to do this again after a few days previous to cropping the ground all the better. There are few of these small seeded weeds which will germinate and find their way through 2 in. of soil. There are soils on which this plan can only be occasionally carried out on account of their texture; but, when this is so, the early repeated use of the hoe when the weeds are very small will render the after labour in keeping them down far less laborious. The plan of filling in the drills with burnt earth and ashes is a great help in keeping crops clear of weeds, enabling the workman to see where to ply his hoe among the weeds long before the crops of Carrots or whatever else it may be can be seen.—*W. B. G.*

CONSERVATORY.

This should now be gay with flower, although a little time must be spent each day in the removal of old blossoms and yellow leaves if the display is to be kept up. Herbaceous Calceolarias, for instance, look exceedingly untidy as soon as their blooms begin to fall. By means of an occasional picking over, however, they may be made to look presentable for a few weeks longer. As Pelargoniums go out of flower they may be removed to some out-of-the-way corner outside, where they can ripen their wood. Fuchsias ought now to be a blaze of bloom, and these are really a host in themselves. Coleuses, too, have had a rare time of it lately, for the warm bright weather is just what they need to develop their brilliant colours to the full. Where the conservatory is in close proximity to the mansion it will be obvious that the application of manure-water will be impossible, but care must be taken, however, that plenty of clear water is used. Where practicable the afternoon is always the best time of the day to give water. In some cases it is not possible to do this, and the early mornings have to be made the most of, looking the plants over again about four o'clock in the afternoons of very hot days.

Large Palms.—It often happens that large plants of these have to stand in corridors opening from the drawing-room into the conservatory, where it is not possible for them to receive the daily syringings which are of so much value in keeping the leaves clean and the plants healthy. Small wonder is it then that plants upon whose fronds deposits of dust are allowed to remain for weeks together look sickly and yellow. If they can be removed in the mornings to a place where the syringe can be plied vigorously upon them this should receive attention at least twice or thrice a week. Where, however, their large size or the position in which they are placed precludes the possibility of shifting them in this way, they must be gone lightly over with the sponge as often as time will permit. A piece of soft

soap, about the size of a walnut, dissolved in a couple of gallons of water at a temperature of about 75° Fahr., will make an excellent washing mixture for ordinary purposes.—*G.*

CRAMBE CORDIFOLIA.

THIS remarkable Kale or Cabbage, which received due recognition in last week's GARDENING WORLD, was duly noted by more than one person ere that recognition appeared in print. So much in evidence, in fact, was this particular plant that I found, on arrival, several ladies transferring its rather cumbrous title to their dainty little diaries. When, however, its real relation to the Seakale of the table is revealed to their inquiries, I should like to be present to observe the effect it would have upon their credulity. Nevertheless it is a noble Cabbage, and one which may be used to advantage outside the culinary garden.

Whenever one sees a plant more or less uncommon, the mind instantly reverts to some other form of vegetable for comparison, and I could not help exclaiming, in this case, how like a giant Gypsophila paniculata! The isolation of large plants of this description is well carried out at Kew, and the resulting consequence is often one of superb effect and bold design, and is thus instrumental in stimulating others to go home and do likewise. In connection with the label, which set forth its place in the world of plants, I cannot resist chronicling an inquiry by a young "hopeful" to his paternal parent, namely, "Why do plants have names?" "So that yer may know 'em." "But I don't know 'em, father." "No more do I—come on, sonny."—*Le Vert.*

PEAS.

THE weather has been trying for Peas during the last six weeks. Some of the tall varieties have suffered severely, but late sorts are still growing freely, and generally looking well. When they were sown the drills were first deluged with water, and the seed covered with some half decayed manure, then the soil drawn over all. The moisture has kept in well, and may be healthily moist for some time to come. We gathered a few pods from early varieties on May 29th, but regular picking began on the 10th of June. The first (very small in pod, but of good quality) were American Wonder, very dwarf and useful when protection is given. Close to these were Chelsea Gem, with pods much larger than the former, and vigorous, and stems about 15 in. high. I think very highly of this Pea; crop and quality are first-rate. Earliest of All has suffered by absence of rain and drying winds, but is about as early as either of the former varieties. These were planted out from boxes late in March, having been raised where frost was kept from them. They were transferred to the ground in tufts with some light kind of soil placed round the roots. Pea trainers were put to the tall variety and evergreens by them. The two dwarfs had evergreens also placed by them. —*M. T., Stirlingshire, N.B.*

GARDENING MISCELLANY.

CUP-AND-SAUCER CANTERBURY BELLS.

THE ordinary Canterbury Bells are capable of producing a fine effect in the garden when they are planted in masses, or otherwise disposed to advantage; but the curious, as well as beautiful, varieties under consideration are not only equal in effectiveness and colour, but their distinctive shapes, large size and varied hues, combine to render them even more conspicuous as bedding plants than their old-fashioned progenitors. From "bells" to "cups" is, perhaps, not a very long way; but from "cups" to "saucers," must certainly be considered an evolution not even dreamt of fifty years ago. When, however, we get a distinct cup-shaped corolla, surrounded in turn by a subsidiary one still broader and shallower, the idea of cup and saucer is very complete; and the imagination finds no difficulty in supplying the Mazawattee, the fair Bohemian, the consequent gossip, or any other little detail which it is desirous should accompany the sipping of the fragrant beverage. The bees anyhow, were sipping the nectar sweet, and otherwise enjoying themselves in the flush of colour, and in the radiance of warmth which our good master *Sol* has so liberally showered down upon us. Punning apart, however, these beautiful floral cups and saucers are well worth growing. A pinch of seed sown now produces like results next year, and if that seed be "mixed" there is no reason why the colours should not vary as at Kew from pure white to cobalt blue.—*Le Vert.*

THE CALIFORNIAN VIOLET.

THE Californian Violet is the latest floral "boom." It is very difficult to get at present, but will probably be easier to procure before long, since the flower-growing world has become very hungry after it. And no wonder! It is the size of a big Pansy, perfect in colour, and very sweet in perfume, besides being fairly hardy in growth. Imagine a single Violet for a buttonhole!

EARLY PEAS.

IN your last two issues we have been getting the dates of early Pea picking in different parts of England. It may interest some readers of the GARDENING WORLD to know when early Peas were had in some parts of Scotland. On the 10th June I picked a good dish of the old well-known favourite, Dickson's First and Best. I may mention the seed was sown on strips of turf on the 13th of February, placed in a Vinery, and planted out on a south border on 5th March.—*D. Buchanan, Bargany, Girvan, N.B.*

CAMPANULA LATIFOLIA.

WHAT a stately plant this is! growing to between three or four feet in height, to judge from the specimens now flowering immediately in front of the Alpine House at Kew. The long spicate raceme carries numbers of the intensely blue flowers, so characteristic of many of the Campanulas. The leaves are large, the lower ones petiolate and cordate in shape, the upper sessile, and ovate acuminate. Although a native of England the wild plant, as may be well supposed, is far behind the cultivated specimens in point of attractiveness, but even in its wild state it is exceedingly pretty. With regard to geographical distribution, Bentham in his "Handbook of the British Flora" states that it is to be found in the woods of Northern Europe and Russia and Central Asia, and extending to the Arctic regions; pretty frequent in southern Scotland and northern England, but apparently shunning the extreme counties at both ends of Great Britain, and a very doubtful native of Ireland.

CYPRIPEDIUM SPECTABILE.

OF all our hardy Cypripediums which may be accommodated in the open border C. spectabile is one of the most worthy of attention, being as it is something decidedly out of the common run of hardy flowering plants, with its pure white sepals and petals, and large pouch with its characteristic rosy tintings. A pretty little batch of it is at the time of writing to be seen in the rockery at Kew, a charming little nook indeed. Beautiful as the plants are of themselves they lose nothing by their immediate surroundings, for to the left on the rockwork that surrounds them a batch of Ramondia pyrenaica is flourishing, whilst Onoclea sensibilis, Hypolepis distans, Athyriums in variety, together with other Ferns, all add their quota towards the making of what is at present one of the prettiest little corners in the whole of the rockery.

GARDEN RANUNCULUS.

NEAR the Palm Stove in Kew Gardens there may now be seen two brilliant beds of Persian Ranunculus, which, even from an aesthetic point of view, require a lot of beating. The philosophy of colour is here in all its shades and details, blue alone excepted; and poor indeed would be one's appreciation of the beautiful if he could not look on this picture with satisfaction and regard. The colours, in fact, range from pure white, through gradations of pink and red and yellow, to crimson and black—a perfect colour effect. No wonder that visitors, like inquisitive insects, are attracted by the glamour and the glare. It is not often that one sees such a wondrous display as is here presented, although the plant is designated as a "common" form of Ranunculus asiaticus. The past dry season has no doubt contributed to assist the plant's development, and thus, as it were, produced conditions which approximate more closely to those of its natural habitat. Certainly the encomiums which were lavished upon their gorgeous flowers were well merited; and I doubt not that if the sensitiveness of their beautiful blossoms could only be measured, it would be found that their heads were quite as liable to giddiness as those other happy possessors of feminine loveliness.—*Le Vert.*

GRUBS, INSECTS AND FRUIT TREES.

I HAVE no recollection of seeing such severe attacks on fruit trees (Apricots, Apples, Cherries, and Plums especially) by caterpillars, and it is really difficult to cope with them. Soapy water, in which is mixed sulphur, hellebore powder, and tobacco powder, has decidedly checked the work of mischief. The promise of abundant crops (of the fruits named) appears to be very favourable everywhere. Small fruits with us never were more promising, and no insects or grubs have as yet attacked them. Strawberries are a heavy crop, but the drought I fear will reduce the weight of them very materially.—*M. T. Stirlingshire, N.B.*

ICELAND POPPIES.

OF all gay-flowering plants during May and June we have seen none to surpass these Poppies. Some are very dwarf and the colours of white, yellow, scarlet, and crimson, are most attractive. Our stock, on a cold damp border, with north-western aspect, was frozen for over two months and appeared to be put out of existence; but now the foliage and flowers being *en masse* we value them much! A lady showed us how to cut them for room decoration, which is when they are about to open from the flower bud. By experiments tried in hot and cool rooms we find in each case they have opened capitally and remain fresh and beautiful for over two weeks!—*M. T., Stirlingshire.*

BEWARE OF PICKPOCKETS.

MR. J. B. CRACE, 38, Wigmore Street, London, in the *Times*, calls attention to the operations of a swindler, whose method was as successful as it was elaborate. He went on the benevolent line. Wishing to obtain a place for a former gardener of good character, Mr. Crace advertised, and received a personal call from a professed bailiff to a gentleman of Northampton, who explained his presence in London by saying that he came once a week to attend market on his own account. He expressed himself anxious to see the gardener, and, obtaining his address from Mr. Crace, journeyed into Surrey with that object. He visited him and decided to engage him, but advised him to try the place a week before moving his furniture. Quite a thoughtful gentleman, you will say. Very thoughtful; for it occurred to him just before leaving that he was short of cash requisite to take him back to Northampton, and borrowed £2 of the credulous ex-gardener, who is without both his money and his place. The tricks of swindlers know no bounds.

NEW DWARF SWEET PEA.

BURPEE's new dwarf Sweet Pea Cupid, originated by Messrs. C. C. Morse & Son, Santa Clara, California, who are growing the seed this season, is in fine condition on their grounds. The plants of this grand novelty in the rows of beds do not stand over 10 in. or 12 in. high, and present a mass of pure white bloom which at a short distance might easily be mistaken for beds of snow white Pansies, such a mass they make. It is certainly a distinct break in Sweet Peas and sure to create a sensation horticulturally when introduced.—*American Florist.*

VARIETY IN BEDDING.

OF late years the tendency that once existed among gardeners generally to fill their flower beds with one, or at the most two sorts of plants only, these being associated with each other, in most instances because they happened to be at their best either with regard to flower or foliage at pretty much the same time, has become considerably modified—a state of things upon which we may congratulate ourselves; for while exceedingly gorgeous effects may be produced by this means the display lasts only for a comparatively short space of time at most. By associating several kinds of plants which flower at different seasons in the same beds the display although

perhaps not so striking at any one time may be prolonged very considerably. Two circular beds in the Pagoda Vista in Kew Gardens form exceedingly good examples of what may he done in this way with the exercise of a little forethought. They are planted rather thinly with Daphne Mezereon album, the lovely sprays of white flowers of which are so conspicuous in our gardens in the early months of spring. Growing between the Daphnes are to be seen a number of plants of Genista sagittalis, a somewhat curious and a decidedly pretty subject. It only grows some six or eight inches in height and the flowers, which, like those of the rest of its congeners, are bright yellow in colour, are produced in leafless terminal spikes. The plants have flowered exceedingly well this year and have for some time past looked very gay and bright. Dotted about among them here and there are a few specimens of Lilium umbellatum, rising out from among the yellow carpet to a height of about eighteen inches, their bright reddish, brown flowers adding not a little to the effect.

STRAWBERRY TRIALS AT CHISWICK.

The long-continued drought that has been such a remarkable feature of the spring and early summer months has had, as may well be imagined, a very great amount of influence over the Strawberry crops this year. Just at the time when the plants were setting their fruit they had to contend with an almost tropical sun with little or no rainfall, and this at a period when they stood in need of all the moisture they could possibly obtain. The result of this long-continued dryness is to be seen in the comparative scarcity of the crop, and the smallness of the fruits themselves as well as in their somewhat increased acidity of flavour. Whilst 1895 has been a season calculated to severely test the cropping qualities of older varieties, it has by no means been a good season for trying new ones or for conducting experiments with regard to their culture, for in all cases where artificial supplies of water have not been given the plants, the crop is a somewhat scanty one and the fruit rather smaller in size than ordinary. Preparations had been made at Chiswick this season for putting to the test a number of new varieties with a view to finding out which are likely to prove the most valuable. The various sorts are grown side by side in the same piece of ground, together with a few older varieties for the sake of comparison, and the same treatment both with regard to soil and situation given to each. Owing to the dry, unfavourable season, however, these new comers have scarcely had the chance to distinguish themselves that we could have wished, and thus the good qualities of many will, for the present, at least, remain unknown.

Of all the sorts tried at Chiswick Royal Sovereign has this season done best and comes out with an unbeaten reputation. To commence with, it proved to be the earliest of any; for good ripe fruit was picked from it, and placed upon the market four or five days before any other variety. The fruits vary considerably in shape, some being conical, and others round or sugar-loaf shape. They are of large size, however, and of exceptionally rich flavour. Royal Sovereign was sent out by Messrs. Laxton Bros., and received a First Class Certificate from the Royal Horticultural Society, on the 21st June, 1893. Of the newer introductions two or three only appeared to be deserving of mention, but as has been already stated this may be more the fault of the season than of the plants themselves. Edward Leport, sent by Messrs. Vilmorin, has done so well, however, as to be worthy of increased attention. The plants are of strong and vigorous constitution; the fruit, roundish in shape parting very readily from its calyx, dark red in colour, is of medium size, rich and luscious in flavour, and even in this dry season is bearing good crops. Dr. Veillard, another acquisition, has conical fruit of medium size, deep crimson in colour, in flavour very sweet, a pleasantly acid taste being noticeable. Several sorts sent out by Messrs. Laxton Bros. should prove valuable. One of these, Acquisition, produces very large, somewhat irregularly shaped, and furrowed fruits in abundance. They are characterised by a pleasant acidity, and have none of the insipidity so common to many of the large fruited sorts. Monarch is a rather stronger growing variety than the one previously mentioned, the foliage being of good substance and of a healthy dark green hue, whilst the fruits are large, sugar-loaf shaped, and full flavoured. Laxton's Leader, while the plants are not apparently of very vigorous habit as they do not grow to any great size, bears fruit that would be hard indeed to beat for flavour anywhere. It is of light scarlet colour, and roundish in shape, with a very much reflexed calyx that parts very easily from the pulp of the fruit. Glengarry also appears to hold its own against the unfavourable conditions exceedingly well. The fruit is conical in shape, of medium size, light red in colour, of good appearance, and possesses an agreeable acidity.

AUTUMN TINTS IN NEW ZEALAND.

Autumn tints are already conspicuous amongst the trees and other plants that clothe the landscape; the dry state of the soil at their roots, together with the cold nights and fine sunny days, all hasten the descent of the sap. The gorgeous leaf tints of some species present a greater diversity and brilliance of colour than if the plants were a profusion of blossoms. The Virginian Creeper (Ampelopsis hederacea) is one of the most conspicuous of all plants in this respect; when allowed to ramble over roads and stone walls, and brickwork, as well as trained up against the sides of wooden buildings, it must attract the attention of the most casual observer. Ampelopsis Veitchii and A. muralis are also remarkable for their autumn leafage. Lagerstroemia indica is the first amongst shrubs to turn colour—the leaves assume the brightest crimson. The foliage of Persimmons is also beginning to show colour; they, too, are remarkable for the many rich and beautiful tints the leaves assume, before dropping, contrasting with the yellow and red fruits, rendering them most telling objects, and indispensable for planting towards the edges of ornamental plantations. They are also valuable for their rich and luscious fruits, which are in season when other soft fruits are scarce. The different varieties of Rhus or Sumachs are particularly beautiful and interesting during the late autumn months, the colouring of the foliage being extremely brilliant.

Falling leaves will soon litter the garden and grounds, and tend to give them an untidy appearance. They should be raked off about twice a week. Do not burn the leaves, but remove them to the rubbish heap, where they will rot and make splendid material for after us. The little rain that fell towards the end of last week moistened the surface of the soil and freshened up the plants, but did not penetrate any depth, consequently everything is much in need of a thorough soaking. The season is far advancing, but nothing can be done in the way of removing or transplanting until the much-needed rain comes in a plentiful supply. Alterations that necessitate the removal of plants will have to be deferred for a while. The planting of bulbs should now be gone on with; put in the main batch of Narcissi, Anemones, Ranunculus, Ixias, Sparaxis, and the many other varieties that were recommended in a previous article. It is well to plant them when the ground is in a dry state, provided the bulbs are perfectly dormant. Flowers are still extremely scarce, Dahlias being about the most plentiful. Chrysanthemums are now rapidly developing, and will soon be in full bloom. They are undoubtedly the queen of autumn flowers; many have predicted their downfall, which, however, is not likely to occur until something equally useful and attractive is found to replace them. The popularity of the Chrysanthemum has risen to a greater pitch than ever; new varieties are being raised that extend the period of flowering—some very early and others very late.—*New Zealand Herald, April 6th.*

DISTRIBUTION OF PRIZES AT SWANLEY COLLEGE.

The annual distribution of prizes at this institution took place on the 20th inst. Sir John Farnaby Lennard occupied the chair, and said that the time had come when a great improvement had taken place in the college, and that the student who took the Royal Horticultural Society's Medal in the May competition must have made the best of her time at the college. Andrew Johnston, Esq., chairman of the Essex County Council, distributed the prizes, and said that he himself was no born gardener, but took a great interest in fruit growing, which he believed had a great future before it. He visited Mildura, on the River Murray, in Australia, and spoke in terms of great praise at what he saw there. The people in those irrigation colonies could look forward to being the owners of their fruit farms.

Mr. F. Graham Powell, the resident Principal of the college, read out the announcement of the successful students, and said that there were 54 under tuition at the college, and of these, 23 were women. The County Councils of Essex and Berkshire had the right of sending each one student to be educated at Swanley. Forty-four of the students sat for the examinations of the Science and Art Department, and a number for the examination of the Royal Horticultural Society, whose Gold Medal was taken by Miss Gulvin against 300 candidates for all England. Prizes had been won by the students for floral decorations at the Temple Show and elsewhere. Six out of twelve berths applied for had been secured by students of the college.

Miss Goodrich Freer said that England should be proud that a lady should win the Gold Medal already mentioned, in face of so great a competition. She also spoke of a lady who, in reduced circumstances, took to the cultivation of her garden of only two acres in extent, and sold the produce to the neighbouring villagers and others, to the value of £450 to £500. She asked what the lady might have done if she had previously been educated at the college. A. Johnston, Esq., spoke of beneficial, as well as injurious, insects in the garden, and urged that we should learn to know which was which, so that we might protect the useful ones for our own advantage. Several other speakers also had something to say on the occasion, including the Chairman, John McDougall, Esq., of the London County Council. In conclusion, Sir John Farnaby Lennard, Bart., urged every student to take up some special subject or branch in order to carry it to a successful issue.

SOCIETIES.

Royal Horticultural, *25th June.*—Orchids were again pretty well to the front, considering that the season for this class of plants is now getting over. Hardy herbaceous plants, Roses, and Malmaison Carnations amongst special subjects were also abundantly in evidence, constituting prominent features of the meeting on Tuesday last. Fruit and vegetables, including Strawberries, Pineapples, Melons, and varieties of Cabbage, were unusually well represented. A large group of Orchids was set up by Messrs. J. Veitch & Sons, Chelsea, and interspersed with Palms and Ferns. The Cattleyas, including C. Warscewiczii, C. Warneri, C. Mossiae Wageneri, Laelio-Cattleya Canhamiana alba, and L.-C. Arnoldiana, were very conspicuous. The Odontoglossums, Cypripediums, and Miltonias were also very numerous, making the group showy and effective. A new hybrid Dendrobium named D. illustre was very noticeable, as was the strangely contrasted rose and scarlet flowers of D. glomeratum. The graceful flowers of Oncidium pulvinatum and O. phymatochilum were very profuse, and the large ones of O. macranthum were abundant. A fine piece of Coelogyne Dayana in a basket bore seven racemes (Silver Flora Medal). An exhibit of Orchids was also staged by Messrs. Hugh Low & Co., Clapton. Very conspicuous was a large plant of a richly coloured variety of Cattleya gigas. Two plants of Cypripedium Gertrude Hollington were notable for the large size and conspicuous character of their flowers. Oncidium Lanceanum and Grammatophyllum Measuresianum were also in fine condition (Silver Banksian Medal). J. Gurney Fowler, Esq., Glebelands, Woodford, also had an interesting group of Orchids. Handsome and conspicuous was Laelia grandis, tenebrosa Walton Grange var., with its clear yellow sepals and petals and dark lip. The Cattleyas, Odontoglossums, and Cypripedium Elliottianum were also noteworthy (Silver Banksian Medal). Messrs. F. Sander & Co., St. Albans, exhibited a small but interesting group of choice Orchids. Foremost amongst them was the new Laelio-Cattleya C. G. Roebling, with its richly coloured lip. Thunias, Cattleyas, and Cypripediums were varied, choice, and well flowered. Extremely interesting was the old and rare Oncidium triquetrum, with relatively larger flowers, though only 4 in. high. A showy group of Orchids was exhibited by Fred. Hardy, Esq. (gardener, Mr. Stafford), Tyntesfield, Ashton-on-Mersey, Cheshire. Laelia grandis tenebrosa and Cattleya Mossiae Hardyae were in splendid

form and attractive. Cattleyas and Laelias constituted in reality the staple of the exhibit, with a few Cypripediums inserted amongst them (Silver Flora Medal). H. T. Pitt, Esq. (gardener, Mr. R. Aldous), Rosslyn, Stamford Hill, exhibited a group of Orchids, consisting to a great extent of varieties of Laelia grandis tenebrosa, including L. g. t. Pittiana, Oncidium phymatochilum and Miltonia Roezlii rubra were also fine (Silver Banksian Medal). Cypripedium Aylingii and C. Millmanii were exhibited by A. J. Hollington, Esq., Forty Hill, Enfield. Orchis latifolia var. and O. l. Glasnevin var., the latter being a magnificent variety, were sent over from the Royal Botanic Gardens, Glasnevin. Odontoglossum crispum Niobe was shown by Messrs. Wm. Cutbush & Son, Highgate. Messrs. Charlesworth & Co., Heaton, Bradford, Yorks., staged a beautiful Cattelya named C. Mendelii Charlesworth's var. A fine variety of Cattleya Warscewiczii was exhibited by Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring. A group of plants and cut flowers of several beautiful Cattleyas and Laelia grandis tenebrosa in fine condition was exhibited by Thomas Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. Very interesting was Pleurothallis immersa, shown by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. Some Orchids were also shown by J. Bradshaw, Esq., The Grange, Southgate, and by F. M. Burton, Esq., Highfield, Gainsborough.

A group of hardy cut flowers staged by Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, N., exhibited a gorgeous profusion of colours. Conspicuous amongst the material of which it was composed were Liliums colchicum, Hansoni, elegans, Prince of Orange, Martagon, testaceum and the rich dark flowered Dalhansoni, Delphiniums in variety, Aquilegias, Papavers, Spiraea astilboides, S. Filipendula plena, Eryngiums and Alstroemerias in quantity. A Silver Flora Medal was awarded for this fine show. Messrs. James Veitch & Son also had an extensive collection of hardy herbaceous cut flowers. Delphiniums were the principal feature here, and superb indeed they looked. Lord Balfour, Lucifer Nahamah, Agnes, and Beethoven were some of the best varieties forthcoming. Large and brillant bunches of Phloxes, Polemoniums, Centaureas, Aquilegias and Bupthalmum speciosissimum also contributed to the wealth of floral charm and variety that characterised Messrs. Veitch's exhibit (Silver Gilt Flora Medal). A grand group of Malmaison Carnations was sent by Messrs. Wm. Cutbush & Son, Highgate, N. for which a Silver Banksian Medal was given. The plants were well grown, clean and healthy, carried a profusion of bloom of first class quality, and evidenced skilful and careful cultivation. The rose, pink, and blush varieties were well represented together with the well-known and highly esteemed Lady Middleton.

The group of hardy cut flowers which came from Messrs. Barr & Son, King Street, Covent Garden, was very meritorious and contained amongst other well-known subjects Paeonies, Liliums, Erigerons and Irises in good condition (Silver Banksian Medal). A first prize was awarded to Mr. A. Crossman, gardener to J. Brutton, Esq., Yeovil, for some fine examples of named sorts of Delphiniums, which, despite the fact that they had come from a long distance, looked very bright and fresh. The same gentleman was also successful in obtaining a first prize for cut blooms of Paeonies. The collection of cut Roses exhibited by Messrs. J. Veitch & Sons contained much excellent material, Ulrich Brunner, Mrs. John Laing, Madame De Watteville and Countess of Rosebery being especially fine. Mr. C. Blick, gardener to M. R. Smith, Esq., had some very fine flowers of Carnations. From Messrs. J. Cheal & Sons, Crawley, Sussex, came a neat little group of hardy cut flowers, the most important feature of which was a considerable number of named sorts of bedding Violas in first class condition. Among these such varieties as Blue Gown, Countess of Hopetoun, Bluestone, Duchess of Fife and Bullion may be mentioned as some of the best (Bronze Banksian Medal). An interesting group of hardy cut flowers was contributed by Messrs. R. Wallace & Co., Colchester. Very bright and pleasing was Calochortus venustus oculatus, C. v. citrinus, C. v. Pictus, C. Lyoni, C. splendens atroviolacea, C. Kennedyae, and C. pulchellus. Liliums and Irises were likewise well represented (Silver Banksian Medal).

A Silver Banksian Medal was also awarded to Messrs. Dobbie & Co., Rothesay, N.B., for a very meritorious exhibit of Pansies, Violas, and Sweet Peas. The large flowers of the Violas were all the more remarkable from the fact that, dry as the season has been, they were produced from plants grown in chalky soil, without the aid of any artificial waterings or mulchings. The Sweet Peas were not less bright and showy than were the Pansies. From Mr. M. Pritchard, Christchurch, Hants, came a bright and varied display of hardy herbaceous cut flowers. Delphinium Belladonna, Heuchera sanguinea, Spiraea astilboides floribunda, S. Aruncus, Orchis foliosa, Brodiae congesta, and Gillenia trifoliata were a few of the most showy subjects here forthcoming (Silver Banksian Medal). Blooms of new seedling Roses and Sweet Briers were sent by Lord Penzance, Eashing Park, Godalming (gardener, Mr. G. B. Baskett). Mr. G. A. Farrini, Forest Hill, contributed cut flowers, double tuberous Begonias, whilst Messrs. John Laing & Son, Forest Hill, staged a few plants of the same. Messrs. Geo. Jackman & Son, Woking Nursery, obtained a Silver Banksian Medal for a praiseworthy and comprehensive collection of hardy cut flowers, amongst which Irises, Delphiniums and Roses figured conspicuously. Very interesting were the examples of Roses, amongst which the single flowered varieties contributed by Messrs. Paul & Son, the Old Nurseries, Cheshunt, were certainly not the best noteworthy (Bronze Banksian Medal). A somewhat uncommon, but none the less praiseworthy, feature of the show was that contributed by Messrs. H. Cannell & Sons, Swanley, Kent, in the shape of a very comprehensive collection of Cactaceous plants, some neat and handsome little plants being in evidence (Silver Flora Medal). A similar exhibit, but of much smaller dimensions, was made by W. C. G. Ludford, Esq., Fern Lea, Four Oaks, Sutton Coldfield, Birmingham, to whom a first prize was awarded in recognition. First prizes were also given to Mr. Herrin, Dropmore, Maidenhead, and to Mr. G. H. Sage, Ham House Gardens, Richmond, for hardy cut flowers. A new Canna was sent by Mr. E. Geo. Reid, Beckenham Hill Nursery, Sydenham, Ch. Moore. The plant is dwarf in habit, the flowers large and of good substance, in colour yellow, heavily blotched reddish-orange.

Fruits and vegetables were present in considerable quantity, particularly the former. Melons were extensively shown, some of the best being a sort called The Duchess, exhibited by Mr. Owen Thomas, The Royal Gardens, Frogmore, and Bishop's Favourite sent by Mr. A. Bishop, gardener to J. Burrell, Esq., Wesley Hall, Bury St. Edmunds. A dozen dishes of various sorts of Strawberries came from the Society's gardens at Chiswick, one of which, Royal Sovereign, deservedly received a Cultural Commendation. A collection of fifty varieties of Strawberries was sent by Messrs. Laxton Bros., Bedford. The large fruits of Monarch being specially noticeable on account of the dry season, which has in the majority of instances kept the fruit small. Other good sorts which were represented here were Sir C. Napier, Waterloo, and Vicomtesse. Mr. Thos. Coomber, gardener to Lord Llangattock, The Hendre Gardens, Monmouth, showed twelve fine well-ripened Pineapples (Silver Banksian Medal). Mr. S. Mortimer, Rowledge, Farnham, staged some good examples of Melon Eclipse, a variety which received an Award of Merit in June last. Also for Cucumber Marvel.

A Cultural Commendation was awarded to Mr. H. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, for his exhibit of Peas. Messrs. Carter & Co., High Holborn, London, showed the Carter Spinach, a variety that lasts for a long time in season. Side by side with it was placed the "Longstanding Spinach" for comparison. To an ordinary observer the difference between these two sorts is sufficiently marked, the former having much thicker, fleshier leaves, and being of very much dwarfer habit. Good heads of Cabbages were shown by Messrs. J. Veitch & Sons, a number of varieties being represented, among them Elham's Early and Earliest of All specially fine. Six een dishes of early varieties of Peas were shown by the same firm. A very meritorious exhibit was that of Carter's Tomato Duke of York in pots, for which Messrs. Fellowes & Ryder, Orpington, Kent, were responsible, and for which a Silver Banksian Medal was given. The plants were heavily loaded with large fine fruit of first-class quality.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Ferns for Sunny Positions.—*A. G.*: There are several Ferns that give every satisfaction even when fully exposed, provided they are well supplied with moisture at the roots, either naturally or artificially. On the margins of a lake, stream, pond, or tank Osmunda regalis, O. cinnamonea, O. interrupta, Aspidium Oreopteris (montana), and Struthiopteris germanica will give great satisfaction. Aspidium Filix-mas, A. F.-mas paleacea, Nephrodium spinulosum, N. s. dilatatum, Aspidium angulare and its numerous varieties, A. Felix-mas cristata and others prove able to grow in drier positions even when fully exposed to sunshine. The same may be said of Polypodium vulgare and several of its varieties, as well as Nephrodium aemulum and Scolopendrium. If you mulch the ground with leaf mould, peat, or something else that will retain the moisture you will be astonished at the difference it makes, especially if you give the ground a good watering now and again.

Dividing Cyclamens.—*J. B.*: This may be done by way of experiment and out of mere curiosity, but nothing whatever can be gained by it, even if the two halves of the corm live and grow. They must of a necessity be lop-sided unless, indeed, there be only one crown, in which case it would be small and develop but a poor complement of flowers. The raising of plants from seeds is the only sure method of getting satisfaction from Cyclamens.

Stopping Vines.—*R. P.*: Whether you stop the shoots at the first, second, or third leaf beyond the bunches will depend upon the space at command for the distribution of the leaves so that all will be fully exposed to the light. No leaves should be retained that you cannot properly expose, but with this provision the greater the number of leaves the better it will be for the Vines and the fruit upon them. The space at command will depend upon the distance of the rods from one another, and the length of the lateral shoots to the bunches of fruit; then you may allow them to extend till the shoots meet, but as little over lapping should be allowed as possible.

Book on Table Decorations.—*J.S.*: There was a book on this subject by Miss Hassard, but we are afraid it has been out of print for some years. Should we come across anything likely to be of use to you we shall communicate again.

Potting Composts.—*C. F.*: A compost that would suit a large number of pot plants may be kept in stock and ready for use when wanted; but you may have occasion to pot plants for which this general compost would be unsuitable. For that reason you should always have a stock of different soils, leaf mould, peat, sand, manure, &c. in separate heaps and unmixed; it is a mistake to mix up the whole of the soil, and suppose that it will be suitable for any purpose.

Names of Plants.—*G. R.*: 1, Lilium Hansoni; 2, Lilium Martagon; 3, Spiraea Aruncus; 4, Veronica longifolia; 5, Gentiana lutea.—*W. P.*: 1, Ondicium pulvinatum; 2, Oncidium flexuosum; 3, Odontoglossum crispum Andersonianum; 4, Laelia grandis var.—*H. C.*; 1, Erigeron philadelphicus; 2, Geranium pratense album; 3, Armeria plantaginea; 4, Tropaeolum polyphyllum; 5, Dianthus caesius; 6, Paeonia albiflora var.; 7, Arenaria montana —*A. Lawson.* 1, Cupressus Lawsoniana lutea; 2, Philedelphus coronarius flore pleno; 3, Spiraea japonica alba; 4, Myrica Gale; 5, Cupressus nutkaensis (Thujopsis borealis is only a synonym for the same thing); 6, Fagus sylvatica purpurea —*A. L. G.*: 1, Fuchsia Riccartoni; 2, Fuchsia gracilis; 3, Calceolaria fuchsiaefolia; 4, Eucomus punctata; 5, Berberis vulgaris; 6, Cornus tatarica Spathii; 7, Lonicera bracteata.

Communications Received.—W. L.—W. B. G. —W. C., Ipswich.—Sutton & Sons.—W. Sowerby.—C. B. G.—J. R.—A. H.—A. J.—J. Backhouse & Sons.

LONDON SEED TRADE.

June 24th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report that owing to drought only a small enquiry exists for Mustard and Rape. Trefolium promises to be plentiful, and is offering at reasonable prices. Canaryseed easier. Rape seed steady.

Insects on Plants and Fruit Trees cheaply cleared by Calvert's Carbolic Soft Soap, if used as directed on label. The best preparation. Highly recommended by users. 1 and 2 lb. jars, 1s. and 2s. each; 4 and 7 lb. tins, 3s. and 5s. each. At chemists, &c., or tins post free for value.—F. C. CALVERT & CO., Manchester.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. Webster. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s; post free, 3s. 3d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

The GARDENERS' ROYAL BENEVOLENT INSTITUTION.

56TH ANNIVERSARY FESTIVAL DINNER

IN AID OF THE FUNDS WILL BE HELD ON

Friday, June 28th, 1895, at the HOTEL METROPOLE.

Under the Presidency of His Grace The DUKE OF FIFE, K.T., P.C.

The Committee gratefully announce the following further contributions:—

	£	s.	d.
Already acknowledged	977	1	0
Per George Monro—			
Annual Subscriptions.—			
J. Chapman	1	1	0
W. Chittlebrough	1	1	0
George May	1	1	0
P. Nichols	1	1	0
A. Roberts	1	1	0
W. E. Wallace	1	1	0
J. Walker	2	2	0
J. W. Youngman	1	1	0
Donations—			
W. H. Gand	1	1	0
H. Kite	1	0	0
J. Miller	1	1	0
C. H. Mathews..	1	1	0
George May	1	1	0
P. Page & Son	2	2	0
E. Saunders	1	1	0
J. Sullivan	1	1	0
George H. Sam	1	0	0
W. Stevens	1	1	0
H. L. Vilmorin (Paris)	5	5	0
J. Walker	1	1	0
J. Young	1	1	0
Sums under 20/-	1	10	6
Arthur Sutton	5	0	0
Worshipful Company of Gardeners ..	5	5	0
A. G. Nichols	2	18	0
A. G. Nichols (annual)	1	1	0
J. Lockyer (additional)	15	1	0
E. Beckett (additional)	2	11	0
D. Roberts (additional)	11	0	0
J. Whitby (annual)	1	1	0
N. F. Barnes	2	14	6
ditto (annual)..	1	1	0
W. Denning (additional)..	1	1	0
R. Milligan Hogg	5	10	0
G. W. D'Arcy (annual)	1	1	0
W. G. Head	5	0	0
Whitpaine Nutting	2	2	0
J. McPherson	2	4	6
ditto (annual)..	1	1	0
A. MacKellar (annual)	1	1	0
H. M. Pollet	1	1	0
W. Halliday (annual)	1	1	0
W. Fyfe	7	12	0
C. Walters (annual)	1	1	0
James Webber	2	2	0
G. House	1	1	0
ditto (annual)..	1	1	0
J. Derricutt (additional)	1	10	6
James Clarke (annual) per G. Derricutt	1	1	0
G. Inglefield	2	12	0
Thos. Coomber	1	19	0
ditto (annual)..	1	1	0
John Rees (per Thos. Coomber) ..	10	10	0

Further sums will be gratefully acknowledged by the Secretary,
GEORGE J. INGRAM, 50, Parliament Street, S.W.

COVENT GARDEN MARKET.

June 26th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples..... per bnsbel		
Nova Scotia Apples per barrel	12 0	21 0
Cob Nnts and Filberts, per 100 lbs.		
Tasmanian Apples, per case	8 0	11 0
Grapes, per lb.	6	2 0
Pine-apples, —St. Mlobael's each	2 6	6 0
Strawberries	0 2	0 8
Peaches ..... per doz.	4 0	18 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Asparagus,per bundle	1 6	4 0
Beans, French, perlb.	1 0	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per buncb	0 6	
Caulliflowers.....doz.	3 0	6 0
Celery.....per bnndle	1 6	2 0
Cucnmbers .....eacb	0 3	0 6
Endlve, Frencb, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettnces ...per dozen	2 0	
Musbrooms, p. basket	1 0	1 6
Onions.....per bunoh	0 4	0 6
Parsley ... per bnnch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Smallsaladlng,punnet	0 4	
Splnach .....per lb.	0 6	
Tomatos..... per lb.	0 6	1 0
Turnlps .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arnm Lillies. 12 blms.	3 0	6 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz.blms.	2 0	3 0
Encharis ...per doz.	4 0	6 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. buncbes	3 0	6 0
Iris, doz. bun.	3 0	6 0
Lilac (French) per bch.	4 6	5 0
Lilium lancifolium per doz.	4 0	6 0
Lillum longiflorum per doz.	3 0	4 0
Lilium candidum, per doz.	1 6	2 0
Marguerites. 12 bnn.	1 6	3 0
MaidenhairFern,12bs.	4 0	6 0
Narcissus, doz. bchs.	2 0	4 0
Orcbids, doz. blooms	1 6	12 0
Pansies, doz. bun.....	1 0	2 0
Pelargonlums,12 bun.	6 0	9 0
Primnla, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Ranunculus, doz.....	2 0	4 0
Roses (indoor), doz.	0 6	1 0
,, Tea,white, doz.	1 0	2 0
,, Yellow, doz. ...	2 0	3 0
,, Safrano (English), doz. ...	1 0	2 0
Red Roses.....	3 0	6 0
Pink Roses	5 0	7 0
Roses (Frencb) Moss, doz.....	1 0	1 6
Roses (French) red, doz. blooms. ...	1 0	1 6
Smilax, per buncb ...	4 0	6 0
Stephanotis, doz. sprays	1 6	2 6
Tuberoses, doz. blooms	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
,, specimen plants	5 0	10 6
Ca ceolaria, per doz.	4 0	8 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis,doz.	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens,Invar.doz	6 0	24 0
Ferns, invar.,per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foilage Plants, var., each	2 0	10 0
Fucbsia, per doz.....	6 0	9 0
Heliotrope, per doz.	6 0	8 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	8 0
Lobelia, per doz.....	4 0	6 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	4 0	6 0
Marguerite Daisy doz	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in varlety,each	1 0	15 0
Palms, Speclmen ...	21 0	63 0
Pelargoniums,perdoz.	9 0	15 0
Rbodantb, per doz.	4 0	6 0
Scarlets, per doz.....	3 0	9 0
Stocks, per doz.	4 0	6 0

HARDY ORNAMENTAL FLOWERING TREES AND SHRUBS, by A. D. WEBSTER. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. *Price, 3s.; post free, 3s. 3d.*

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FLOWER SHOW FIXTURES, 1895.

JULY.

2.—Sutton Rose Show.
2.—Diss Rose Show.
2.—Maidstone Rose Show.
3.—Ealing Rose Show.
3.—Croydon Rose Show.
3.—Farningham Rose Show.
3.—Brockham Rose Show.
3, 4.—Sittingbourne Rose Show.
3, 4.—Lee, Blackheath and Lewisham Flower Show
4.—Norwich Rose Show.
4.—Eltham Rose Show.
6.—National Rose Society at Crystal Palace.
6.—London Pansy and Violet Society at the Crystal Palace.
9.—R.H.S. Drill Hall Meeting and Rose Show.
9.—Ipswich Rose Show.
9, 10, 11.—Wolverhampton Floral Fete.
10.—Farnham Rose Show.
10.—Hitchin Rose Show.
10.—Royal Botanic Society's Evening Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.
10.—Redhill Rose Show.

FLOWER SHOW FIXTURES.—*Continued.*

10.—Hitchin Rose Show.
11.—Bath Rose and Begonia Show.
11.—Helensburgh Rose Show.
11.—Hereford Rose Society's Show at Great Malvern.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
18.—Canterbury Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24.—Chesterfield Rose Show.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).
31.—Woking Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
3, 5.—Liverpool Rose Show.
5, 6.—Northampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.
28, 29.—Bath Autumn Show.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days)

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5, 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7, 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.

NOVEMBER.

16.—Bacup Chrysanthemum Show
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.
29, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

[The Editor will be greatly obliged if Secretaries will kindly forward the dates of their Society's Shows as soon as fixed, for inclusion in the list.]

STRAWBERRIES.

JAMES VEITCH & SONS

beg to intimate that they are now booking orders for all the leading kinds of Strawberries, either in pots or prepared runners.

SPECIAL LIST, just published, can be had on application.

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FOR PRESENT SOWING.

CABBAGES—Select Stocks.

DANIELS' DEFIANCE GIANT MARROW.—The finest Cabbage in cultivation. Grows to the weight of 10 to 20 lbs. each, and is early, short-legged, compact, and of splendid flavour. Our own select stock.
Per packet, -/6, per oz., 1/6

Ellam's Early Dwarf, very early „ -/4, „ 1/-
Enfield Market ... ... „ -/6
Improved Dwarf Nonpareil ... „ -/3, „ -/10
Wheeler's Imperial... ... ... „ -/4, „ 1/-
Early York, dwarf ... ... „ -/6

ONIONS.

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WHITE ELEPHANT TRIPOLI. The largest of all the Tripolis ... ... Per packet -/6, per oz. 1/6
Red Italian Tripoli ... ... „ -/9
Giant Rocca, very fine ... ... „ -/4, „ 1/-
White Lisbon, the best for using green in Spring
Per lb. 4/6, per oz. -/6

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DANIELS' CONTINUITY. The best Cabbage Lettuce in cultivation. Heads large, firm and crisp. Does not run to seed even in the hottest and driest weather.
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SEED GROWERS and NURSERYMEN, NORWICH.

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THE THREE BEST WALLFLOWERS
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Dicksons' Selected Dark Red.
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THE NEW EARLY STRAWBERRY FOR 1895.

"Stevens' Wonder."

The earliest variety in cultivation and very prolific, solid fruit, good flavour, high perfume.

Awarded First-class Certificates, Royal Horticultural Society and Royal Botanic Society, 1895. *See Gardeners' Chronicle*, March 2; *Journal of Horticulture*, March 14; and *The Garden*, March 16.

Having purchased the whole of the stock of this grand new early Strawberry from the raiser, we have pleasure in offering it as follows:—

Strong plants in pots, £5 per 100; 15/- per doz.
„ Runners, £3 per 100; 9/- per doz.

READY FOR DELIVERY EARLY IN JULY.

Early Orders requested as stock is limited.
Further particulars upon application:—

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Highgate Nurseries, London, and Barnet, Herts.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 6th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 9th.—Royal Horticultural Society. Special Rose Show. Meeting of Committees at 12 o'clock. Ipswich Rose Show. Opening day of Wolverhampton Floral Fête.
Sale of Messrs. R. A. Todd's Collection of Orchids by Messrs. Protheroe & Morris, at 67 & 68, Cheapside.

WEDNESDAY, July 10th.—Rose Shows at Farnham, Hitchin, Chelmsford, and Redhill. Reigate Cottagers' Flower Show. Royal Botanical Society's Evening Fête. Wolverhampton Floral Fête.

THURSDAY, July 11th.—Rose Shows at Helensburgh, Worksop, and Bath. Wolverhampton Floral Fête. Woodbridge Flower Show. Hereford Rose Society's Show at Great Malvern.

FRIDAY, July 12th.—Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

SATURDAY, July 13th.—Flower Shows at Galashiels and Wood Green.

UTILITY OF HARDY HERBACEOUS PLANTS.—Although there is little or no evidence that this class of plants is likely to become the mainstay of the garden for decorative purposes for many years to come, yet there can be little doubt that their utility and decorative value are annually becoming more and more recognised by the general public. When the summer bedding actually became a craze, many an old border was despoiled of its herbaceous occupants solely for the purpose of making panelled and ribbon borders and other floral designs. Some old gardeners actually gave up their berths rather than submit to the new order of things; yet that proved neither check nor bar to the fashionable innovation. Happily some gardeners, as well as proprietors, were wise in their day, and retained good representative collections of their old favourites in borders that did not interfere with the arrangements of the flower garden proper. Others would fain get back much of what they threw away, and others are being enlisted in the ranks of collectors and cultivators. Very often these collections consist of special classes or sections of hardy herbaceous subjects, and against that we take no objection, for the charm and colour harmony to be found amongst many sorts is sufficient to enlist the sympathies of the most obdurate and hardened enemies of hardy, common, and, therefore, plebeian plants.

Other reasons for the growing popularity of herbaceous subjects are not far to seek. There is a gradual succession of different kinds from the earliest period of the year at which flowers can hold their heads up against stress of weather in our variable climate. There is an endless variety of form, height, habit, contour, and colour of both foliage and flowers, such, in fact, as it would be impossible to obtain from more tender exotics grown under glass in ninety-nine per cent. of the private establishments of the country. It is all the same whether the season is wet or dry. In cold and wet summers we have seen the relatively tender exotics of the flower beds look miserable throughout the season, while the sun-loving Pelargoniums of the Cape were unable to make any display whatever, or to hold up against the pitiless rain. The herbaceous plants, on the contrary, looked happy, and were replete with vigour. The droughty season of 1893 and the present seem to have very little effect in destroying the vitality of the plants or depreciating the quantity and quality of the blossoms compared even with bedding plants. In some cases where the soil is chalk and dry, Pelargoniums even lose their foliage and become gradually smaller, or die outright. Few cultivators mulch their herbaceous borders (excepting perhaps where Paeonies are special favourites and cared for accordingly), and fewer still ever think of watering them, seeing that the watering pot and the hose are incessantly plied on something else of more special value, merely to keep them alive. When planted in the proper season in well tilled ground, hardy herbaceous plants get thoroughly established before the advent of summer drought, and so manage to take care of themselves that a heavy harvest of flowers can be reaped with little trouble and less expense compared with what is lavished ungrudgingly upon the occupants of stoves and greenhouses. Those who are fond of flowers may grow both the hardy and tender, and thereby insure the greatest amount of variety.

These hardy "commoners of air" have also the advantage that they are equally effective in borders alongside the garden walks, as in isolated beds on the grass or in borders bounding the lawns and backed up with shrubbery. The latter is indeed a highly effective method of employing them. What can be more restful to the wearied eye of business people, or indeed of anybody, than a wide expanse of well kept lawn with the bright colours of the flowers of various plants in the distance, and shown up to advantage by a background of dark green foliage? Nothing in the garden is more wearying than a monotony of beds where everything is on the same level, and as flat as a carpet, especially where the breadth of green sward is limited. All this can be avoided by a liberal use of herbaceous plants, including such as are suited for the margins of ponds to which the lawn often slopes down without anything to break the monotony. We think that in the near future there will be a more general use of

these hardy subjects in beds, clumps and combinations of harmonious colours in both shady, sunny, and secluded portions of the pleasure grounds where they would form a series of surprises, pleasing alike to the owners, the cultivators and visitors.

Nothing more effectually breaks the monotony of flat beds than herbaceous plants with their various heights and outline. Just now the spiry masses of the Delphiniums in all shades of blue and purple-blue are amongst the most conspicuous and ornamental occupants of the borders. Something with white flowers planted alternately with them would form a beautiful contrast and harmonise with the perennial Larkspurs. Good white varieties are yet scarce, but single white Hollyhocks, Lilium candidum, and L. Martagon album with L. longiflorum in front might well be employed for this purpose. In what class of plants do we find a better instance of colour harmony than amongst the numerous double forms of Paeonia albiflora, now very frequently spoken of as Chinese Paeonies? The white, pink, rose and purple in various shades of intensity harmonise with one another and with the dark green and red of the foliage. A large mixed bed or clump of them constitutes a picture in itself of colour harmony. Their season may be prolonged by planting in cool as well as warm positions and mulching the ground over the roots. Hollyhocks, single and double, also offer another series of interblending tints and hues of pleasing colours. Some prefer the single kinds and the varieties of Althea rosea and A. ficifolia might well be employed for beds of bold outline. Earlier in the season, Oriental Poppies in brilliant scarlet, orange and pink, furnish the means of making another attractive group with colour enough and to spare for the most fastidious. Less aggressive colours may now be found in the snowy masses of Spiraea Aruncus and other species not forgetting the dwarf and double Dropwort with flowers as pretty and useful as those of the double Sneezewort without its odour of Camomile. The various species of Everlasting Peas furnish another group with rose, pink, white, crimson and brick-red flowers. What shall we say of the summer and autumn-flowering Phloxes of all conceivable shades of colour except yellow and orange? The Heleniums, Rudbeckias, annual and perennial Sunflowers of various heights and time of flower, supply entirely different colours for another picturesque and effective combination for suitable positions. Various border Chrysanthemums supply showy and attractive masses of white. All these and hundreds more which we need not enumerate may be employed in the decoration of the garden and grounds as well as for a limitless supply of cut flowers for indoor decoration. Dwarf species find their uses in the rock garden.

Frost at Thurso.—The spell of cold weather that has prevailed for the past fortnight has seemingly passed away, but not before leaving the impress of several nights of heavy frost, which has in some places blackened the Potatos.

The Newcastle-on-Tyne Summer Show will be held in the Recreation Ground, North Road, on Wednesday, Thursday and Friday, 24th, 25th and 26th inst. This year additional prizes are offered for groups, dinner-table and fireplace decorations, and also for vegetables. The Council are also prepared to give increased facilities to attractive trade exhibits.

The African Lily.—Water Agapanthus umbellatus freely. If the flower spikes show give weak liquid manure twice a week.

Mr. W. H. Godden has been appointed head gardener to F. W. Buxton, Esq., Pishiobury, Harlow.

The Month for Roses.—In this country the first fortnight of July is the principal time for Rose shows, but in America, June is the month for Roses.

Strawberries from Kent.—One grower alone sent away from Swanley Junction on the 24th June, no less than 6,000 peck baskets of Strawberries.

Early Strawberries.—Rev. Spence Ross, Avoch, had a dish of Strawberries in the second week of June, which were grown outside in his own garden. Mr. Fraser, Railway Station, Fortrose, N.B., has been cutting well-hearted Cabbages for more than a week past.

Royal Gardeners' Orphan Fund.—At a meeting of the Executive Committee held on the 27th ult., Mr. W. Marshall presiding, the Hon. Secretary, Mr. Barron, announced that since the previous meeting he had received from the English Committee of the William Thompson Memorial Fund, per Mr. Harry J. Veitch, £65 13s. 2d., and the following special donations:—R. I. Measures, Esq., £7 10s., result of sale of his list of hybrid Cypripediums; Mr. James T. Anderson, £1 8s.; and Messrs. John Laing & Sons, £1 1s.

Tree Planting in New Zealand.—To cultivators in Britain it sounds rather odd to hear of the approach of the planting season for orchard trees during the first week of April. This was one the principal items of gardening in the *Auckland Weekly News* of April 6th. The other was that Dahlias were not flowering well, owing to the protracted drought. Our friends at the Antipodes felt the bad effects of drought in their autumn, just as we now feel it in our summer.

Prolific Cucumbers.—Mr. Alexander Higgins, Lapwater Hall, Leigh, Essex, calls attention to a remarkable growth of Cucumbers. He says: "I put three plants into an ordinary two-light frame on April 17th last. The first Cucumber I cut on May 22nd, and in twenty-three days from that date, viz., to June 15th, I cut thirty-three, the average length being 16 in., or a total length of 528 in."

Seasonable hints on Tomatos.—Avoid overwatering Tomatos until they begin to bear fruit, and certainly do not apply manures of any kind until then. Well ventilate greenhouses in which they are growing during the middle of fine days, in order to dry the pollen, and enable it to be distributed over the female organs by smartly tapping the stem of each plant with a padded stick at noon.

Battle of Flowers at Alfreton.—On the 19th ult. a battle of flowers was held in Alfreton Park, Derby, and attracted by the novelty of the event there was a large attendance of people. The immediate object of the fete was to assist the funds of the Alfreton Church Band, which was formed some months ago. The park was generously lent for the occasion by Mr. Palmer-Moor-Wood, J.P., who contributed handsomely to the expenses. The affair was a great success, and as the hour of three approached the scene was most animated. Heralds on horseback, tastefully garlanded with flowers, galloped up and down the walks, while one of them was conspicuously picturesque. The entries were so numerous that the classes had to be divided.

Roses for Towns.—There are hardy Roses that will do well even in London—not in the City or even in Oxford-street, but up St. John's Wood way and corresponding districts. Now, anyone can test this matter for himself without going to much expense. Have a small spot large enough to hold half a dozen Roses thoroughly prepared, for it is throwing money away completely both in town and country to plant Roses in hard, unworked, and unmanured land. Deepen the land by adding new soil, if need be, and manure liberally. Roses should have a thoroughly broken soil at least 2 ft. deep. Amongst those that do well in towns are Jules Margottin, John Hopper, General Jacqueminot, Mrs. John Laing, Dr. Andry, Maurice Bernardin, Alfred Colomb, Centifolia rosea, John Stuart Mill, Pierre Notting, Mons. Paul Neron, Countess of Oxford, and others.

Severe Thunderstorms in the North and South.—On the 26th ult. a severe thunderstorm passed over Dundee and the surrounding district. Drenching showers of rain flooded the streets and some of the warehouses. Many other districts of Forfar and Perth were also visited in the same way, and damage done by lightning. Tyneside, Wakefield, Hull, Leeds, Crewe, Chester, Lincolnshire, and other places as far south as Middlesex and Hampshire received visitations of a more or less severe character. Two men were killed at Darlington while standing under a tree. Rain and severe hailstorms accompanied the thunder, except in the southern and London districts which were left as dry as ever. The crops in the north must, however, derive much benefit, independently of any damage which may have been done.

Battle of Roses.—The arrangements for the impending Battle of Roses at Eastbourne are proceeding apace. To suit the convenience of the Duke and Duchess of Devonshire, the dates originally decided on will now be adhered to, with the exception that the Battle of Roses proper will take place on Friday, July 26th, instead of Wednesday, July 24th; and the Battle of Confetti on the Saturday, instead of the Thursday. The judging will take place outside the Town Hall, where the procession will start, and no tribunes are to be erected on the front. The Town Clerk (Mr. H. W. Fovargue) has accepted the position of Hon. Secretary, the duties of which post will be rendered less onerous by the co-operation of Mr. R. M. Perring and Mr. E. Burnaby, who played such a prominent part in the work of organising the recent Battle of Flowers.

Ayrshire Gardeners' Mutual Improvement Association.—The monthly meeting of this Association was held in the Carrick Street Hall, on June 6th, a good attendance of members being present, presided over by Mr. M'Connachie, Doonside Gardens. A very interesting and practical paper on "The Carnation" was read by Mr. J. Boyd, Stewart Lea Gardens, who is admitted to be one of the successful growers of this favourite flower in the locality. He was accorded a very hearty vote of thanks for his vuluable paper. Mr. Maxwell, The Knowe, exhibited a new seedling Pelargonium of his own raising, of which more will no doubt be heard. Mr. D. Halliday showed a beautiful specimen of Anthurium Scherzerianum, and last, but not least, Mr. Melville, Rosemount Gardens, Monkton, brought forward a basket of fine Strawberries (variety, John Ruskin), which he pronounces to be the best early variety grown. It was intimated that the next meeting would be an "Open Night," and would take place on 4th July. A vote of thanks to the Chairman brought the meeting to a close.

Royal Horticultural Society of Ireland.—A meeting of the council of the Royal Horticultural Society of Ireland was held on Monday, 24th ult., at the offices of the society, 61, Dawson Street, Dublin. Present: F. W. Moore, Esq., M.R.I.A., in the chair; also Messrs. J. Hume Dudgeon, H. Smallman, J. Cumming, J. Dick, Hamilton Drummond, J.P., and G. M. Ross, M.A., secretary. Final arrangements were made for the special Rose Show to be held in Dublin on Thursday, the 4th inst. The place selected was Lord Iveagh's garden at the rear of Harcourt Street, and a more charming spot could not have been chosen. The splendid band of the 1st Oxfordshire Light Infantry performed during the afternoon. In order to meet the wishes of a large number of the public who could not attend earlier, the council arranged to keep the gates open until 7 o'clock. They also decided to reduce the price of admission to 1s., and it is hoped that these concessions to popular feelings may have been more than justified by a largely increased attendance. The season being so favourable, the show promised to be the best that has been held for some years by the Royal Horticultural Society.

The Colchester Flower Show.—The revived Colchester Rose and Horticultural Society made a good beginning on the 20th ult. with a splendid Show. The Society has really developed from the committee that carried out the excellent horticultural display in Lexden Park last year, on the occasion of the visit of the Essex Agricultural Society. Mr. Councillor J. W. Potter and Mr. F. W. Friend were, it will be remembered, the hon. secs. of that undertaking, and it must be gratifying to them that the movement they assisted to begin has at length resulted in the formation of so promising and so useful a society. The Mayor and the Deputy-Mayor must also feel highly gratified at the success of the gathering. The Deputy-Mayor (Mr. Henry Goody) gave an immense impetus to Rose culture during his year of office by the presentation of silver medals for competition. That excellent example has been followed by his successor, the present Chief Magistrate of the borough, who, in addition to this generous gift, placed his grounds at the disposal

of the Society, and threw himself with great energy and heartiness into all the arrangements, the Mayoress also doing her utmost to assist the promoters of the Show to bring it to a successful issue.

Scottish Pansy and Viola Association.—The second meeting of above Society was held on the 26th ult. in the Religious Institution Rooms. There was a good attendance of members, and the quality of the exhibits was excellent. List of awards:—First-class Certificate (72 points) to fancy Pansy Mrs. William Steele; Certificates of Merit to fancy Pansies Maggie Goodlet and John Maggie, show Pansy Busby White, Violas Jessie Pretswell and Nellie, all exhibited by John Smellie, Pansy Gardens, Busby; Certificates of Merit to fancy Pansies Mrs. R. Stewart, John Jackson No. 15, and Lord Salisbury, all exhibited by M. Campbell, Nurseryman, Blantyre. First-class Certificate to fancy Pansy Sir John Watson (65 points); Certificates of Merit to fancy Pansies A. Struthers and Willie Park, all exhibited by G. M'Pherson, Avondale. First-class Certificate to fancy Pansy Colonel M. R. G. Buchanan (65 points); Certificates of Merit to fancy Pansies Alexander Lister, and Jessie Gillespie, exhibited by Alexander Lister, Nurseryman, Rothesay; Certificates of Merit to fancy Pansy Mrs. R. G. Moir, show Pansies Leviathan, Colonel Stirling, Mrs. D. M'Neil, and Ag. Kay, exhibited by C. Kay, Gargunnock; Certificate of Merit to Viola Mrs. Wm. Haig, exhibited by John Duncan, Fife; Certificate of Merit to Violas Nos. 22 and 18, exhibited by John Forbes, Nurseryman, Hawick; Certificate of Merit to Viola A. J. Rowberry, exhibited by George M'Leod, Chingford, Essex. First-class Certificate to Viola Fortunata, exhibited by John Baxter, Daldowie; Certificates of Merit to Violas Amy Barr and Garryowen, exhibited by J. D. Stuart, Belfast; Certificate of Merit to Viola No. 1 exhibited by Captain King, Lennoxtown; Certificate of Merit to Viola No. 236, exhibited by And. Irvine, Nurseryman, Tighnabruaich.

Ryde Rose Show.—The annual Rose show, which is such an interesting feature of the season's programme arranged by the Ryde Exhibitions and Horticultural Association, took place on Thursday, June 20th, in the beautiful grounds of Appley Towers, very kindly thrown open to the public by Mr. George Hutt. The opportunity of strolling through Mr. Hutt's charming demesne was evidently widely appreciated, and we are pleased to record that there was a fairly good and fashionable attendance. The Roses were set out in a large tent erected on the lawn in front of the house, and shortly after half-past two o'clock there was a fairly representative gathering. The Mayor of Ryde said he wished, on behalf of the committee and inhabitants generally, to thank Mr. Hutt very heartily for his great kindness in throwing open his splendid grounds on that occasion, and he had very great pleasure in asking that gentlemen if he would open the show for them. Mr. Hutt (who was warmly received) thanked the committee very heartily for the compliment they had paid him in asking him to open the show, and he had much pleasure in complying with the request. He thought they would agree with him that they were all very much indebted to the donors of prizes, exhibitors, and subscribers, who had jointly assisted in bringing about a show which he understood was considerably better than had been held for many years. To prove the extent of the increase in the number of exhibits he was informed by the secretary that last year the number of exhibits in classes from 1 to 18 was 33½ dozen, while this year the number was 80½ dozen—an increase of 47 dozen—while the other classes had increased in proportion.

Hampstead Heath Extension.—Mr. Samuel Hoare, M.P., received at his town residence, Hereford Gardens, Hyde Park, on the morning of the 19th ult., a deputation from the Free and Open Spaces Committee of the Hampstead Vestry on the subject of the proposed preservation as an open space of a piece of freehold land on Hampstead Heath, locally known as "Hoare's Paddock," about an acre and a quarter in extent, and studded with some very fine trees. This enclosed paddock forms part of a valuable freehold estate, which has, including the paddock, been in possession of the Hoare family since 1807, the paddock having before then been granted as "waste of the manor" to a previous owner not connected with that family. Mr. Samuel Hoare, whose father, the late Mr. John Gurney Hoare, was one of the doughtiest champions of the preservation of Hampstead Heath for the public, is now the owner of the property, which, including the family mansions, was advertised for sale by auction. In reply to the representations of the deputation, Mr. Hoare said he had no desire to put up the land for building, and therefore had arranged for it to be included in one lot with the house, hoping that, as his family had kept the space open for ninety years, someone else would follow their example. To keep the space open must entail a heavy loss on someone, and after full consideration he had determined to undertake that loss himself. He had withdrawn the paddock from the sale, and should retain it in his own hands, and he trusted that many boys would in the future enjoy cricket there as much as he had in the past, and should any altered circumstances arise he would at once communicate with the Hampstead Vestry. The deputation warmly thanked Mr. Hoare for his action.

MESSRS. VEITCH & SONS' STRAWBERRIES.

THAT the Strawberry holds a high position in the favour of the general public as a wholesome, delicious, and what is more, easily cultivated fruit receives additional proof in the fact that Messrs. James Veitch & Sons devote more than three acres of ground in their nurseries at Slough to the cultivation of a large and comprehensive collection of the most valuable amongst the older varieties as well as to the trial of the new ones which are each year being brought before us. The various sorts are planted together in batches of from two to six rows each, according to the value of the variety. No pretence whatever is made at obtaining large quantities of fine fruit, for many of the flower trusses are removed, the major part of the plants being needed to supply material to meet the large demand for stuff for forcing, some fifty thousand or so of plants are yearly disposed of for this purpose alone. At the present time the Strawberry beds present a particularly business-like appearance for the strong, healthy, layers are arranged in double lines on either side of the rows of stock plants, the pots being sunk to the rims in trenches dug for them.

The exceptional dryness of April, May and June of the present year has not only caused considerable diminution in the size of the fruit but the plants themselves are likewise much dwarfer in character. A season like the present is, however, not without its redeeming features, for it is exceedingly instructive to note how far the cropping qualities of standard varieties which during more favourable seasons are all that could be desired are affected or impaired by such abnormal climatic conditions as they have been called upon to undergo this season. As close upon a hundred varieties are grown it is manifest that space will not allow us to go into detail with regard to many of them. We shall therefore enumerate a few of those which have this year acquitted themselves satisfactorily.

Among the older varieties which Messrs. Veitch can confidently recommend as being trustworthy and reliable are Sir Joseph Paxton, Sir Charles Napier, Keen's Seedling, President, Vicomtesse Hericart de Thury, La Grosse Sucrée and Dr. Hogg. The reputation and appearance of these is so well-known that further description would be superfluous and unnecessary. Laxton's No. 1 has the enviable distinction of being the earliest Strawberry of all in Messrs. Veitchs' list, coming in before King of the Earlies and Noble. It is from this last mentioned variety, fertilised by May Queen, that it was obtained. The fruit is bright crimson-scarlet in colour, of medium size, and with firm flesh, likewise a prolific and sure cropper. Royal Sovereign, although not quite so early at Slough as it appears to have been in some other localities, has proved itself to be a fine dry weather Strawberry. Empress of India carries an abundance of obtusely conical, bright scarlet fruit, very closely resembling British Queen in flavour. Unlike this latter variety, however, the fruit ripens right to the apex, and is thus all the more valuable for dessert purposes on this account. It obtained a First-class Certificate from the Royal Horticultural Society on May 17th, 1892. Several other Certificates of Merit have also been awarded it at various shows throughout the country subsequent to that date. Gunton Park is another variety of sterling merit, certificated by the Royal Horticultural Society in July, 1891. It is of strong vigorous habit, a heavy cropper, and with fruit rather above ordinary size, rich dark crimson-scarlet in colour, but varying in shape from cockscomb-like to conical. The flavour is all that could be desired. A good early variety Gunton Park is also an admirable forcer. Not less noteworthy is Lord Suffield, which has extra large, dark crimson coloured and splendidly flavoured fruit. This, likewise, can boast of a First-class Certificate from the Fruit Committee of the Royal Horticultural Society. James Veitch has large handsome fruits, bright vermilion in colour, with firm flesh that travels exceedingly well. It is a grand sort for forcing purposes, whilst when grown outside the plant is hardy, of vigorous growth, and an exceptionally free fruiter.

The large, roundish, almost cockscomb-shaped fruits of Waterloo are very distinct from their exceedingly dark crimson hue that gives them such a wonderfully rich appearance when dished up upon the dessert table. Nor is the flavour less noteworthy than the colour. McMahon, whilst very hardy, and a free bearer in most localities, is rather particular as to the situation accorded it. The fruit is above medium size, of a vermilion-red shade, and with very solid flesh. Grove End Scarlet, although a variety of a good many years standing is still a good one. The fruit is bright scarlet in colour and has a brisk and pleasant acidity. One of the very best main crop sorts is Lucas, the fruit of which is large and conical shaped with very firm and solid flesh, and possessing an excellent flavour. The fruit of President De la Cour is heart-shaped, of mediumsize, and bright orange-scarlet in hue, the flavour, moreover, being all that could be desired. As a white variety Bicton Pine has yet to be beaten. Messrs. Veitch find it to be, very hardy, a prolific bearer, and in flavour beyond reproach. Its appearance on the dessert table forms a striking and agreeable contrast to the scarlet and crimson fruited varieties Kitleys' Goliath has very much the appearance of a large coarse President, although we were agreeably surprised to find the fruit by no means lacking in flavour, a rather rare quality amongst the very large fruited sorts. The Alpine appears to be but little more than a slightly glorified wild Strawberry, the fruit having a rather flat and insipid taste after the foregoing fine varieties. Its chief recommendation appears to be the extraordinary length of time it continues in bearing. The Royal Hautbois does not meet with much attention the fruit being small and comparatively valueless, although its flavour is very distinct and agreeable.

Of later varieties, as well as of the early and mid-season ones which have been mentioned some good examples were forthcoming. Laxton's Latest of All is well worthy of its name to judge from the examples of it that were on view, for the plants are just swelling splendid crops of fine large fruits, which in appearance somewhat resemble those of Loxford Hall Seedling. Samuel Bradley bears large roundish fruit of bright red colour, and is a hardy and prolific variety. Unser Fritz, another good late sort, is also well adapted for forcing purposes, the fruit being of a handsome appearance, medium size, bright crimson in colour, and brisk and full flavoured. Of the Pine section Elton and its closely allied sort, Frogmore Late Pine, are good examples of what late Strawberries should be. The last mentioned variety, particularly, is one of the very best varieties that can be grown for supplying late fruit of superior quality. Coming in rather later than Frogmore and producing fruit very much like it in appearance, but rather larger in size, is Hélène Gloede a variety of sterling merit.

Messrs. James Veitch's collection of Strawberries is, in fact, a most comprehensive one, and although the number of sorts upon the list, as has been previously intimated, are fairly numerous, they are all distinct enough from each other; for where two varieties are found to resemble each other so closely as to make it difficult to distinguish between them one alone is kept in stock, and thus while the list of names is not unduly large, all types of this favourite fruit are well represented.

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

ORCHID NOTES AND GLEANINGS.

The following Orchids were certificated by the Royal Horticultural Society on the 25th ult.:—

Dendrobium illustre. *Nov. hyb.* The seed parent of this distinct looking hybrid was D. chrysotoxum, which was crossed with D. Dalhousieanum, exercising a wonderful influence over the progeny. The pseudo-bulbs as yet are only 3 in. to 9 in. high, fusiform and tinted purple in the younger stages. The flowers are borne on the leafless stems while yet very short. The oblong sepals and obovate-elliptic petals are pale yellow, and shiny, as if waxy. The lip is the largest and most conspicuous organ of the flower, and is roundly oblong, shallowly concave at the base with a large crimson blotch, while the upper half is densely downy and pale yellow. All these characters of the lip are due to the pollen parent. Messrs. J. Veitch & Sons, Chelsea, have broken fresh ground in this hybrid which is the most distinct we have seen amongst hybrid Dendrobiums for a long time. First-class Certificate.

Laelio-Cattleya C. G. Roebling. *Nov. hyb. bigen.* This beautiful bigeneric hybrid was obtained from L. purpurata alba crossed with the summer-flowering Cattleya Gaskelliana. The stout pseudo-bulbs are about 6 in. long, and bear a solitary leathery leaf, 8 in. to 10 in. long. Each scape bears two to three flowers. The sepals and crisped petals are blush lilac. The lip is crimson-purple with a white margin all round and the tube is of the same hue. The latter is bright yellow internally and finely lined with purple. Altogether it is a handsome hybrid with a charming lip. First-class Certificate. Messrs. F. Sander & Co., St. Albans.

Cattleya Warscewiczii. *Nov. var.* The sepals and elliptic petals of this fine variety are rich rosy-purple. The lip is slightly wavy and of an intense purple with a somewhat paler tube finely lined with a pale purple internally. All parts of the flower are unusually highly coloured and handsome. Award of Merit. Lord Rothschild (gardener, Mr. E. Hill), Tring Park, Tring.

Orchis latifolia Glasnevin var. *Nov. var.* Native Orchids are nearly always neglected by those who make a speciality of exotics, but that under notice is worthy of universal recognition for the spike of flowers is almost as long as that of a Hyacinth in this case, and the flowers much more densely arranged. The sepals and petals are purple, but the spotted lip is many shades darker. The spikes are 4 in. to 6 in. long and really very handsome, and seeing that the plant is hardy it ought to be extensively cultivated. Award of Merit. F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin.

Orchis latifolia var. *Nov. var.* The spike in this instance is shorter and narrower than that of the Glasnevin var., and the flowers are smaller, but equally as dark in colour. The lip is furnished with wavy lines instead of being spotted. Botanical Certificate. F. W. Moore, Esq.

Laelia grandis tenebrosa Charlesworthii. *Nov. var.* The sepals and petals of this fine variety are dark brownish-crimson. The lip has a purple tube, and is deep brownish-crimson in the throat and on the sides of the lamina, but the edges and apical portion are clear purple. It is a richly coloured variety of great merit. Award of Merit. Fred. Hardy, Esq. (gardener, Mr. Stafford), Ashton-on-Mersey, Cheshire.

Laelia grandis tenebrosa Pittiana. *Nov. var.* The sepals in this case are light shining brown, and the petals several shades paler. The lip has a white lamina and a deep purple tube lined with white internally; the tube externally is pale purple. The meritorious varieties of this species are increasing from year to year. Award of Merit. H. T. Pitt, Esq., 57, Stamford Hill.

Pleurothallis immersa.—Some Orchids are pretty or interesting, even though the flowers may be small, and this species deserves both epithets. The flowers are borne in racemes on scapes 6 in. to 9 in. long. The sepals are the most conspicuous portion of the flower, and the three free portions are half an inch long, straw-coloured, or creamy and downy all over. Botanical Certificate. R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell.

Dendrobium inversum.—The fusiform pseudo-bulbs of this species are only 1 in. to 1½ in. long. The flowers are inverted, with cinnabar-coloured and linear sepals and petals. The lip has a short, involute tube, and a lanceolate, prolonged lamina of the same hue, but lined with crimson veins. The flowers, at first sight, bear a remarkable resemblance to those of Laelia cinnabarina. Botanical Certificate. J. Bradshaw, Esq., The Grange, Southgate.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects received certificates according to merit from the Royal Horticultural Society on the 25th ult.

FLORAL COMMITTEE.

Echinocactus aureus.—The plants of this spiny member of the Cacti family are globular and deeply ribbed, the ridges being very numerous and each furnished with a vertical row of tubercles furnished with spines. The latter vary from 1 in. to 2 in. in length and are drawn out to a long slender point, flattened, finely ridged transversely and clear yellow. The great number of yellow spines would suggest the specific name of the plant, which is wonderfully distinct and handsome even for this genus. First-class Certificate. Messrs. F. Sander & Co., St. Albans.

Philadelphus Boule d'Argent.—There are several double varieties of Philadelphus, including P. coronarius flore pleno and the hybrid P. Lemoinei; but the variety under notice flowers much more freely than the last named and being of dwarf habit it is very useful for pot culture and forcing. The plant shown by Messrs. T. Cripps & Son, The Nurseries, Tunbridge wells, was only 18 in. high, with small leaves and covered with an abundance of blossom on all but this year's shoots. The petals are numerous but not at all crowded, erect at the base and spreading above the middle. It is needless to say the flowers are white, strongly fragrant, and must be serviceable for cutting. First-class Certificate.

Lilium Dalhamsoni.—In this we have a strong-growing Lily of great merit for planting in borders and amongst Rhododendrons in proximity to other species flowering at this time, where its dark flowers become conspicuous by contrast to others of lighter shades. The leaves are spathulate and very numerous in each whorl. The flowers are nodding with their face downwards, and the revolute segments are deep brownish-crimson with a few small spots here and there, surrounded by a small yellow ring; the centre of the bloom is dull orange. The racemes of bloom are of considerable length, and consist of eighteen or more flowers. It is about as dark a Lily as we have seen. Award of Merit. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Sweet Pea Cupid.—The dwarf Sweet Pea mentioned in our last issue has reached this country and surprised many by the extreme dwarfness of its stems which were 8 in. to 10 in. long as grown in pots, and lay over the sides of the same so that the flowers rose above the foliage. The stems are remarkably short jointed, and throw out branches from the base and along their sides, so that a succession of bloom is kept up for a long time. The variety is admirably adapted for bedding, rockeries and for pot culture; a mass of it at a short distance reminds one of a bed of pure white Pansies or Violas. Award of Merit. Messrs. W. Atlee Burpee & Co., Philadelphia, U.S.A.

Begonia Mr. J. T. Bennett Poe.—The glowing scarlet flowers of this double variety have the numerous, wavy and crisped petals arranged round a single centre, and are very handsome. Needless to say it is an acquisition to the tuberous class of Begonias. Award of Merit. Messrs. J. Laing & Sons, Forest Hill.

Begonia Prince Adolphus of Teck.—This belongs to the same class as the last named, yet the glowing scarlet flowers are very distinct inasmuch as they resemble a rosebud in the early stages but when fully expanded they closely simulate a Camellia, owing to the manner in which the smooth and flat petals overlap one another. Award of Merit. Messrs. J. Laing & Sons.

Viola A. J. Rowberry.—The flowers of this handsome new Viola are rayless, of great size, circular or nearly so and rich golden yellow, the lip being a shade or two darker than the rest. If the habit of the plant is dwarf, bushy and continuous in flowering it is indeed an acquisition to this class of popular flowers, being the darkest and richest of the rayless yellow varieties. Award of Merit. Mr. Geo. McLeod, Chingford.

Carnation Zoe.—The flowers of this beautiful variety are large, very fragrant, soft purplish-pink and refined in appearance. The broad petals are entire, and sufficiently numerous to make the flower quite full; yet the long tube is not liable to split even when not tied up during development. Award of Merit. M. R. Smith, Esq., (gardener, Mr. C. Blick) Hayes, Kent.

Carnation Cowslip.—This belongs to the yellow ground section of fancy Carnations. The flowers are pale yellow striped with rose from the edge inwards, and are very full but not crowded with petals, which are almost entire and refined in appearance. The pods are long and not liable to split. Award of Merit. Martin R. Smith, Esq.

Carnation George Cruickshank.—The large flowers of this variety are salmon, heavily striped with scarlet, and the very numerous petals are shallowly toothed. The pod is somewhat liable to split on account of the size of the flowers. Award of Merit. Martin R. Smith, Esq.

Carnation Lady Ridley.—Amongst the four border Carnations here mentioned, that under notice is a gem of the first water and an acquisition to its class. The flowers are pure white with very broad, entire petals. Owing to the latter being moderately numerous, the long and firm pod is not liable to split even when grown under ordinary conditions without any special attention. This fact, coupled with the purity of the flowers and their scent, render the variety an acquisition. Award of Merit. Martin R. Smith, Esq.

THE PLANT HOUSES.

The Stove.

Unless the plants here have been unduly coddled the leaves made during the spring months should now be fairly firm in texture, and Crotons and Dracaenas should be fast assuming their gay colours, which the bright sun is such a necessary agent in developing. In the event, therefore, of a continuation of the tropical weather we have lately been experiencing, air may be given pretty freely during the day without much fear of harm. Every stove should be provided with bottom ventilators, and these now should be left partly open at night, so as to prevent the atmosphere from getting too stuffy. Syringing and damping down must be conducted regularly as before, but it will now be advisable to allow the atmosphere to become somewhat drier in the middle of the day than it has hitherto been allowed to, thus favouring the ripening of the wood, which is necessary to the welfare of many of the plants.

Heating Apparatus.—As during the present month the need for fire heat is usually less than at any other period of the year, steps should be taken to ascertain that the heating system is in thorough working order. In the case of the boiler and pipes attached to the stove, the fire is going more or less the whole of the year round, and a breakdown during cold or frosty weather is likely to be fraught with very serious consequences to the health of the plants contained in this department. Once a year, therefore, a thorough examination must be given, any leaking joints or defective valves put to rights, the boiler carefully inspected, and every precaution taken to see that the hot water system will work smoothly and well through another year. Where new boilers are required the present is the best time of the year to see about getting them in, so that there may be time to give them a good trial, and thus to make sure that they are set properly, and likely to heat well and satisfactorily before the shortening days and cooler dewy nights necessitate the employment of fire heat to some extent.

Greenhouse and Conservatory.

The major part of the work here will consist of watering, for, with the outside thermometer standing so high, and the sun so bright, the plants will need constant attention.

Carnations.—It is a common practice in some gardens to grow on a number of border Carnations in pots for blooming in the conservatory. Nothing like coddling is of course attempted, plenty of air being given night and day as soon as the plants have become well established in their flowering pots. The

slight start thus given at the beginning of the season usually causes them to bloom a week or two before those which are planted outside. If proper attention is paid to their staking at the right time, and they are pretty freely disbudded, pot Carnations of this kind come in wonderfully handy for the conservatory. A constant watch must, however, be kept for the appearance of green fly, which must be kept under if the plants are to do satisfactorily and look well.

MALMAISONS.—By judicious application of liquid manure the later flowers may be made to attain to a respectable size, although they will necessarily not be so large as the earlier ones. Preparations must be made without delay for propagating them. A bed of fine light soil should be made up in a cold frame, the plants, as soon as they are out of flower, knocked out of their pots, taking care not to disturb the roots any more than is unavoidable, and then planted out in the prepared bed. Layering may subsequently be conducted in the usual way. Keep the frame close for a few days, and shade from hot sun by means of a light covering of tiffany. Treated thus the layers will soon root, and nice plants may be obtained before winter sets in.

Pits and Frames.

Most of the cooler pits will need to have air left on all night now, while the cold frames may in many cases have the lights pulled right off, only putting them on during rain or the last thing at night. Many of what are usually regarded as stove foliage plants do exceptionally well in cool pits during the summer months, as, for instance, Acalypha musaica and A. marginata and A. obovata. If given plenty of light the leaves will assume a much more brilliant colour than they would do in the stove.

CENTROPOGON LUCYANUS.—Cuttings of this handsome winter flowering subject that were potted off into forty-eights a while since may now be shifted into their flowering pots—a seven-inch being a handy size. For compost a mixture of two parts of good turfy loam to one of well-dried cow manure, and a sprinkling of sharp sand will answer admirably. Drain well and pot rather firmly. They may then be grown on in an unheated frame, which must be kept fairly close, and the syringe kept well at work amongst them, for red spider is very partial to their somewhat succulent leaves—likewise green and snowy fly.

REINWARDTIAS.—These are likewise exceedingly useful and showy winter blooming plants. Cuttings struck in April and subsequently potted off when rooted into sixties will now be ready for their final shift. As a rule six-inch pots will be quite large enough, while a soil similar to that recommended for Centropogons will do nicely. Reinwardtias, however, require a little more heat during the summer than these last-named plants. Both R. tetragynum and R. trigynum, or as it used to be called Linum trigynum, are well worthy the room they occupy.

CINERARIAS.—The earliest batch of these must be shifted out of the small sixties into forty-eights or thirty-twos, according to the size and strength of the plants. A cold frame having a northern aspect should be selected, thoroughly cleaned, and a fresh layer of clean ashes put in. Here the plants will be found to do very well. Do not crowd them together under any consideration, and thin them out as growth requires it. The succession batch will now be ready for potting off singly into thumbs or small sixties. Take care not to pot them too firmly, and should the plants be weak at the collars, give a little support by means of wooden pegs judiciously inserted. Seed sown to produce plants for late flowering will now have germinated. Prick the seedlings off as soon as they are sufficiently large to handle, for they soon become drawn. This will also apply with equal force to herbaceous Calceolarias.

PLUNGING CHRYSANTHEMUMS.—Where large quantities of the Queen of Autumn are grown the work of watering them throughout the summer is necessarily a heavy one. Where space is available it is advisable therefore to partly plunge the pots in ashes, as this materially assists in preventing the rapid evaporation of water which goes on when the air has free play all round the pots. A few weeks should, however, be suffered to elapse after potting before plunging is attempted, so as to allow the plants time to make a number of fresh roots, and to get a good hold of the new soil. From now onward to the autumn earwigs are more or less of a pest among Chrysanthemums. If they are looked after in time, however, and traps set for them, they may be prevented from doing much mischief. The hollow stems of Broad Beans cut into lengths of four or five inches and laid about here and there among the plants form very convenient traps, as also do small flower pots filled with hay. These may be looked over in the mornings, and any earwigs they may contain destroyed.

GLADIOLI.—Very gay and bright are the flowers of G. Colvillei and its beautiful white form, The Bride, and during May and the early part of June they look exceedingly well in the conservatory. After the flower spikes have been removed, water will have gradually been withheld to allow the ripening of the corms to go on. As growth will now have entirely ceased the pots may be placed on their sides in a shed or outhouse, where they may be allowed to remain without disturbance until it is time to pot them up again.

WINTER FLOWERING CARNATIONS.—It is usual to stand these out of doors during the summer months, where indeed they do as well as could possibly be desired. As the plants, particularly those of two or three years' growth, are inclined to get rather tall and straggling, it is a good plan to stand them in rows, driving a stout post in at either end, and running a strong wire along to which the stakes supporting the plants may be affixed. This prevents them from being blown about by storms of wind, and the damage often done in this way is warded off, and a semblance of neatness and order is maintained. An occasional pinch of Clay's Fertilizer may be given the older plants, the younger fresh potted ones of course not needing stimulants as yet. —*A. S. G.*

THE ORCHID HOUSES.

BRASSIA VERRUCOSA.—This, like the good old Cypripedium insigne, is found in almost every garden that grows only just a few Orchids, and a very fine thing it is, too, when well grown, producing plenty of bloom, which is invaluable in the cut state on account of the flowers being loosely arranged on long spikes, allowing of their being set off to advantage with a few Fern fronds. It also makes a good specimen plant; we have one with sixteen spikes in an eight-inch pot, and which is much admired by visitors. There are a few other varieties such as B. Lawrenceana, B. maculata, B. guttata, B. Wrayae, all more or less having flowers of a greenish hue. Their culture is very simple, requiring as they do a plentiful supply of moisture at the roots when growing. The drainage should be ample, and the compost of the best; pots we have found to be best for them to grow in. These should be three parts filled with crocks; over this put a layer of moss, and then fill in round the plant with live sphagnum moss, a good, rough fibrous peat that has had some of the fine sifted out. A few pieces of charcoal and bits of broken pots may be worked in to keep the whole porous and sweet. Do not press too firmly or the water will not pass freely away. The shady end of the Cattleya House we find is the best place for them during the winter months, but during summer they will be all the better if pleased with the Odontoglossums.

DENDROBIUM JAMESIANUM.—This fine Orchid is rather difficult to keep in good condition for many years, but when well grown is an object of great beauty. Coming as it does from a high elevation, it does not require such strong heat as do the majority of Dendrobes, yet I think we err in trying to grow it too cold. Granted the temperature goes down very low in its native habitat as we are told, but for how long? Not long enough to do any harm. The cool end of the Cattleya House we find to be the best place for the plants. They require pot culture, using peat and moss in about equal parts. They are great lovers of moisture at the roots when growing, and at no time will they require the drying off that is necessary in dealing with D. nobile, D. Wardianum, &c.

ANGRAECUM FALCATUM.—This is one of those pretty little Orchids than no one can fail to appreciate. It grows with the Cattleyas, which is a consideration as most of the genus takes plenty of heat. It takes up but little room, is free flowering, and sweet scented; we grow ours in baskets suspended on the north side of the house where they are rather heavily shaded. Only live sphagnum moss is used as compost, and this in small quantities.—*C.*

Gleanings from the World of Science.

Freak of an Iris.—Under ordinary circumstances every species and variety of Iris should have three falls, three standards, and three petaloid stigmas. A very abnormal case occurs in a suburban garden where a variety of the Spanish Iris (I. Xiphium) developed only two falls, two standards, and two petaloid stigmas. One of the standards as if to make amends for this behaviour, was divided more than half way down into two pieces, each as large as the other normal one. Low down on one side of the ovary were some rudimentary fragments, which doubtless represented the missing fall, but what had become of the missing stigma there was no evidence to show. The two that were present were perfect and normal. It would be difficult to imagine or assign a cause for this erratic behaviour, because if it had been the result of actual injury the rest of the flower should have shown something of it.

A Green Rose.—There is no actual novelty about this any more than about a green Dahlia, a green Chrysanthemum, a green Begonia, or even a green Strawberry. The green Rose or the *Rose verte* of the French is a variety of Rosa indica, and well-known as an inmate of the gardens of the curious in such things. A contemporary has been favoured with some green Roses from a correspondent in Jersey, and confesses that, "except as curiosities they appear to us to possess no advantages whatever, and to compare badly with the normal product of the Rose bush. It is to be hoped that, whether produced by the use of arsenical water or otherwise, the green, at any rate in this case, will never be placed above the red." Unfortunately for the above statements, the *Rose verte* of the French comes green without any artificial treatment whatever. Supposing the Roses to have been stained by the imbibition of some green colouring matter, as in the case of the Carnation and Daffodil, it is more than likely that the flowers would have been destroyed if arsenical water of such strength had been used as to produce the desired tint of green. Moreover if such results could be obtained by the use of arsenites Rose growers will have to be careful not to syringe their Rose bushes with Paris green or London purple on purpose to kill the "worm i' the bud" or the results will be disastrous. It is more likely that some of the aniline dyes were used if the Roses were really artificially stained.

Sporting and Reversion in Violas.—Few would suspect the presence of green in the flowers of the common Primrose, yet there is a considerable amount of that in the pale-faced flower of spring. Amongst Violas we find most curious instances of the appearance or re-appearance of certain colours after a time. Seedlings that have pure white flowers one year become extensively splashed with blue the next. Flowers that are partly yellow and partly white one year become splashed the following season in the same way. Others will produce self-coloured flowers for a time, and afterwards become striped in the most fantastic way. The named variety Columbine sports into several other varieties, to wit, something very like Lucy Ashton, also York and Lancaster, and a very dark-flowered variety that is neither. The yellow-flowered Ardwell Gem has blue in it or the power to produce the same; for Duchess of Fife, Goldfinch, and White Duchess are sports from it, or some of them have sported from one another. Goldfinch on one occasion at least gave rise to short bearing flowers wholly of a pale, dull, lurid or livid purple. These sports are more or less constant, coming true every year; but recently we noticed three flowers of Ardwell Gem on a large plant of Duchess of Fife. Some of the flowers on one branch were actually Duchess of Fife, while the rest of the flowers had actually reverted to Ardwell Gem, the original parent of this little group or strain of plants, usually spoken of under the designation of tufted Violas, on account of their dwarf and procumbent habit. The sportive character of Violas is doubtlessly due to much cross-breeding and hybridising for many generations.

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne F.R.H.S. Price, 1s. post free, 1s. 1½d. from the Publisher of the GARDENING WORLD, 1, Clement's Inn, Strand, W.C.

HINTS FOR AMATEURS.

Carpet Bedding.

It is a good old axiom, and one that has been illustrated times without number that "mankind was not made to agree." No matter what profession we take or what walk or grade of life we consider the opinions of various individuals vary considerably with regard to the best method of dealing with any given subject, in fact, in exact proportion to the differences in the temperaments of the individuals themselves. In no one profession, however, is there a greater diversity of opinion shown than in that of gardening, and in no one branch of the profession has the discussion of what to do or what not to do been more animated than with regard to the question of carpet bedding, many of those who are not lovers of the system stigmatising it as an unnatural method of growing plants, and one that no true lover of nature would attempt to practice. Then again, say they, see how stiff and formal it is; it always looks the same, and, although it may be bright still its unchanging appearance renders it monotonous. Now, although most of these accusations are strictly true yet there are, if we may venture to call them so, extenuating circumstances, and while there is much to be said against carpet bedding there is also something to be said for it.

Certain it is that those who would totally erase it from our gardens are going a step too far; for it marks a phase in gardening—a period during which we laid our flower beds out according to elaborately conceived geometrical designs, and when we clipped our yews and hollies into all manner of shapes, fantastical and mythological. Then carpet bedding was the rage, and gorgeous scrolls of delicately manipulated plants the fashion which gardeners made haste to follow, and upon the execution of which they lavished endless skill and care and pains. Times have changed now, however, and whilst formerly no garden was complete without a piece of fancy work of some kind or other, now we seldom see it.

But the question is, in how far is the carpet bed a desirable feature of the small flower garden of the amateur gardener? and to this we will turn our attention and leave for a while the consideration of the vanished glories of carpet bedding as practiced in large establishments. It often happens that in the small front garden of the villa there are one or two beds immediately in front of the windows which from their position it is not desired to fill with tall growing plants. Pelargoniums, Calceolarias, White Marguerites and the commonalty of bedding stuff have perhaps been pretty lavishly utilised in beds and borders elsewhere, and the owner of the garden wants a little change from this. Naturally enough he wishes to employ subjects that shall give as bright a show for as long as possible, independent of whether it rains or shines, or it be wet or dry. Flowering plants are notoriously bad rainy weather subjects, so what is to be done? It is in situations of this kind that a pretty design in carpet bedding has something to recommend it. Rainy weather affects it not and it will come up smiling even after the heaviest storm.

In preparing the bed for planting the surface soil should be broken up finely, the surface made smooth, and if a circular bed rather higher in the middle that at the sides. By means of some silver sand the design which it is intended to adopt may be traced out, after which planting may proceed in the ordinary way. The leading lines must of course be seen to first, the panels being filled in afterwards. A fairly extensive list of plants suitable for the carpet bed might be made, but the following will be found to be a good selection of some of the best and from the judicious arrangement of these some very pretty effects may be obtained. Herniaria glabra and Veronica repens are two splendid dwarf green plants which are all the more valuable on account of their complete hardiness. Sedum glaucum, Antennaria tomentosa, and the golden-leaved Pyrethrum are likewise very useful. The last named plant, however, needs to be kept continually pinched to keep it within its proper limits. Alternantheras are a host in themselves and are really indispensable. Some of the best are A. versicolor, A. paronchioides magnifica, A. p. major and A. p. aurea. Mesembryanthemum cordifolia variegata is a little gem, although like the Alternantheras it is very tender in constitution and should not be put out before the season is well advanced. Echeveria secunda glauca is a well known and much used plant, being decidedly ornamental whether in or out of flower. Somewhat taller plants are Coleus Verschaffeltii and Iresines Herbstii and Lindenii. The appearance of the beds may be greatly improved by the presence of two or three dot plants although care must be taken not to overdo this. Still a plant or two of Grevillea robusta, or if flowering plants are desired a small Fuchsia or tuberous Begonia, look exceedingly well when treated thus.

Summer Treatment.

This is of the simplest. In fact the most difficult part of the work is the planting, and once this is completed three parts of the battle are over. In dry summers watering will of course need constant and careful attention. As the plants increase in growth, moreover, pinching and stopping must be resorted to. Where the finger and thumb can be employed in performing this well and good; if necessary, a sharp knife may be used but on no account must the clipping be done with the shears as we have more than once seen. If the bed is cut out in the grass the edges must likewise be clipped occasionally to keep things neat and tidy. If these little necessary attentions are looked to the carpet bed will be a blaze of colour throughout the summer and early autumn until frost makes its appearance and puts a stop to further growth, among the more tender subjects at all events.—*Rex.*

A WALK IN THE COUNTRY.

Round Slapton Lea.

Slapton in Devonshire lies some three miles to the north of the Start Point with its Lighthouse, well known as being the last point of land seen by voyagers going down Channel on their way to the Bay of Biscay. Slapton Lea is about half a mile from the village which lies inland, and is a very peculiar piece of fresh water, a mile and a half in length and nearly, at its widest part, a quarter of a mile across, running parallel with the sea from which it is divided by a ridge of pebbles long ago thrown up by the waves, and along the top of the ridge a highroad has been made. The fresh and salt waters are in such close proximity that a stone can be thrown from the road, on the one side into the sea, and on the other into the Lea. There is an hotel at each end of the Lea, which visitors can get to by means of a coach from Kingsbridge to Dartmouth, from both of which places the Lea is distant about seven miles, and beyond an occasional pleasure steamer, driving is the only mode of access.

I stayed at the Royal Sands Hotel, a most comfortable hostelry situated on the high road, where from the proprietor downwards, one met with the greatest kindness and civility, and I have specially to thank the young lady in charge for kindly lending me her own dainty basket for carrying the specimens which I gathered. The proprietor is fond of his garden and told me with pride that he had been daily digging New Potatos since the second week in May, and out of three not very large beds had cut over three thousand heads of Asparagus.

I am not a poet or much of a riddler, but give the following for your readers to solve. It is many hundred years old.

My first is a little bird as hops,
My second comes with May pops;
And my whole you eat with mutton chops.

And though we think it vulgar to pronounce the name in that way now, at one time it was its only name, and as such is spelt in the writings of the historian, Camden.

On the margin of the sea-shore the yellow Poppy was very conspicuous with its long horns pretty well a foot in length, intermingled with the Musk Thistle so sweetly scented, pink Thrift and Sea Spurge. Opposite the hotel I found the Henbane much scorched, which gave it a more weird look than ever; the Marsh Plume Thistle, the prickliest of all, I think; and the Wormwood, from which the favourite French drink, absinthe, is prepared. On the old bridge crossing the stream—for the Lea is fed by two larger streams and one or two small brooks—the Hart's Tongue Fern was growing with the Pennywort in full bloom, and the Pellitory of the wall. This plant contains much nitre, and in preparing a mass of it for extracting its juice—for it is still much used as a country medicine—great care has to be taken lest it should catch fire. The flowers, or rather the filaments, are extremely irritable, and if touched with a needle fly open with sufficient force to scatter the pollen. Close by the dark Mullein was growing, and Alexanders, much used in ancient times for "sallets," as salads were called then, but the reason for the name Alexanders I am not able to give. The Sheep's Scabious and the greater Knapweed were in full bloom, and Fennel growing in quantity, just ready to be gathered in time for the mackerel, which are now appearing in the bay.

The Butcher's Broom grows here, but has been much cut by the frost of last winter, though not nearly as much as the Furze, which throughout this county as well as in Cornwall, so far as I have seen, has suffered more than any native bush. The meadows round the Lea were bright with the Marsh Ragwort, and the Wood Groundsel much like the weed of our gardens though much taller, was growing in the hedges, where I also found the Sea Radish with its curiously shaped seed pods. The Sea Campion, Red Campion, and Bladder Campion are all to be met with, and the Ragged Robin was flowering gaily amidst the yellow flowers of the common Iris. Turning to the water, the white Ranunculus was fringing the margin, bearing very large flowers, and the species of Persicaria, which lives on land or water, was conspicuous with its pink bloom, an excellent flower for table decoration and lasting well. The white Water Lilies were growing in large patches, and the sound of the rustling of the reeds and the leaves of the Red Mace, when shaken by the wind, was particularly soothing, added to which the air was redolent with the smell of the Water Mint. The Water Dock was growing everywhere with its large and beautifully proportioned leaves, as well as the Curled Pondweed, Vernal Starwort, and Marsh Pennywort. On my way round I passed many buildings which were thatched with the reeds, which here grow to a length of ten feet, and most durable the covering seemed to be: on my return to the road I found growing on either bank the Sea Convolvulus, a very handsome flower; the Sea Holly; the Viper's Bugloss; the Hound's Tongue, with its curious seeds that stick to one's clothes more firmly than the burs; the Rest-Harrow, but so far as I could discover without spines; Samphire; and English Stonecrop, which was springing up between the pebbles wherever a little soil could be found for it to root in. I am sorry to say I did not discover the Strapwort, which I understand grows here, its only other habitat being at the Lizard, but perhaps a little later on I may be more lucky.

To the majority of persons Slapton Lea is chiefly interesting on account of the excellence of the fishing, for very large quantities of pike, perch, roach, and eels are caught in it. A late record when I was there, was of sixty-five perch weighing about three to the pound being caught in sixty minutes, and some perch have been caught there weighing as much as 2½ pounds. The record pike I was told weighed 29½ pounds, and eighteen fish have been caught by a single fisherman in the space of four hours of the average weight of 5 pounds. The shooting record is quite as extraordinary for the Lea abounds in coots and moorhens, and in winter time is the resort of large numbers of ducks and other wild fowl. Once a year there is a big shoot which takes place about the end of the month of January. The shores of the Lea are lined by everyone in the neighbourhood who has a gun. The owner and his friends shoot from boats and the coots and wild fowl are driven out from the reeds by beaters with the result that a bag of 1,800 head is made in a single day.—*J. C. Stogdon, Slapton, Devon, June 20th.*

ALPINES AT THE YORK NURSERIES.

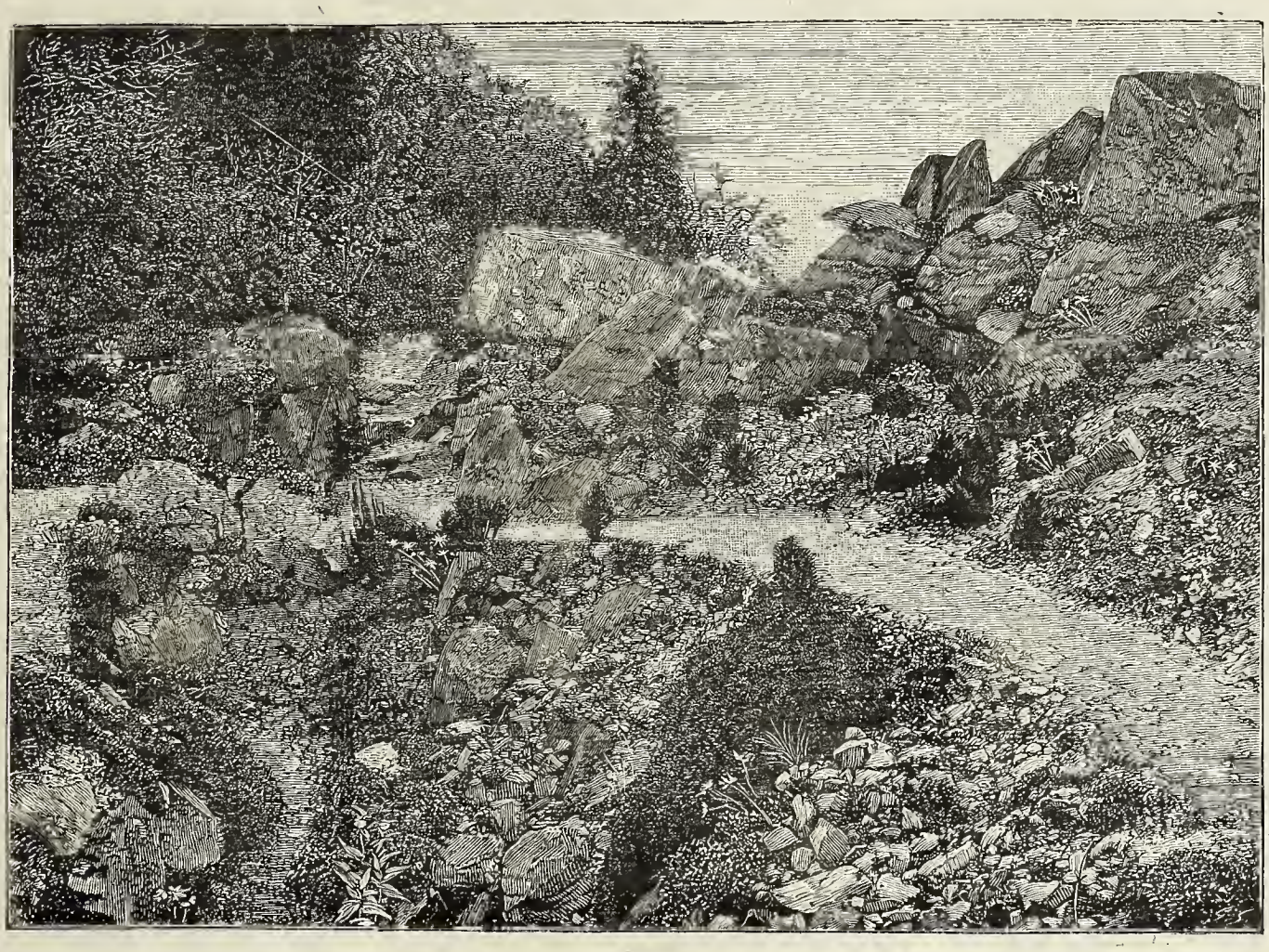
The fame of the Alpine garden at the nurseries of Messrs. J. Backhouse & Son, York, has long been known to most gardeners in the country even if they have not had the opportunity of personally inspecting the same. The interesting samples of rockwork conveyed in sections from the York Nurseries, and set up by the firm at the Temple Show in London, have been examined and admired by interested crowds of gardeners, amateur and professional. How much more interesting would it be if a visit were paid to the nurseries themselves where the Alpine garden, with its bold and prominent masses of

rock, is situated. The accompanying illustration, for which we are indebted to Messrs. J. Backhouse & Son, shows a portion of the rockwork in question, and will give some idea of the method of its construction and boldness of outline.

We intended chiefly to speak of some of the numerous species of the vast assemblage of plants grown there. The Alpines flowering in May would practically be regarded as spring flowers, and we may add that a large proportion of them are notable for their dwarfness. In this category we should place the ever-interesting Gentiana verna and G. acaulis. No less of an Alpine character are Saxifraga muscoides atropurpurea, the dark zoned and large-flowered Dianthus calizonus and the white-flowered mountain Buttercup (Ranunculus glacialis) with eight to ten petals. Lychnis pyrenaica only 2 in. to 3 in. high, also produces white flowers. Myosotis Rechsteineri is probably the dwarfest of the Forget-me-nots. The pretty Viola pedata also flowers with remarkable freedom at York. Dianthus alpinus with rosy flowers is even dwarfer than the species already mentioned. The dark rose flowers of Aubrietia Leichtlinii and the dark blue Veronica prostrata are better known than some we have mentioned; beautiful they are and are rendered even more so by contrast with the prostrate patches of Genista pilosa with its dark yellow flowers. Morisia hypogaea is another gem for sheltered corners of the rockwork in spring. One of the dwarfest in the whole series is a miniature species of Thrift (Armeria caespitosa) with pink flowers, and only one inch high.

Singular and interesting is the dwarf Gnaphalium grandiceps from New Zealand with its dwarf gray tufts of leafy stems. The olive-leaved Lithospermum oleaefolium has blue flowers striped with pink. A bolder and more conspicuous plant is Dracocephalum grandiflorum, with large blue flowers spotted with violet, though the plant at York is only 3 in. high. Amongst taller plants we are much interested in a double form of the Welsh Poppy (Meconopsis cambrica flore pleno) which originated in the York Nurseries. Other useful subjects for various situations are Heuchera sanguinea, Ranunculus cortusaefolius and various forms of Trollius. The evergreen Daphne Fioniana bears pink flowers in spring and often also in mild winters. The bold variety of a British Fern and known as Asplenium Trichomanes confluens, proves hardy at York, and is remarkable for the large size of its fronds and broad, triangular pinnae.

Mid-summer flowers are represented by others in great variety including the Campanulas, of which the collection is very extensive, and replete with forms from the dwarf C. Allioni with its huge solitary flower disproportioned to the size of the plant, up to C. lactiflora and C. macrantha that sometimes reach a height of six feet under favourable conditions. The Anemones are also well represented. Lithospermum graminifolium and L. petraeum (the latter of which is called Moltkia petraea by the botanists) are interesting and beautiful rock plants of another kind that are perfectly hardy and ought to be more common. The various species of Lychnis now in bloom can hardly be overlooked by anyone, particularly if interested in hardy plants of such showy character as L. Viscaria splendens plena and the graceful and pretty L. Flos-cuculi flore pleno with its rosy and starry double flowers. L. vespertina plena is a more robust grower with massive, double white flowers. Ramondia pyrenaica and its white variety alba are gems amongst Alpine plants, as is Phyteuma comosum. Many of the hardy terrestrial Orchids, but particularly the Cypripediums also find a place, and delight in somewhat shady and moist positions in a peaty soil. The British C. Calceolus with its brown sepals and petals and yellow lip is not to be overlooked any more than its more showy sister, C. spectabile from North America.



MEMORIES OF YORK GALA.

The long-looked-for and most anxiously awaited by those even slightly interested has come and gone. We have had a most brilliant show, equal to many of much greater pretensions. The tent arrangements were perfect, and reflect the greatest credit upon those who were entrusted with them. Now for a very brief glance at a few of the main features, amongst which the elegant groups stand supremely first. No one can describe their beauty. Let this suffice to say that the more you looked at the more important ones the more you wanted to look. First honours fell to Sir James Reckitt, from Hull, and he has every reason to be proud of his gardeners, both head and under. This group exhibited the most artistic skill in its arrangement. The material, moreover, of which it was composed was of highest possible quality, and won it the place of honour. The slender tree-like Crotons, of exquisite colour, and the various Orchids it included were a real treat. The next prize was carried off by the Duke of St. Albans with another choice arrangement. Third came Mrs. Gurney Pease, and fourth E. B. Faber, Esq. Both the latter exhibits were of high standard; although if these two groups had been judged by gentlemen who had carefully observed the schedule they would certainly have changed places. However, let that be as it may. I must prophesy that Mr. Townsend, gardener to E. B. Faber, Esq., has a great future before him if he will follow up his success. This being his first attempt at anything like an extensive display, he undoubtedly acquitted himself well.

Roses were decidedly in advance of previous years, honours falling pretty evenly to the principal growers of the country. Specimen Geraniums, Pelargoniums, and Fuchsias were very good, although the two first mentioned were getting fast over. Orchids were abundantly represented, Messrs. Charlesworth & Co. and Messrs. Sander, St. Albans, figuring most prominently. A few new and rare specimens exhibited by the latter firm were well worth more than a passing glance. Among them Dracaena Sanderiana is a grand acquisition to any stove, and has splendid green and white leaves. Pilocereus senilis (the Old Man Cactus) is extremely curious, and attracted universal attention. Sonerillas of quite a dozen varieties displayed foliage of many and varied colours. Eriocnema Sanderae and Carludovica (Ludovia) crenifolia were good. Some beautiful foliage Begonias of the Rex type were present, and included Rajah and Masterpiece. Coleus Golden King, and C. Fascinator are splendid additions to this

class of plants. Ptychoraphis augusta, a new plant, closely resembles a Cocos or a Geonoma. This and Bentinckia nicobarica will form two very useful and highly decorative new Palms. Then there were those splendid Miltonias, with quantities of delicately coloured blooms. There were quite a dozen varieties represented, two of the best being M. vexillaria and M. v. cruentum. Their new Dipladenia atropurpurea is a splendid plant. A well-bloomed plant of Bougainvillea glabra was also shown. Cattleya Mossiae, and Dendrobium Johnsoniae were also in fine trim. Likewise the insectivorous plant, Sarracenia flava picta, which was represented by a splendid specimen. One could hear many expresions of wonder come from people concerning a few of these curious specimens of plant life that were most amusing, especially about the Hairy Cactus, Pilocereus senilis.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

RICHMOND FLOWER SHOW.

The people of Richmond were once again favoured with exceptionally fine weather for their annual flower show, which was held in the Old Deer Park on Wednesday, June 26th. Crowds of people attended, and the various exhibits of decorative plants, cut flowers, fruit, and vegetables, to the accommodation of which four spacious and commodious tents were devoted, had plenty of admirers. Mr. H. J. Jones, of Ryecroft Nursery, Lewisham, received a Silver Gilt Medal for a very tastefully arranged group of single flowered tuberous Begonias, which contained much that was worthy of praise. A like award went to Mr. William Iceton, Putney Park Lane, for an imposing collection of foliage and flowering plants. Mr. F. Wigan, Clare Lawn, East Sheen, won a first prize for a group of specimen plants, a similar place being taken by Mr. A. Offer, Handcross Park, Crawley (gardener, Mr. J. Warren), who had splendid specimens of Cycas revoluta, Croton Queen Victoria, and C. Williamsii among other fine plants. Very charming was the group of decorative plants set up by Mr. W. Thompson, Sheen Nurseries, Richmond, a Silver Medal being given. Mr. A. Offer also exhibited a magnificent plant of Croton Warreni receiving a first prize for the same. Very pretty groups of plants were also contributed by Messrs. John Peed & Sons, Roupell Park Nurseries, S.E. Mr. H. E. Fordham, Twickenham (Silver Medal), and Messrs. W. Fromow & Sons, Sutton Court Road, Chiswick, a Silver Medal also being given for this latter, and Messrs. John Laing & Sons, Forest Hill, S.E., who received First-class Certificates for their fine new double Begonias, Prince Adolphus of Teck, rich scarlet, and Marchioness of Salisbury, lovely clear yellow, in addition to the Silver Medal for the group. A first prize collection of tuberous Begonias came from W. N. Troy, Esq., Putney Heath, Malmaison Carnations from Messrs. Wm. Cutbush & Sons (Silver Medal); and a fine group of Roses in pots and cutblooms of the same from Messrs. J. Veitch & Sons, Chelsea (Silver Gilt Medal); hardy trees and shrubs from Messrs. Charles Lee & Son, Hammersmith (Silver Gilt Medal), and Carnations from Mr. Geo. May, Upper Teddington (Silver Medal).

In the tent set apart for the exhibits of cut flowers and table decorations, some very pretty and effective combinations were on view. Roses were a host in themselves, most of the best growers contributing. Among them Messrs. Paul & Son, The Old Nurseries, Cheshunt, Mr. Frank Cant, Colchester, Mr. G. Mount, Canterbury, and Mr. William Rumsey were very successful, and well sustained their reputation. In another large tent the display of cut flowers was continued, the hardy herbaceous element here predominating. Extensive groups of this class of material were contributed by such well-known cultivators as Mr. M. Pritchard, Christchurch, Hants, Messrs. Paul & Sons, of Cheshunt, Messrs. Geo. Jackman & Son, Woking (Silver Medal), Messrs. John Peed & Sons, Messrs. J. Veitch & Sons, Messrs. J. Cheal & Sons, Crawley, Messrs. Carters (Silver Medal), Messrs. Barr & Son, Covent Garden (Silver Medal), and Mr. T. S. Ware, Hale Farm Nurseries, Tottenham (Silver Medal), and the tent was a blaze of floral beauty. Very imposing was Mr. Charles Turner's exhibit of show and fancy Pelargoniums, for which a first prize was given. Mr. Iceton was successful in obtaining a Silver Gilt Medal for Caladiums, and well-flowered pots of Lily of the Valley, whilst Messrs. Dobbie & Co., of Rothesay, N.B., were once more to the fore with their grand samples of bedding Violas and Sweet Peas (Silver Medal). Orchids were represented by a praiseworthy group in which were some showy Cattleyas, Miltonias, Cypripediums, Odontoglots, and Dendrobes coming from H. Little, Esq., Twickenham, for which a Silver Gilt Medal was awarded.

The exceptional dryness of the season did not prevent vegetables from making a brave show. Indeed, the greater part of a large tent was pretty well filled with some really fine samples that would have graced any show table in the kingdom. The coveted "Williams Memorial Medal" for the best collection of vegetables in the show, in addition to the first prize in its class, fell to the lot of Col. the Hon. Talbot, Glenhurst, Esher (gardener, Mr. C. J. Waite), who had Cauliflowers, Dwarf French Beans and Tomatos, Peas, Carrots, and Potatos in excellent condition. Second came Mr. Thos. Wilkins, Hentsridge, near Blandford, and third Mr. Gibson, gardener to E. H. Watts, Esq., Devonhurst, Chiswick. Mr. Ford, gardener to W. H. Ellis, Esq., Hounslow, carried off first prize for Tomatos, showing Sutton's Perfection.

Fruit was by no means wanting, Grapes both black and white being in fine order. W. H. Ellis, Esq., took first place for three bunches of a black variety. Mr. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore Hill, Middlesex, taking a like position for three bunches of a white sort. The Silver Medal for a collection of Grapes, Peaches, and Tomatos fell to Messrs. W, and E. Wells, Hounslow. The exhibits throughout were of a high-class character, and besides reflecting great credit upon the cultivators who contributed them, leave room for much congratulation to the supporters, who, by their liberal awards of prize money and medals have succeeded in making Richmond Flower Show one of the very best local shows in the country.

GARDENING MISCELLANY.

BRODIAEA COCCINEA.

Several handsome garden plants are included in this genus, not the least noteworthy of which is B. coccinea. Indeed, where it can be planted in a warm, well-drained and sheltered position and left undisturbed for a long time it does well, looks exceedingly pretty and is deserving a place in any herbaceous border. The flowers are long, tubular, rich dark crimson in colour, the top of the tube and the segments tinged yellowish-green, and produced in umbels composed of from five to fifteen flowers each. The scapes although not particularly stout are strong and erect, and rise to a height of about 18 in. Some very fine examples of it were recently sent us by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

THE VARIEGATED JAPANESE HOP.

This is a very pretty climber, and it grows so rapidly that one can easily procure shade on and around piazzas, or other places, very early in the season. The foliage is handsomely variegated—white and green, sometimes a little yellow, and the effect is very pleasing to the eye. But it has a very serious drawback. Its seeds are abundant, and they have a way of getting all over one's place. Last season we had these Vines growing around a verandah. This spring the whole premises are full of seedlings. Not only around the verandah, but behind the house, on both sides and on my neighbour's premises. So I will plant no more of the Humulus Japonicus, and I shall have to do considerable work in eradicating the crop now swarming about me.—*E. G. Fowler in "Gardening" (American).*

LILIUM HANSONI.

Exceedingly pretty is the effect produced by this charming Lilium at the present time in the American garden at Kew. A couple of beds filled with neat dwarf specimens of Osmanthus ilicifolius, golden Yews and variegated Euonymus have had these beautiful Liliums planted in the spaces intervening between the shrubs, from which they rise in a mass of gorgeous bloom to a height of some 4 or 5 ft., thus bringing their long loose racemes of showy flowers well above and clear of the underlying matter. The flowers are not large, but the segments are wonderfully thick and fleshy, and a good deal reflexed. In colour they are a rich orange-yellow on the inner sides, a few black or dark purple spots being apparent in the centre of the segments, which are of a greenish-yellow hue on the outer side tipped and edged silvery-white The leaves are disposed in whorls on the stem of from eight to twelve, are some 4 or 5 in. in length, about three quarters of an inch broad, and oblanceolate in shape. Lilium Hansoni, like many others of its most showy congenors, hails from Japan. Planted among dwarf shrubs, as at Kew, the effect produced is a singularly happy one and one worthy of extensive imitation.

COMMON GARDEN WEEDS.

May I be permitted through the medium of your extensive circulation to address some of your subscribers who live at a distance from London, and say how much indebted I should feel if they were to te furnish me with a list of the common garden weeds of their neighbourhood. I desire to find out whether in localities distant from this centre they differ to any extent from those commonly met with in our gardens, and I require the information for the purpose of a paper I am preparing on the subject. I wish to include if possible, Scotland and Ireland. All communications addressed to me will be gratefully acknowledged.—*A. Sewell, 62, Ranelagh Road, Ealing, London, W.*

THE BLADDER SENNAS.

While it may be said of some plants with perfect truth that they are more curious than pretty it may be stated with equal exactitude of the Coluteas, or Bladder Sennas, that they are both curious and pretty. When in bloom the showy yellow flowers and graceful foliage impart a decidedly handsome appearance to the plants, whilst even the most careless of observers will tarry a moment to give another glance of something closely akin to interest at the inflated bladder-like pods in which the seeds are enclosed, and which when given a gentle pressure between thumb and finger burst with a slight report. A bed filled with fine bushy plants of C. arborescens is an interesting feature at Kew at the present time. This species is said to grow upon the crater of Mount Vesuvius, where from the natural aridity of the surroundings, vegetable life is conspicuous by its almost total absence. All the Coluteas indeed are remarkably easy of culture with us, and will grow freely in almost any situation and under nearly all kinds of circumstances. Propagation may be conducted either by seeds, which germinate freely, or by cuttings. Fine strong plants may quickly be obtained from either method.

ROBINIA VISCOSA.

A decidedly interesting plant this, although not one perhaps that is gifted with any very high degree of merit from a gardener's point of view. At any rate it is not nearly so showy as R. Pseudacacia or some of its well-known varieties. It flowers somewhat later than them, the blooms being of a soft rose colour and disposed in short, crowded, almost globular racemes. The foliage of the tree is, however, like that of most of the Robinias distinctly ornamental, and it is well worth growing on that account as single specimens on lawns, etc. It is a native of North America, and has been described in the *Botanical Magazine* under the name of R. glutinosa. It is to be seen flowering at the present time in Kew Gardens, not far from the Chinese Pagoda.

CYTISUS NIGRICANS.

A bed of this comparatively rarely met with, leguminous subject in the Pagoda vista in Kew Gardens, not far from the refreshment pavilion, is at the time of writing a very pretty object. The plants are some four or five feet in height, and nice bushy little specimens they are. The racemes are six or eight inches in length, quite erect, and carry large quantities of the rather small bright yellow flowers. The leaves are trifoliate, and, like the branches, thickly covered with short, adpressed, woolly hairs. A native of Europe the plant is perfectly hardy, and looks very well when planted in masses as at Kew, much better indeed than when it is only allowed to exist as single specimens in a mixed shrubbery. Its cultivation is of the easiest possible discription as it will grow in almost any soil or situation.

THE DAMASK ROSE.

The Damask Rose (Rosa damascena) is an old favourite, and admitted to be of great antiquity. Although it has been with us about 300 years it is still much appreciated; in fact, it is one of those good old things that will not be ousted out by the modern craze. It is, moreover, of some commercial value, for Colonel Drury states that in India it is much grown for procuring attar of Roses and Rose water. He further states it requires about 200,000 blossoms to yield the weight of a rupee in attar! Well, I suppose we ought not to grumble over this as the concoction is so largely in demand by our fair, if frail sisters, whose sweetness, it would seem, is not so unsophisticated as some would have us believe.

But it is not only the product of the Rose, but the Rose itself which constrains our attention. At Kew a circular bed near the "popular" house or conservatory has lately been a blaze of beauty. Its strong vigorous habit, free-flowering qualities, delicate tints, and sweetness of disposition mark it out as a shrub for town acceptance. How many people—would-be Rosarians—waste their substance on the more recalcitrant varieties when a species like Rosa damascena would reward their efforts. Most people are apt to assume that the Damask Rose is of a dark crimson colour, whereas the variety under present notice is of the most delicate flesh-pink. So tender, and delicate, and sweet, indeed, it is, that it has received the title of "Rose Celeste."

I do not know whether this was the Rose the poet had in his mind, or, perchance, nostrils, when he wrote:—

"Even the gods who walk the sky,
Are amorous of thy scented sigh,"

but I do know that this fragrant old-fashioned flower is well worth all the praise that has from time to time been bestowed upon it.—*Le Vert.*

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The fifty-sixth Anniversary Festival was held in the Whitehall Rooms of the Hotel Metropole on Friday last, presided over by His Grace the Duke of Fife, who was supported by the prominent workers of the fund and the *elite* of horticulturists.

The usual loyal toasts were most heartily received, due prominence being given to the facts that the Queen was patroness, and the Prince of Wales patron of the Institution.

The toast, "Continued success to the Institution," was proposed by the Chairman, who said that in these days, in spite of the universal depression, enormous sums were spent every year in charity. Last year in London alone there was disbursed by the various charitable societies and agencies no less than 5¼ millions sterling, to say nothing of the considerable amount which could not be calculated, flowing from private channels of benevolence. He believed that larger sums were spent every year in this country on charitable relief than in any other country in the world, yet unfortunately these huge sums did not bring about all the beneficial results to be wished for, because there was not sufficient concentration in the efforts. There were too many societies with similar objects in view, clashing with each other, thus increasing the cost of distribution and diminishing the amount of effective work that could be done. This, however, did not apply to the Gardeners' Benevolent Institution, as it was the only society of its kind in Great Britain. Its principal object was to assist aged and infirm gardeners by means of pensions, and it inculcated the admirable principle of self help by giving a preference to those who had subscribed to its funds. In connection with the work of a gardener one was apt to think that it was very nice and easy to arrange flowers and pick fruit, but people who knew anything at all about it understood the amount of drudgery and hard work connected with the supply of these lovely necessities, and work which unfortunately was often very poorly recompensed. His Grace concluded an excellent speech by appealing for contributions on behalf of the Institution.

In responding to the toast, Mr. George A. Dickson, of Chester, spoke in a business-like manner as to the necessity of the funds being largely augmented, instancing cases known to himself where applicants failing to secure election had died in distress and poverty before their claims could again be brought before the ballot. He spoke in highly eulogistic terms of the manner in which the work of the Institution was done, mentioning the fact that *beneficiaires* had expressed gratification at always receiving their allowances at an exact time, and they knew that the money could definitely be relied upon. Mr. Dickson read telegrams from Mr. Harry J. Veitch, the greatly respected treasurer of the fund (whose state of health unfortunately prevented his attendance at the festival), and others, regretting inability to attend, and expressing good wishes for the success of the gathering.

"Horticulture" as a toast was enthusiastically received at the invitation of Mr. W. J. Jefferies, the trade veteran from Cirencester, and was suitably acknowledged by the able and popular president of the Royal Horticultural Society, to wit, Sir Trevor Lawrence, Bart.

Mr. N. N. Sherwood (Messrs. Hurst & Son), who ranks with Mr. Harry J. Veitch as a prince of benefactors in all matters appertaining to the welfare of gardeners and the trade, proposed "The Chairman," using the happy language to which we are getting accustomed to expect from him.

At the invitation of Mr. Arnold J. Moss (Messrs. Wrench & Sons) Mr. George Munro responded for "The Stewards," and mentioned that he was never more thankful or happy in his life than on the day upon which he secured the final sum to make up the £100 odd which he had been able to collect for this festival. This was a time of centuries, and he had striven, fortunately successfully, to pass the century of pounds.

Mr. George J. Ingram, with his usual modesty, would not accept all the complimentary remarks that were made about his work, but acknowledged that this had been a very bad year for collecting, and he was pleased to see that though not perhaps a record in the amount promised and given, £1900 odd was a very satisfactory total to reach.

In addition to the amounts which we have been publishing from week to week many others were announced at the dinner, including £30 from the Duke of York, £10 10s. each from Messrs. G. Maycock, Alfred Rothschild, Edward Stern, G. W. Dawes, and Sir Trevor Lawrence; £5 5s. each from Messrs. John Lee, C. Czarnikow, The Thames Bank Iron Co., George A. Dickson, Protheroe & Morris, J. Coleman, and Wrench & Son; collected by Mr. G. Munro, £101 14s. 6d. (including nine new annual subscriptions); additional sums of £5 from Mr. George Profit and £6 from Mr. S. Osborn; £8 8s., Mr. G. J. Brakenridge; £3 3s., Mr. J. L. Withers; £90 from the William Thompson Memorial Fund; and £7 10s. as part proceeds of the third edition of the Orchid book issued by Mr. R. I. Measures.

We learn that Mr. Ingram has also received a letter from His Grace the Duke of Westminster announcing a substantial increase in his annual subscription.

We are highly gratified to learn from year to year that this noble Institution continues to flourish and prosper in spite of the depression of trade and other adverse circumstances. It has had a long career of usefulness, and in all probability has not yet reached its "prime of manhood" and serviceableness to the old and infirm gardeners of Great Britain. Before concluding his speech His Grace the Duke of Fife stated that since the establishment of the Institution nearly sixty years ago, pensions and gratuities had been granted to the amount of £65,000, and at the present moment 156 persons, including 77 men and 79 women, were in receipt of assistance from its funds, and other pressing cases were still on the list waiting for election. The pensions for men had been raised to £20, and for women to £16. We urge upon all gardeners to remember the fact that by subscribing a guinea annually to the funds, so long as they are able, they are actually laying past something for themselves against the proverbial rainy day, by making their election more and more certain by every guinea they subscribe.

SOCIETIES.

Royal Agricultural, *June 24th to 28th.*—The fifty-sixth country meeting of this Society was held at Darlington on the five days included in the above mentioned dates, and from all accounts was a great success, with exception perhaps of the unfavourable nature of the weather, which prevented the gathering from being so large as it would otherwise have been. Farmers and horticulturists in the north will have reason to be thankful for the heavy falls of rain which (independently of the show) must have done a great deal of good in spite of the temporary inconvenience. The horticultural interest was largely represented in the shape of seeds, implements and other matters pertaining to gardening. The first object of interest on entering the show ground was the "Royal Stand" of Messrs. Sutton & Sons, Reading. This was shown at Windsor in 1889, and comprised a suite of offices of solid English Oak and Walnut, and contained a very large collection of grasses, seeds, roots, Potatos, flowers and other objects of utility and interest, including Mangolds and Swedes for agricultural wants. The firm also exhibited forty varieties of Potatos, including A1, Supreme, Windsor Castle, Early Regent, Satisfaction, Magnum Bonum and others, notable for their disease-resisting qualities. Here also was an exhibit of the Gloxinias, for which the firm is celebrated, as well as a display of Lilium Harrisii, Ixias, Gladioli and other summer-flowering bulbs. A large case of 146 medals, won by the firm, and numerous photographs of Sutton's Royal Seed Establishment at Reading were also exhibited.

Messrs. W. Richardson & Co., North of England Horticultural Works, Darlington, showed a well fitted example of a span-roofed ornamental conservatory, 24 ft. by 18 ft., including fixing in the neighbourhood. A half-span patent Vinery, 35 ft. by 16 ft.; a span-roofed greenhouse, 25 ft. by 15 ft.; and a span-roofed forcing house, 30 ft. by 12 ft., of an equally substantial character and finished workmanship, were also displayed at their stand. Amongst other exhibits from the same firm were "The Darlington" wall cover, samples of wall protectors, greenhouse blinds of various types, numerous garden frames, a large number of hot-house boilers, hot water fittings, radiators, and other heating apparatus and appliances for which the firm is celebrated. From the works of Messrs. Richardson & Co. there have been sent out for nearly a quarter of a century to every part of the kingdom—indeed, to most parts of the world—everything from a humble garden frame to a palatial winter garden. Messrs. Dickson, Limited, Chester, exhibited collections of seeds of grasses, clovers, growing specimens of natural grasses, dried and mounted specimens of the same, also seeds of weeds found in uncleaned samples of farm seeds and various other objects. Messrs. Harrison & Sons, Market Place, Leicester, showed specimens of growing vegetables, grasses, farm roots, etc. Messrs. Dickson, Brown & Tait, Corporation Street, Manchester, showed collections of dried grasses and clovers, Potatos, and grasses and clovers in growth. Messrs. Ransomes, Sims & Jefferies, Limited, The Orwell Works, Ipswich, had a large collection of agricultural implements, including a large number of lawn mowers, edge cutters and a sweeping machine.

Mr. Conway G. Warne, Limited, Royal Potteries, Weston-super-Mare, had vases and other kinds of pottery. Messrs. John Crowley & Co., Limited, Meadow Hall Iron Works, near Sheffield, showed several lawn mowers, etc. Messrs. Barford & Perkins, Queen Street Iron Works, Peterborough, also showed lawn mowers amongst their numerous exhibits. Messrs. Geo. Cotton & Co., Willaston, Crewe, showed a patent Potato sorter. Garden syringes, amongst many other subjects were shown by Messrs. Sinclair & Co., 19, Eldon Street, London. Garden vases and numerous garden seats and chairs were shown by Messrs. Vipan & Headly, Church Gate Iron Works, Leicester. Hose piping and garden hose reel, etc., were shown by the British Engineering Co., Limited, Lombard Street, Birmingham. Hand seed drills and other implements were shown by Mr. Robert Roby, St. Andrew's Iron Works, Bury St. Edmunds. Grass mower, "Ideal," etc., were shown by Messrs. A. & J. Main & Co., Corn Exchange Buildings, Edinburgh. Messrs. Strawsons, Limited, 77, Queen Victoria Street, London, exhibited several Potato spraying machines, some patterns of the "Strawsonizer" fruit tree sprayers, knapsack sprayers, and a variety of insecticides. Messrs. Wm. Glover & Sons, Limited, Eagle Works, Warwick, showed watering carts,

artificial manure spreaders, garden seats, etc. Carts for water or liquid manure were shown by Messrs. Thomas Baker & Sons, Compton, Berks. Diagrams of insects injurious to various garden and orchard crops, as well as illustrations for the teaching of horticulture, were shown by Messrs. W. & A. K. Johnston, 5, White Hart Street, Warwick Lane, London, and Edinburgh. Messrs. Wrinch & Sons, St. Lawrence Works, Ipswich, set up a conservatory, span-roofed greenhouse, garden tables, seats, chairs, etc. Garden summer-houses, etc., were shown by the Expanded Metal Co., West Hartlepool, Durham. Garden frames and galvanised wire netting and garden chairs were shown by Messrs. Barnard, Bishop & Barnards, Limited, Norwich. Rustic houses, chairs, etc., were shown by Messrs. Henry & Julius Cæsar, Knutsford, Cheshire, and London. Messrs. Headley & Edwards, Corn Exchange Street, Cambridge, exhibited garden seats, awnings, hose reels, etc. Summer-houses were set up by Messrs. Inmans & Co., Stretford, Manchester.

Messrs. James Carter & Co., High Holborn, London, exhibited specimens of Peas, Beans, Carrots, Onions and Parsnips of their own introduction, also tested grass and clover seeds in growth, as well as seeds of various kinds for agricultural husbandry. Messrs. Edward Webb & Sons, Wordsley, Stourbridge, had a large collection of seeds, roots, grasses, cereals and various other farm seeds, as well as high-class vegetable and flower seeds and lawn grass seeds. Cut flowers of seasonable plants, choice Coniferae, etc., were shown by Messrs. Kent & Brydon, Darlington. Fruit trees, Roses, lawn grass, etc., were shown by Messrs. Dickson & Robinson, Manchester. Ornamental trees and shrubs, fruit trees and garden seats were shown by Messrs. Little & Ballantyne, Carlisle. Similar subjects were exhibited by Messrs. Wm. Fell & Co., Hexham. Garden engines, "Kew" pattern, fruit picking ladders, etc., were shown by Messrs. J. H. Heathman & Co., Endell Street, London. Artificial manures of sorts were shown by the Adams' Manure & Chemical Co, Limited, Fenchurch Street, London. Lawn mowers in great variety were shown by Messrs. Thos. Green & Son, Limited, Leeds; and by Messrs. Follows & Bate, Limited, Gorton, Manchester. Garden fences and railings were shown by Messrs. Francis Morton & Co., Limited, Garston, Liverpool. Galvanised wire fencing, garden chairs, etc., were shown by the Economic Fencing Co., Billiter Street, London. Wire fencing, tree guards, etc., were shown by Messrs. T. W. Palmer & Co., Victoria Street, Westminster, London. A collection of hose piping of different sorts was shown by Mr. Andrew Potter, Melbourne Works, Wolverhampton, Staffs. Specimens of Apple and Pear trees, Gooseberry bushes and Strawberries were exhibited by Mr. John Watkins, Pomona Farm Nurseries, Withington, Hereford. Messrs. Tomlinson & Hayward, Mint Street Chemical Works, Lincoln, exhibited drums and casks of the weed killer "Eureka," and various other preparations. Mr. Joseph Bentley, Barrow-on-Humber, Hull, had exhibits of a similar nature, including Bentley's Weed Killer.

Royal Oxfordshire Horticultural, *June 25th.*—The Oxfordshire Commemoration Flower Show has a very respectable record, as may be gathered when it is stated that the one held on Tuesday of the above date represented the sixty-sixth annual event of its kind. This year the time-honoured show was held in Trinity College Gardens, where the expansive lawns and the well-known "lime tree walk" figure as prevailing features, and now through climatic influence display a conspicuous contrast of colour which, however, overdue rains may speedily dispel with satisfaction to those concerned in their management. The two large marquees placed on the north lawn contained the major portion of the productions, vegetables being afforded a suitable position on tables disposed in the shade of the lime trees. In the classes, "Open to all England," that for nine stove or greenhouse plants as usual formed a very attractive display, the specimens staged being similar to those we are accustomed to meet with at the important shows. The exhibit of Mr. James Cypher, Cheltenham, who occupied the leading position, contained Darwinia macrostegia, Bougainvilla glabra, Ixora Williamsi and I. regina, Phaenocoma prolifera Barnesi, Clerodendron Balfourianum, Pimelea dioscmaefolia and Anthurium Scherzerianum. J. Marriott, Esq. (gardener, Mr. W. Finch, Coventry), was second with a group comprising a fine specimen of Kalosanthes coccinea, full four feet across, Statice profusa, Sobralia macrantha, and Dracophyllum gracile. The third prize went to Mr. W. Vause, Leamington, for a most creditable group, his best specimens being Ixora Williamsi, I. Prince of Orange, Erica ventricosa grandiflora, Stephanotis floribunda, and Allamanda Hendersoni. For six foliage plants there were some thirty specimens of Palms, Cycads, and Crotons. Mr. Cypher was again placed first for Palms, Mr. Vause was second, and J. Marriott, Esq., took the third place. Mr. C. Turner, Slough, took the premier award for Pelargoniums with compact examples of Claribel, Sister of Mercy, Royal Ascot, Pelican, Amethyst, Black Diamond, and Ambassadress. Mr. J. Johnson, Garsington, whose group of nine varieties was most creditable and showy, took the second place. He was also very successful with single zonal Pelargoniums. The Orchids in the open class were limited to the exhibit of Mr. Cypher, whose nine specimens included remarkably fine pieces of Laelias, Cattleyas, Vandas, Miltonias, Cypripediums, Sobralias, Thunias, and Epidendrums. In the cut flower section the dinner table epergnes were most beautiful arrangements, Mr. Mattock scoring a premier in the class for three pieces, most tastefully posed; the second prize exhibit by Mr. C. Bates being very good, but scarcely so airy in the posing of flowers. The "tables decorated and laid as for dinner" on space six feet by four feet proved a feature of interest, Mr. Mattock occupying the post of honour, the second card going to Mr. Vause, whose general arrangement was somewhat marred by the button-hole vases being a shade heavy. The cut Roses in competition numbered about 600 blooms, Mr. G. Prince securing the premier award for twenty-four varieties, three blooms of each. These were principally tea-scented, among the best forms were Lady M. Fitzwilliam, Niphetos, Souvenir de S. A. Prince, Sou. d'un Ami, Catherine Mermet, Marechal Niel, Hon. Edith Gifford, Sou. d'Elise Vardon, and Mad. Cusin: the best hybrid perpetuals being Gen. Jacquiminot, Horace Vernet, Marie Baumann, and Prince Camille de Rohan. Mr. Mattocks, New Headington, proved a good second. The class for two dozen single trusses proved a much keener competition, the first prize going to the Rev. J. H. Pemberton, Havering, Essex (one of the champion amateur rosarians of the day), whose flowers, though full, showed signs of having come a long journey. Messrs. Townsend and Sons, Broadheath, Worcester, were second.

In the members' classes there were a good few specimen stove and greenhouse plants in flower. John Parsons, Esq. (gardener, Mr. J. Harris), Tubney House, Abingdon, took the first prize for six specimens. Mr. J. Mattock had the best six foliage plants, the best specimen stove plant in flower and the best greenhouse one. Mr. C. B. Anstey, Marlborough Road, had the best ornamental plant and the best hardy plant in bloom. E. A. Bevers, Esq., Broad Street, took the first award for Orchids; and J. Parsons, Esq., was equally successful with Gloxinias and Coleus. Mr. J. Johnson took the leading prizes for show and zonal Pelargoniums, a group of tuberous Begonias, and six exotic Ferns. Mr. J. Walker, Thame, had the best nine British Ferns; and Mr. F. Cross, Chilswell, had the best six. Mrs. S. Wootten-Wootten had the best Selaginellas. In the class for twenty-four varieties of Roses Mr. G. Prince again came to the front, followed by Mr. J. Walker and Mr. J. Mattock in the order named. The latter had the best eighteen varieties and Dr. Bywater Ward (gardener, Mr. W. White), Warneford Asylum, was second. Pinks, Pansies, Irises and other hardy perennials helped largely to brighten up the show. Fruit was not very largely represented, but vegetables were a surprise to most people on account of quantity and quality. Mr. S. Brown, Aynho Park Gardens, had the best white Grapes, Peaches and Nectarines. A. Harcourt, Esq. (gardener, Mr. A. G. Nichols), Nuneham Park, had the best Black Grapes and Strawberries. Mr. T. Lockie, Diddington Hall Gardens, Huntingdon, had the best Pineapple, Melon and Cucumbers. Mr. W. Coppock, Headington Quarry, was first for Cherries; and Mr. J. R. Tranter had the best Tomatos. The vegetables for competition comprised fine examples of Peas, Cauliflower, Carrots, Potatos, Beans, Cabbages, Lettuce and Rhubarb. The cottagers also showed fairly well considering the droughty season; but pressure on our space prevents detail.

Mr. H. Deverill, Banbury, had a collection of vegetables in the non-competitive class. Awards were also made to Mr C. Turner, and to Mr. W. G. Baker, Curator, Botanic Garden, Oxford, for exhibits of plants and flowers; also to Mr. J. Anderson, Eynsham Hall Gardens, and to Mr. F. Thompson, Bignell Gardens, Bicester, for vegetables. Amongst the "extra productions" was a collection of Carnations staged by Mr. Thos. Whillans from the Duke of Marlborough, Blenheim Palace, including both named and seedling varieties of the perpetual flowering race. Three blooms of a clear yellow seedling were very conspicuous, being as large as Malmaisons, and were accorded a First-class Certificate of Merit under the appropriate name of Admiration.

National Rose.—The south provincial meeting of the National Rose Society, in conjunction with the Gloucestershire Rose Society, was held on the 27th ult. in the park grounds, Gloucester. The exhibition was a very fine one, the entries being numerous and the quality of the Roses excellent. The Mayor of Gloucester entertained a large party to luncheon at the Guildhall, and previous to this he, together with the City High Sheriff, the Mayor of Cheltenham, and a large number of members of the Corporation, visited the show in state, the Mayor of Gloucester declaring it open. He said he had been told that this year's show exceeded in quality and number of exhibits the Windsor show of last year. Gloucester had reason to be proud of welcoming the National Rose Society; and, referring to the local society, the Mayor said that since the first exhibition held in 1888, progress had been made year by year. The show was largely visited during the afternoon and evening. In the extra class, open to all amateurs, first prize and silver cup were awarded to the Rev. J. H. Pemberton, Romford, Essex; Mr. E. B. Lindsell (Hitchin) secured second prize; Mr. James Parker (Hitchin) was third, and Mr. W. Drew (Ledbury) fourth. Mr. Conway Jones (Gloucester) gained the first prize (a silver cup, presented by Messrs. J. Jefferies and Son, Cirencester) in the class open to amateurs residing within twenty miles of Gloucester, for eighteen distinct single trusses. The silver medal for twelve distinct trusses, also given by Messrs. Jefferies, was won by the Rev. J. Fulford (Newnham). The Corporation cup in the extra class, open only to amateurs residing within five miles of the Guildhall, Gloucester, went to Mr. Conway Jones, for twelve distinct single trusses; while the second prize was awarded to Mr. Chas. Brown, Saintsbridge, and the third to the donor (Mr. T. A. Washbourn). The four medals given by the society were awarded to the following: Amateurs—for the best Rose other than Tea or Noisette, the Rev. J. H. Pemberton; for the best Tea or Noisette, the Rev. A. F. Melliar, Ipswich; while Messrs. Harkness and Sons, Bedale, Yorkshire, and Mr. Frank Cant, Colchester, secured the medals for nurserymen.

Windsor, Eton, and District Rose and Horticultural, *June* 29th. The morning of this show opened with leaden skies a slow rain and the appearance of a heavy fall, but fortunately for the occasion it soon cleared up and there was a large gathering of people in the afternoon. By permission of Her Majesty the Queen, the show was held in the Home Park, Windsor, right under the walls of the Castle in a most romantic and beautiful spot for a flower show. Many of the Roses were really fine notwithstanding the long continued drought, and they together with the groups miscellaneous and otherwise were the leading and most attractive features of the exhibition. Several pretty groups were entered in the competitive class, and the first award was taken by Sir Robert Harvey, Bart. (gardener, Mr. A. Gillies), Carnations, Francoas, Campanulas, Oncidium Lanceanum and other Orchids stood up gracefully above the Adiantums. Henry Gold, Esq. (gardener, Mr. D. Phillips), took the second rank; and N. L. Cohen, Esq. (gardener, Mr. A. Sturt), and F. Richards, Esq. (gardener, Mr. J. Williams), were equal third. All the groups were arranged upon the grass round the sides of the tent and were effective. In the class for thirty-six distinct

single trusses of Roses; Mr. B. R. Cant, Colchester, carried off the premier award against six other competitors. Splendid blooms were Marchioness of Dufferin, A. K. Williams, Gustave Piganeau, Mrs. John Laing, Madame Eugene Verdier, Caroline Testout, La Boule d'Or, Medea, and White Lady. Messrs. Harkness & Sons, Bedale, Yorks., took the second place with smaller blooms, but generally in fresh condition. Messrs. D. Prior & Son, Myland Nurseries, Colchester, were third. In thiss class Mr. Frank Cant, Colchester, took the Prize Medal for the Rose Marchioness of Dufferin. Messrs. D. Prior & Son, took the leading award in the class for eighteen varieties of Tea or Noissette Roses. Some of the finer blooms were Madame Bravy, Marie Van Houtte, Catherine Mermet, The Bride, Souvenir d'Elise Vardon and Cleopatra. Mr. Frank Cant was a good second, and Mr. B. R. Cant took the third place with smaller blooms.

The Rev. J. H. Pemberton took the leading award for twelve varieties in trusses of three, and many of them were really splendid, including Her Majesty, Caroline Testout, A. K. Williams, and Ulrich Brunner. There were seven entries. Messrs. Harkness & Sons took the second place with a very good exhibit; and they were followed by Mr. B. R. Cant, whose blooms were fine but a little past their best. In the class for eighteen distinct varieties, the Rev. J. H. Pemberton again came to the front, with fine blooms of Marie Baumann (which took the Prize Medal for a single bloom in the amateurs' classes); also Gustave Piganeau, Her Majesty, and Mrs. J. Laing. J. Gurney, Esq., South Woodford, took the second place with small and fresh blooms; and C. Romaine, Esq. (gardener, Mr. J. Guttridge), was third. The Rev. J. H. Pemberton had the best six trusses of one kind in A. K. Williams. H. V. Machin, Esq., was second with La France, and Briginshaw, Esq., was third. H. V. Machin, Esq., came to the front in the class for twelve Tea or Noisettes, and some of the flowers were very sweet. Mr. R. E. West, Reigate, was a good second; and C. Romaine, Esq., was third. N. L. Cohen, Esq., took the first prize for eighteen blooms distinct, and several of them were choice and fresh. A. Gilleal, Esq., second; and Mrs. Goldingham (gardener, Mr. E. J. Tomlin), was third. N. L. Cohen, Esq., again came to the front for twelve varieties, some of which were of fine size. Miss Bailey Denton (gardener, Mr. Winkfield), took the second award; and F. Ricards, Esq., came in third. There was a strong competition in this class. The best six blooms came from the Manor Farm Cottage Gardens (gardener, Mr. C. A. Johnson). H. Briginshaw, Esq., was second, the third being taken by Mrs. Irving (gardener, Mr. T. Elisha). Sir Robert Harvey, Bart., had the best six blooms of one sort in La France. N. L. Cohen, Esq., had the best six blooms of a Tea in Innocente Pirola. The Dowager Duchess of Sutherland (gardener, Mr. T. Crook) had the best six Teas. Baskets of Roses were fine, and the first prize was taken by Mrs. F. Heneage. Mrs. Irving had the best six bunches of garden Roses, which were massive and attractive. Mrs. D. Heneage had the first prize for zonal Pelargoniums. The Hon. C. S. Irby had the best Fuchsias. Sir Robert Harvey, Bart, was first for specimen plants. F. Ricards, Esq., took the first prize for Begonias.

Fruit and Vegetables were fairly plentiful for this early period of the year. L. Baker, Esq. (gardener, Mr. T. Osman), Ottershaw Park, Chertsey, took the first prize for black grapes with Black Hamburgh, which were the best finished bunches in the show. N. L. Cohen, Esq., was second, and Miss Arnott (gardener, Mr. T. Machin) came in third. For white Grapes, N. L. Cohen, Esq., L. Baker, Esq., and Sir Robert Harvey, Bart., took the prizes in order named. Major Legge Fulmes (gardener, Mr. J. G. Mowbray), had the best Peaches, and N. L. Cohen, Esq., had the best Nectarines. Mrs. Irving had the best Strawberries. Some prizes were offered by Messrs. Sutton & Sons, Reading, for Melons, and Mrs. Burton (gardener, Mr. W. Wicks) took the first award. Mr. D. Paxton had the best collection of Vegetables, and A. L. Ridge, Esq. (gardener, Mr. Lane), had the best Tomatoes. Some prizes for a collection of Vegetables were offered by Messrs. J. Carter & Co., High Holborn, and the first award was accorded to Mr. G. Quelch.

In the miscellaneous class a bold and effective group was exhibited by Her Majesty the Queen (gardener, Mr. Owen Thomas), from the Royal Gardens, Windsor. A couple of large Kentias occupied the centre, round which were grouped smaller Palms, a massive plant of Alocasia Thihoutiana, and lavishly intermixed with well grown samples of Lilium Harisii, L. auratum, and Hydrangeas, with massive panicles of bloom. Round the sides and near the ground line were beautifully dwarf plants of Spiraea palmata, S. astilhoides, yellow Marguerites, Gloxinias, Cladiolus The Bride, and Kalosanthes coccinea. The yellow Crotons, both narrow and broad-leaved, were notably conspicuous. A large and showy table of herbaceous plants was exhibited by Messrs. J. Veitch & Sons, Chelsea. In the centre was a massive bank of Delphiniums in great variety, and elsewhere the Phloxes, Everlasting Peas, Verbascum Chaixii, Bupthalmum speciosissimum, and others gave the collection a fresh and attractive appearance. Cut Roses were also conspicuous and in fresh condition. Mr. C. Turner, Slough, exhibited a fine group of Carnations in yellow, crimson, scarlet, pink, white, and other shades. This group had a broad margin of cut Roses in baskets, set in a ground work of Adiantum. He also had a group of Lilies and Palms, and another of Pelargoniums of the show and fancy classes, all finely flowered. Messrs. J. Laing & Sons, Forest Hill, exhibited a collection of stove and greenhouse plants, intermingled and brightened with tuberous Begonias (single and double), Carnations, Orchids, and Gloxinias. Messrs. John Peed & Sons, Roupell Park, Norwood Road, showed a wonderfully bright and effective group of well-coloured Caladiums, interspersed with Hydrangea paniculata grandiflora, Liliums, Orchids, and Gloxinias in beautiful colours. The firm also set up a collection of herbaceous plants on two side tables. The Iceland Poppies, Campanulas, and others were fine. A bank of Malmaison Carnations occupied the opposite face of the group of Caladiums. Some wreaths were shown by Mr. W. H. Titt, Thames Street, Windsor. In the Rose tent a long table of tuberous Begonias was exhibited by Mr. T. S. Ware, Hale Farm Nursery, Tottenham. The variety Queen Victoria resembled a salmon-pink Carnation, and other fine double sorts were Golden Empress, Messrs. Arthur Pitts, Princess May, Claribel and the pure white Mrs. John Fowler. A collection of hardy herbaceous plants was exhibited by Mr. B. Ladhams, The Shirley Nurseries, near Southampton. Delphiniums, Phloxes and many others were fine. Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, had also a showy collection of Delphiniums, Lilies, Carnations, Pinks, hardy trees and shrubs and many others but there was not sufficient space to display them. They also showed four large boxes of Roses in fresh condition. A group of stove and greenhouse plants, wreaths, bouquets and other devices, was staged by Mrs. Phippen, Reading. A group of plants was also staged by Mr. John Smith, Windsor. A splendid collection of Sweet Peas in tall glasses was staged by Mr. H. Eckford, Wem, Shropshire. The varieties were in splendid perfection including such as Little Dorritt, Mrs. Eckford, Lady Harlech, Crown Jewel and a new seedling with pale primrose flowers, the standard of which was overlaid with a delicate lilac. The delicacy of tints and harmony of colours were charming.

Obituary.

We deeply regret to record the death, by his own hand, on the morning of the 26th ult., of Mr. Samuel Alexander Mellors Woods, gardener to F. J. S. Foljambe, Esq., Osberton Hall, Worksop. Mr. Woods, an old Chatsworth man, was one of the most capable and one of the most respected members of his craft in the "Dukeries," and his sad end has created the deepest feelings of sorrow and regret among a wide circle of friends. It seems that last year his previously superb house of Black Hamburgh Grapes shanked badly, and was the cause of a great deal of worry and anxiety to him, and from the evidence given at the inquest, held on the 27th ult., it would appear, to use his own words, that they had "gone wrong again," and the calamity so preyed upon his mind that he took a dose of "Wasp Destroyer" and died shortly afterwards. The coroner's jury returned a verdict "That deseased poisoned himself by 'Wasp Destroyer' whilst in a state of unsound mind." Mr. Woods had been at Osberton about 18 years, and was 51 years of age.

Questions and Answers.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

Wilson Jun. Blackberry.—*M. M'L.*: As far as this country is concerned we are afraid this Blackberry has been greatly over-rated. In any case we have not heard of it being very successful anywhere, while it has been much planted and has often failed much in the same way as you state. In order to make the shoots ripen with a view to pass the winter safely, the roots might be planted in narrow borders restricted by means of brickwork to prevent them from rambling in fertile soil. One or two plants only could be treated in this manner by way of experiment. We hope you have been successful in crossing it with the Salmon Berry, and should be pleased to learn the results.

Compost for Begonias.—*R. M.*: Peat is the poorest material that can be used. Leaf mould is much better; but by using three-parts of good fibrous loam, one part of leaf mould, and sufficient sand to keep the whole porous and open you will get much greater satisfaction. Pot firmly and water carefully until the roots have got hold of the fresh soil and begin to grow away freely. Liquid manure should not be given until the fresh soil is well permeated with roots, though the plants need not and should not be pot bound before you commence feeding. By treating your plants in this way and keeping them well exposed to light and freely ventilated they will grow away steadily and flower continuously all through the season.

Cherry Tree Dying.—*H. S.*: It is a frequent malady to which not only Cherry trees but all other stone fruits are liable, some more than others. There is no remedy for it. Next autumn at planting time the place of the tree should be supplied with a young one. We should not, however, plant it in the same position, but give it fresh ground.

Yellow Chrysanthemums.—*Soton*: The Chrysanthemum you saw is not a yellow Marguerite if by that you mean Chrysanthemum frutescens. On the contrary it is a semi-double and golden-yellow variety of the annual Chrysanthemum coronarium largely grown in pots for market purposes. We have never heard any special name for it, and believe it is chiefly in the hands of the market growers. The plants we inspected appeared to have been grown from cuttings and had been stopped twice to make them bushy. It is effective chiefly on account of its bright colour; hence the use made of it such as you mention.

Maggots on Cauliflower.—*R. C.*: Your plants are infested with the grubs of the Cabbage fly (Anthomyia brassicae), far too common this year in many districts to the regret of many gardeners. Unless the plants are on the point of flowering you cannot expect them to do so later on. The best plan, therefore, would be to lift all young plants that are flagging badly, destroying the grubs about the roots and thereby lessening the attack that will be renewed later on and in autumn. Those plants that are approaching the flowering stage may have the soil scraped away from the base and the grubs destroyed. When the soil is dug in autumn give it a good dressing of gas lime to destroy the pupae. Trenching the soil in autumn or winter would be even more effectual in burying the pupae.

Names of Plants.—*G. L.*: Trichopilia Galeottiana.—*D. Mackie*: 1, Sedum Rhodiola; 2, Geranium nodosum; 3, Euphorbia amygdaloides; 4, Malva moschata alba (The White Musk Mallow).—*H. J.*: 1, Sidalcea malvaeflora; 2, Erigeron aurantiacus; 3, Erigeron mucronatus; 4, Salvia pratensis.—*W.H.*: 1, Geranium pratense; 2, Lathyrus rotundifolius; 3, Iris xiphioides; 4, Mertensia sibirica.—*Stuart*: 1, Achillea mongolica; 2, Polemonium Richardsoni; 3, Hieracium aurantiacum; 4, Doronicum Pardalianches; 5, Geranium ibericum; 6, Lupinus polyphyllus; 7, Sidalcea candida; 8, Campanula glomerata; 9, Campanula persicaefolia; 10, Centaurea montana rubra; 11, Centaurea montana alba; 12 Delphinium exaltatum var.

Names of Fruits.—*J. C. S.*: Apple not known.—*H. W.*: The Cherry is some variety of Bigarreau.

Communications Received.—Bourse de Commerce of Paris.—W. B. G.—W. G. B.—Royal Gardens, Kew.—J. Bryson.—A. Pentney.—Longmans & Co.

TRADE CATALOGUE RECEIVED.

Ant. Roozen & Son, Overveen, near Haarlem, Holland.—Catalogue of Dutch and Cape Bulbs, etc.

LONDON SEED TRADE.

July 2nd, 1895.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report some speculative trade in French Trifolium incarnatum, but in the absence of reliable samples no general trade is being done. Quotations remain unchanged. Mustard and Rape steady. Canary dull.

Insects on Plants and Fruit Trees cheaply cleared by Calvert's Carbolic Soft Soap, if used as directed on label. The best preparation. Highly recommended by users. 1 and 2 lb. jars, 1s. and 2s. each; 4 and 7 lb. tins, 3s. and 5s. each. At chemists, &c., or tins post free for value.—F. C. CALVERT & CO., Manchester.

COVENT GARDEN MARKET.

July 3rd, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples.....per bnshel		
Nova Scotia Apples per barrel	12 0	21 0
Cob Nuts and Filberts, per 100 lbs.		
Cherries, half sieve	3 6	8 0
Currants ...half sieve	3 0	3 6
Grapes, per lb.	6	2 0
Pine-apples. —St. Michael's each	2 6	6 0
Strawberries	0 2	0 6
Peaches ..... per doz.	3 0	12 0
Tasmanian Apples, per case	8 0	11 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus, per bundle	1 6	4 0
Beans, French, per lb.	1 0	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 6
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Small salading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	6 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Eucharis ...per doz.	4 0	6 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	4 0	6 0
Iris, doz. bun.	3 0	6 0
Lilac (French) per bch.	4 6	5 0
Lilium lancifolium per doz.	4 0	6 0
Lilium longiflorum per doz.	3 0	4 0
Lilium candidum, per bch.	1 0	2 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.	1 0	2 0
Pelargoniums, 12 bun.	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Ranunculus, doz.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	1 0	2 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 0	2 0
Red Roses	3 0	6 0
Pink Roses	5 0	7 0
Roses (French) Moss, doz.	1 0	1 6
Roses (French) red, doz. blooms. ...	1 0	1 6
Smilax, per bunch ...	5 0	6 0
Stephanotis, doz. sprays	1 6	2 0
Tuberoses, doz. blooms	0 4	0 6

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.	18 0	36 0
" specimen plants	5 0	10 6
Cineraria, per doz.	4 0	8 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, in var. doz	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Fuchsia, per doz.	6 0	9 0
Heliotrope, per doz.	6 0	8 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	8 0
Lobelia, per doz.	4 0	6 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	4 0	6 0
Marguerite Daisy doz.	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	15 0
Rhodanthe, per doz.	4 0	6 0
Scarlets, per doz.	3 0	9 0
Stocks, per doz.	4 0	6 0

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when writing to the Advertisers.

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FLOWER SHOW FIXTURES, 1895.

July.

9.—R.H.S. Drill Hall Meeting and Rose Show.
9.—Ipswich Rose Show.
9, 10, 11.—Wolverhampton Floral Fete
10.—Farnham Rose Show.
10.—Hitchin Rose Show.
10.—Royal Botanic Society's Evening Fete.
10.—Reigate Cottagers' Flower Show.
10.—Chelmsford Rose Show.

FLOWER SHOW FIXTURES.—*Continued.*

10.—Redhill Rose Show.
11.—Bath Rose and Begonia Show.
11.—Helensburgh Rose Show.
11.—Hereford Rose Society's Show at Great Malvern.
11.—Woodbridge Flower Show.
11.—Worksop Rose Show.
13.—Galashiels Flower Show.
13.—Wood Green Flower Show.
17.—National Rose Society at Derby.
18.—Halifax Rose Show.
18.—Canterbury Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24.—Chesterfield Rose Show.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).
31.—Woking Flower Show (2 days).

August.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
3, 5.—Liverpool Rose Show.
5, 6.—Northampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
8.—Great Grimsby Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.
28, 29.—Bath Autumn Show.

September.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

October.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29.—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days)

November.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.

November.

16.—Bacup Chrysanthemum Show
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.
29, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

December.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10.—R.H.S. Drill Hall Meeting.

[The Editor will be greatly obliged if Secretaries will kindly forward the dates of their Society's Shows as soon as fixed, for inclusion in the list.]

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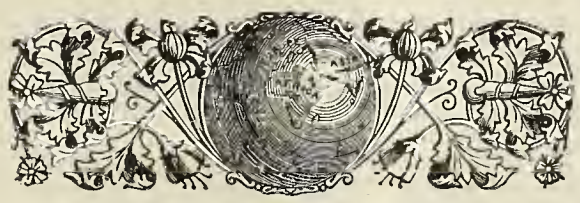


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 13th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 16th.—Sale of imported Orchids at Messrs. Protheroe & Morris' Rooms.

WEDNESDAY, July 17th.—National Rose Society's Show at Derby.

THURSDAY, July 18th.—Rose Show at Halifax and Canterbury.

FRIDAY, July 19th.—Sale of imported and established Orchids at Messrs. Protheroe & Morris' Rooms.

SATURDAY, July 20th.—Rose Show at Old Trafford.

THE LATE PROFESSOR HUXLEY.—The great champion of science, who died at his house at Eastbourne on the 29th ult., was best known to most people as Professor Huxley, but his full name was the Right Hon. Thomas Henry Huxley, to which was added a long string of titles, won during his active career in the field of science. He was born at Ealing on the 4th May, 1825, when that busy place was a quiet village. His school career at Ealing was neither long nor very profitable. In speaking of himself he said that "physically and mentally" he was the son of his mother, "a slender brunette, of an emotional and energetic temperament." He continued to pursue his studies after leaving school and in casting about for an occupation he was ultimately appointed assistant surgeon of the *Rattlesnake* late in 1846, in which capacity he went on a cruise of four years for the purpose of surveying the intricate passage within the Barrier Reef on the north-eastern coast of Australia. His career practically commenced much in the same way as that of Darwin, and it was the best apprenticeship which he could have had to the work of his life. During the voyage the biologist in Huxley dominated the doctor, for he busied himself on the marine animals collected. A paper he sent to the Linnean Society did not find acceptance, but a more elaborate treatise on the same subject to the Royal Society was published, and his name and fame in the field of science was practically made.

In 1858 Charles Darwin and Alfred Russel Wallace simultaneously laid their great theory of Natural Selection before the Linnean Society and in November, 1859, Darwin's "Origin of Species" was published. The effect of the speculations and conclusions of those naturalists on Huxley was profound: and from that date he became the leading man in the promulgation of the biological law of evolution. Sir Joseph Dalton Hooker and Huxley amongst eminent scientific men were in the foremost rank of those who gave the new idea a whole-hearted acceptance. Speaking of Huxley it has well been said that the disciple out stripped his master, for Darwin did not at first push his theory to its obvious conclusion. Huxley did not, however, neglect to point out the limitations of the theory, and that much had yet to be done in the way of experiments of variation and the effect of external conditions. He also maintained that the evidence of palaeontology and embryology so strongly supported the idea of organic evolution that "if all the conceptions promulgated in the 'Origin of Species' which are peculiarly Darwinian were swept away, the theory of the evolution of animals and plants would not be in the slightest degree shaken."

For many years there was a great upheaval in the world of thought, and fierce battles of criticism, dispute, and heated discussions were fought in various parts of the kingdom. This of course is always to be expected if any original idea of far reaching importance is placed before the world. Both at home and on the Continent the philosophers of the old school, as we shall now term them, were up in arms and wordy contention against the theory of evolution. Thirty-six years ago few if any could have conceived what a change of front amongst scientific men all over the world could have taken place as exists at the present day amongst intelligent and enquiring minds of all classes of society. Huxley has the great distinction, more than any other, of promulgating the biological law of evolution, by the practical working out and demonstration of the same. Englishmen may with gratification remember that the enunciation and establishment of the greatest speculative theory of the age was wholly English.

Darwin entered more fully into the discussion of the subject in relation to plant life; but although Huxley confined himself to that branch of biology which deals with the subject from a zoological standpoint, we may nevertheless bear in mind that the two sections of natural history—botany and zoology—are collateral branches of science having much in common and much that is closely akin. The new light brought to bear upon them has greatly modified and altered the whole system of teaching. Though we may fully understand what is meant by the "physical basis of life," yet the "secret of life has never been discovered." The professors of either branch of science just indicated are fully aware of this, but none were more ready than they to admit the limits and imperfections of human knowledge. These limitations must always remain, as far as we can see or predict; but that need not in any way lessen our zeal in the prosecution of enquiry in the vast field of the unknown that still lies before us waiting for exploration, so that in the fulness of time we may turn the results to practical account in the advancement and forward march of everything that tends to the betterment of our fellow men.

The world cannot have too many Huxleys of the same stamp as the Professor who has just passed away; and we might rest assured that if some of them devoted their energies to the prosecution of the study of plant life, that some, nay much tangible and practicable benefit would ultimately result to the humble cultivator of plants. The new teaching could be

turned to advantage in the advancement of gardening in many ways and possibly in ways and methods of which we have not yet dreamed. It is worse than idle to rest and maintain an attitude that we already know as much as science can tell us, for future generations say a hundred years hence—will probably look upon our methods as antiquated and old fashioned, just as we regard those of our ancestors a century ago, in many respects. For instance the new teaching has already been a great guide to us in the improvement of cultivated plants by hybridisation, cross-breeding and selection. It is our own fault if we neglect or ignore the lessons it holds forth to us in making a selection of those plants which will give us the healthiest and most vigorous progeny. By the adoption of carefully conducted scientific methods we can the sooner get the desired results than by trusting to haphazard methods which are practically synonymous with blind chance. We cannot properly estimate the advantages that may accrue in the near future to the workers in the humbler fields of life from such men as Huxley, who gradually communicate their knowledge to their fellow men in the form of instruction, precepts, example and demonstration.

Sunshine.—Everywhere in the United Kingdom last week brigbt sunsbine was above the average. There were 39 hours of it in the north of Ireland, 40 in the north-west of England, 62 in the south of England, and 66 in the Cbannel Islands.

Orange groves have increased euormously in Syria and Florida. Quite one-half of the supply of Oranges still, however, comes from the Azores.

Pickle Growing.—Over 160 acres of land are given up to Pickle growing in the neighbourbood of the Camden, Maine County, United States, and tbe crop is stated to be a profitable one.

The ocean is without vegetation, without life, and without light at a depth of over four miles.

Harvesting Operations were commenced about the end of last week in Essex.

A White Marechal Niel Rose is a novelty announced by a German Rose grower.

The Park Commissioners of New York City bave decided to establisb a Palm garden in Central Park.

New York Botanic Garden.—The money necessary to be obtained from the public toward the establishment of New York's Botanical Garden has now been subscribed, and the work of construction will shortly be begun.

Business Plants.—Tbe most successful business plants of the country bave been well fertilised with printers' ink.—*Printers' Ink.*

Turner's Crimson Rambler Rose bas already got corrupted into Twiner's Rambler in some collections in Devon.

Royal Gardeners' Orphan Fund.—The usual "Rose Fair" in aid of the Royal Gardeners' Orphan Fund was held in connection with the Croydon Horticultural Society's show last Wednesday, and tbe amount taken for the sale of flowers was £7 16s. Among the contributors of blooms were Messrs. F. Sander & Co., Hugb Low & Co., Laing & Sons, B. Cant, T. B. Haywood, H. V. Machin, M. Hodgson, E. M. Bethune, W. Mease, C. J. Salter, J. Slater, E. Lane and Rev. J. H. Pemberton. Mrs. W. Gunner kindly undertook the sale of flowers.

Another Horticultural J. P.—We learn that Mr. E. J. Beale of tbe firm of Messrs. James Carter & Co., Seed Mercbants, High Holborn, London, has on the recommendation of the late Lord Chancellor been placed on the Commission of the Peace for the County of Middlesex. In 1892, when Mr. Beale was a candidate for Parliamentary honours, we had the pleasure of issuing his portrait in these pages.

Long Names.—We often complain of the extraordinary length of names given to their favourites by British raisers; but gardeners will have to use long labels to accommodate such as Chrysanthemum Souvenir de Mademoiselle Helene Ambanopulo, Souvenir de sa Majeste Alexandre III., and S. M. I. la Tzarine Marie Feodorowna, taken from French catalogues.

Honours at University of Oxford.—Mr. J. F. Hudson of Jesus College, son of Mr. Hudson, Gunnersbury House, Acton, has just taken his B.A. degree in the Honours School of Mathematics, taking First-class Honours in the recent final examination, as he also did in Mathematical Moderations in 1893.

Hurst & Son versus Grindley C. C.—A cricket match was played between the above teams at Snaresbrook, on Saturday, July 6th, resulting in the favour of Hurst & Son by 72 runs. Only one innings was played, when the latter made 120 runs, while tbe Grindley C. C. made only 48.

Gardeners' Royal Benevolent Institution.—The Worsbipful Company of Skinners have given a donation of £10 10s. to the funds of the Gardeners' Royal Benevolent Institution.

Photographic exhibition.—Tbe annual pbotographic exhibition at the Royal Aquarium, Westminster, opened on Tbursday last. The whole of the Main Hall is crowded witb exhibits of the latest and most approved apparatus.

Bird's Nest Beside a Volunteer Target.—A yellow hammer's nest, with four tiny eggs in it, was recently found four feet directly bebind the second-class target of the New Deer Rifle Company at the Den of Culsh, Aberdeenshire. This is the third year a nest has been built close to tbe target. When class firing is in progress the birds cannot bave much peace, but it is boped they will not be injured.

Strawberry Crop in Kent.—The Kentish Strawberry crop (according to a Dover correspondent) bas been extraordinarily heavy, and the picking is still at its height. Reports from the Maidstone, Sandwicb, and Swanley districts agree that the crop is about double tbe average. From Sandwich alone upwards of 100 tons were despatched last week. Tbere is a great increase in the acreage under Strawberries tbis year as compared with last, and cultivation is increasing in a remarkable way. The satisfactory feature is that cultivation is likely to be paying to the farmer, as the demand for the fruit increases remarkably also.

Haileybury College Flower Show.—This annual sbow was held on Monday, June 24th, in the Bradby Hall, Hertford Heath, and bas seldom appeared to better advantage. Perhaps the leading features of the show were the decorated dinner tables, which, eigbt in number, extended from one end of the hall to the otber, and the various Rose classes, which for amateur growers were of a high standard of excellence. The judges had great difficulty in coming to a decision in tbe dinner table class, but eventually Mrs. Russell was placed first, Dr. Savory second, and Mrs. Bell third. In tbe Rose classes, which Mr. George Paul, of Cheshunt, bad kindly come over to judge, Mr. Bowyer took three firsts, and Mr. Ford, Miss Burnard, and Mrs. Couchman also won prizes. The arrangement classes were a bewildering mass of beauty, and in all the competition was very keen. Among tbe servants, Mr. G. E. Peters, Mr. Croft, and Mr. Webb did well, and Sergeant Bryant's Strawberries were very much admired.

Strawberries from Cornwall.—Many tons of Strawberries have been sent away from Saltash Railway Station, Cornwall, during tbe last fortnight of June for the London and provincial markets. Reports from the banks of tbe Tamar state that the crop has been a most abundant one, but the prices rather low. Favoured by magnificent weather the fruit has arrived at tbe most distant towns in capital condition, the Great Western Railway putting on a special service of trains between Saltasb and Plymouth, and making arrangements to cause no delay in the traffic.

Messrs. Dobbie's Employees in Kent.—On Saturday, 22nd June, the employees of Messrs. Dobbie & Co.'s seedgrounds, Orpington, Kent, bad a pleasant outing. Leaving Orpington in the afternoon they drove to Sevenoaks, and had a picnic within tbe Knole Park there, and afterwards had a look round tbe noble park and bistoric buildings. The return journey was made in safety, and the weatber all that one could wish for in the circumstances.

Royal Botanic Society.—On the 29th ult. it was decided, at a meeting of the council of this Society, to open their gardens in Regent's Park to the public every Monday during July, August, and September, at a fee of 1s. for admission. A military band will form an attraction on August 5th, the next Bank Holiday.

Annual picnic.—The employees of Messrs. W. P. Laird & Sinclair, Nursery and Seedmen, Dundee, held their annual picnic on Wednesday 3rd July. Tbe party, numbering about fifty, drove to Glamis Castle wbere a most enjoyable day was spent. After dinner tbe health of the Messrs. Laird was pledged and a very hearty vote of thanks was accorded them for tbeir handsome donation towards the expenses. Home was reached at 10.30, everybody being pleased with tbeir day's outing.

National Chrysanthemum Society's Annual Outing.—Tbe annual picnic and outing will take place on Monday, July 22nd next. The members will travel to Boxhill, near Dorking, by the London, Brighton, and South Coast Railway, to visit the gardens and grounds of Burford Lodge, Dorking, the residence of Sir Trevor Lawrence, Bart., one of tbe Vice-Presidents of the Society, and the beautiful scenery of Boxhill, to wbich easy access can be had from tbe grounds of Burford Lodge. Dinner will be provided at the Burford Bridge Hotel, and Sir Trevor and Lady Lawrence have very kindly invited the members to partake of tea on the lawn of Burford Lodge. Ladies are, as usual, specially invited. The charge for the day—including return fare from London to Boxhill and back, witb dinner and tea—will be six shillings and sixpence to members, and seven shillings and sixpence to non-members. Members not using railway tickets, but joining the party at intermediate stations, or at Boxhill, will pay four shillings and sixpence, and non-members, five sbillings. As this is certain to be a highly popular trip, early application must be made for tickets so that the necessary arrangements may be made, more especially in reference to ample accommodation by rail, and for dinner and tea. A train leaves London Bridge at 10.45 a.m.; from Victoria at 10.43; from Addison Road, Kensington, at 10.13 (members changing at Clapham Junction); and from Clapham Junction at 10.52 a.m.

Sale of Orchids.—Tbe Broomfield collection of Orchids, belonging to Mr. M. Wells, of Sale, near Manchester, was disposed of by Messrs. Protheroe & Morris, on the 26th and 27th ult. Among the principal prices realised were the following:—Odontoglossum crispum, like Apiatum, three bulbs, one lead, 63 guineas; Cattleya Hardyana (Wrigley's variety), six bulbs, one lead, 55 guineas; Cattleya Lord Rothschild, three bulbs, one lead, hybrid C. Gaskelliana × C. aurea, 60 guineas; Laelio-Cattleya Seedling, unflowered, eight bulbs, one lead (Laelia purpurata × C. gigas Sanderiana), the longest bulb and leaf measure 21 in., 44 guineas; Cattleya Mossiae alba, fourteen bulbs, 10 in. across tbe flowers, 34 guineas; Laelio-Cattleya broomfieldense, four bulbs, one lead, hybrid Laelia praestans × Cattleya aurea chrysotoxa, 35 guineas; Cattleya Mossiae Wageneri, eight bulbs, two leads, 30 guineas; Cattleya labiata alba, four bulbs, one lead, 50 guineas; Odontoglossum Wrigleyanum, two bulbs and lead, part of the Tyntesfield plant, 34 guineas; Laelio-Cattleya Arnoldiana, seven bulbs, two leads, 30 guineas; Cattleya exoniensis superba, five bulbs, 55 guineas; Cattleya Mossiae alba, twelve bulbs, two leads, 33 guineas; Cattleya labiata var. alba caerulea, six bulbs, two leads, 40 guineas; Cattleya hybrida Kienastiana, four bulbs, one lead, hybrid C. speciosissima × C. aurea, 45 guineas; Cattleya Trianae Reine des Belges, nine bulbs, one lead, 50 guineas; Cattleya Trianae Measuresiana, four bulbs, one lead, 30 guineas; Cattleya Gaskelliana alba, four bulbs, one lead, 38 guineas; Cattleya Mossiae Reineckiana, fourteen bulbs, three leads, 42 guineas; and Cattleya Mendelii Bluntii, two bulbs, one lead, 30 guineas.

Gorey Rose Show.—A Rose Show under the patronage of the Gorey Horticultural Society was beld in the grounds of Knockmullen, near Gorey, on Thursday, the 27th June, and for a first venture proved a remarkable success. The prizes were presented by Mr. Hugh Dickson, Belmont, Belfast;

Messrs. Alex. Dickson & Son, Newtownards; Messrs. Henderson & Son, Templeogue; Messrs. Ramsey, Ball's Bridge; Mr. Hamilton Drummond, Dawson Street, Dublin, and the hon. secretaries of the show. Mr. Hugh Dickson, Jun., of Belfast, kindly acted as judge, and the Roses and other exhibits brought by him and Messrs. Alex. Dickson & Son were the objects of universal admiration. During the afternoon an attractive programme of music was rendered by the Gorey Orchestra, under the leadership of Mr. J. H. Stedman. A lecture was delivered during the afternoon by the Rev. Wm. Brews, B.A., on "Bees and Beekeeping" in a bee tent, kindly lent by the Irish Beekeepers' Association, and the practical illustrations with a bee in a bar-framed hive was much appreciated.

Monster Strawberries.—Mr. W. G. McFarlane sends us some specimens of the fruit of a very fine new Strawberry seedling, raised and grown by himself. This fine fruit is destined to enhance the reputation of the Alnwick Strawberry beds. They are not only exceptionally large in size, but of a very fine flavour. On being weighed it was found that the collection, numbering fifteen, weighed 1 lb. On the same day we exhibited another plate of equally large and luscious looking Strawberries, grown by Mr. J. Wake, on Alnwick Moor. They were a source of surprise and it is very gratifying to note that the Alnwick Moor land is capable of producing such fine fruit; the specimens alluded to are alike undeniable evidence of the suitability of the soil, and the skill of the producer. We are aware that several enterprising farmers have turned and are turning their acres to account in this direction, and there is little doubt that their enterprise will this year be fully rewarded, and we wish them all success.—*Alnwick County Gazette.*

Garden Lectures.—At Settle, on Wednesday, 26th ult., Dr. Clark gave the last of the series of lectures and demonstrations on "Practical Gardening," all of which have been well attended, and the greatest possible interest has been shown throughout. His method of teaching is very pleasing, and to hear him diagnose the various ailments of plants is something to remember. After the course of lectures given last winter by Dr. Clark, many of his hearers said "It is all very well for Dr. Clark to come lecturing about what could be done; we would like to see him try to do it." Dr. Clark has scarcely had time in the ten weeks to produce much result, but we think he has shown that he is not only an accomplished gardener in theory but also in practice, and the regret is that more of the professional gardeners of the district did not avail themselves of his teaching. Much has been said, and is still being said, both for and against Dr. Clark's teaching, but anyone seeing White Friars now and comparing it with previous years will at once see the advantages of scientific gardening. The following subjects have been taught: How to analyse sods; how to diagnose the present requirements of plants; seed sowing, potting, planting, pruning; the uses of chemical manures; botany, grafting and budding. The botany was particularly interesting. Dr. Clark has a novel way when discoursing on botany; with him *plants think.* The grafting and budding was very instructive, and the many cut fingers and thumbs of the ladies unaccustomed to knives and the class of knives used, which ranged from a pet penknife to the largest "cheap Jack" pruner, afforded no little mirth. The afternoon lectures were given at the following places:—White Friars, Beech House, Marshfield, Langcliffe Place, Craggdale, Ingfield, and Langcliffe Hall. No doubt some persons have attended the lectures who will derive but little benefit from them. It is the intellectual amateur who loves gardening, and the few professionals who have attended who will be the gainers by Dr. Clark's teaching. The allotment is not quite as good as one would expect Dr. Clark's gardening to be, but lateness in planting and the extreme dryness of the weather will account for its partial failure. Dr. Clark does not promise much this year. He is aiming at getting the soil in good trim and next year we are to see what scientific gardening can do. A strong feature of his lectures has been the answers to questions, which left nothing to be desired. Much credit is due to Mrs. Atkinson of White Friars, who has worked very hard indeed to make the course a success. In the afternoon a vote of thanks proposed by Dr. Shepherd and seconded by Mr. James Patterson, was accorded to the lecturer, and at night the vote of thanks was proposed by Mr. J. Roberts, second by Mr. S. Waine, and supported by Mr. W. G. Perfect.

EARLY PEAS.

Any remorse I may have felt at having incurred the displeasure of your Knap Hill correspondent (p. 677), by my coddling practices in growing early Peas, was tempered by the knowledge that I have sinned in excellent company. It struck me that G.T.'s opinion, like his conclusions, were somewhat hurriedly drawn. I stated that I sowed in pots on February 6th; if G. T. will carry his memory back he will remember at that time we were having from 20° to 30° of frost, and work outside was almost at a standstill. So one man was not badly employed for three hours in sowing a hundred or so pots. I find it took about one hour longer to plant them out. As I plant close to the wall I use no sticks.

A few Laurel boughs were used for about a week when frost and cold winds threatened.

The account of pickings show that I gathered close upon 20lb. before the date on which G. T. first picked. I was highly pleased with the result of my coddling practices, as also was my employer. I did not exhaust the crop at that date, as you will see by specimens sent pulled from the crop in question, and as a result of a second growth. I noticed, in a smaller degree, the same branching last year, but did not have such full second pods.—*A. Pentney, Worton Hall Gardens, Isleworth.*

[Accompanying the above was a box of the American Wonder Pea, consisting of the entire stems with their second crop of pods. The primary stems bore a few pods at the top, and which had filled up after the others were gathered. In this there was nothing singular, but close to the base of the stems a goodly number of the axillary buds, which usually remain undeveloped, had grown into short shoots bearing two to four well-filled pods, that might have been gathered for use a week before we saw them. Although the phenomenon is not quite new to us yet we presume that the second crop is seldom so good as that sent us by Mr. Pentney. Peas are usually too thickly sown to favour branching and the production of a second crop. The sender tells us that the Peas were planted at the foot of a south aspect wall, and not being staked the stems lay along the ground. This we have no doubt gave the impetus to the second growth, as may be seen in various other plants under similar conditions. In any case the Peas have repaid the time and trouble in connection with them.—Ed.]

The date on which my early Peas were sown was the 12th of March. They were all sown on a south border in a very exposed garden in the north of Derbyshire. I might add that this garden is very shallow; in some places there is not 18 in. of soil. On the 13th I sowed in the open quarter Exonian (Veitch), William I., and Lightning (Carter's); the last was the first to turn in; Exonian was eight days later; and William I. a week later. Still the last-named is a very good Pea where it does well, but it certainly does not do well here. Exonian has only grown 18 in. high with me this year. There are plenty of Peas that do no good in this garden; amongst others are Dr Maclean, Duke of Albany, Sharp's Queen, Stratagem, and Dickson's First and Best. For midsummer and late use for me there is none to beat Autocrat (Veitch) and Ne Plus Ultra. If G. T., Uritca Villa, has not tried Lightning, I should strongly advise him to do so, and if it does as well with him as it does with me he will be pleased with it.—*Thos. Cockerill, Wirksworth, Derbyshire.*

In the issue of the 29th June, regarding early Peas in the south of Scotland, I may say we in the "Hielands" are not so far behind. By referring to my note book my early Peas (Dickson's First and Best) were sown in the open border facing S.W. on the 8th March, and on the 21st June I sent in the first dish, and every day since that time I have kept up the supply. I also find other vegetables much earlier than usual. I have been sending in ready for the table since the middle of June, Turnips, Carrots, Potatos, Cauliflowers, &c., all from the open border. During the months of April and May we had very mild weather, but on the 13th June in the gardens here we had 4° of frost, which damaged many tender things, such as Kidney Beans and some of the bedded-out plants.—*J. T. Urquhart, The Gardens, Balnagowan Castle, Park Hill, Ross-glime.*

CHOCHO, OR CHAYOTES.

The Chocho (Sechium edule) is a curious member of the Cucumber family, and is so named in the West Indian Islands, of which it is a native, and where it is reckoned a wholesome article of human food by the people there. The generic name is derived from a Greek word signifying "to fatten in a stall," and has been given to it because reputed a fattening food for hogs and other animals. Besides being a native of and cultivated in all the islands of the West Indian group, it has been introduced into Madeira and others of the Atlantic islands, and sometimes finds its way, in a fresh state, into Covent Garden, under the name of Chayotes. The seeds, from which the specimen under notice was raised, were obtained from the West Indies by Mr. J. Haws—the inventor of the improved watering can—4, Glaskin Villas, Lea Bridge Road, Clapton, E. The fruits were grown by Mr. T. Rochford, Turnford, to whom we are indebted for the specimen from which the accompanying sketch was made. It measured $5\frac{3}{4}$ in. in length by $3\frac{1}{2}$ in. in breadth at the widest part, and was deeply five-furrowed, with broad rounded ridges indicating as many carpels that take part in the structure of the fruit. The skin was green, though in some cases it is cream-coloured, and covered by soft spines. The fruit was split open at the apex, as may be seen by reference to the illustration, and through the cleft we could see the huge solitary seed in the interior. The most curious point about this plant is that the seedling germinates in the fruit while still hanging upon the plant. It had already burst through the seed and showed itself plainly to anyone looking down the opening at the top.

Chocho, or Chayotes.

STUDENTS' VISIT TO A MARKET GARDEN.

The time table of the Summer School of Horticulture held by the County Council of Essex in their Technical Laboratories at Chelmsford during the present month, includes, as a finish to the first week's

work, a "visit to a seed farm." Accordingly last Saturday afternoon the fifteen young horticulturists who hold the Council's scholarships went over to Witham with the biological staff to see the trial plots belonging to Mr. Thomas Cullen, of that town. The son of the proprietor very kindly acted as guide, and spent his afternoon in explaining the nature of the trials, in pointing out the characteristics of the many plant varieties, and in answering the many questions asked of him as to the suitability of the various kinds of flowers and vegetables grown in the plots.

The trials it appears are to test whether the various seeds sent out during the last season are truly the variety whose name they bear, so that evidence may be forthcoming in cases of doubt. In the first series examined were considerably over a hundred rows of Peas, all sown at the same time and representing the same number of seed-samples belonging to fifty named and unnamed varieties; most of these were true, but here and there the "rogues" or specimens of other kinds were in the majority. Occasionally a plant known as a "grey" brought forcibly before one the biological law of "reversion to type," which is true for artificially selected varieties, whether it be of Peas or of pigeons. The practical bearing of this law is of such importance that seven men are employed by Mr. Cullen to remove horticulturally unfit plants from the crops grown for him in the county of Essex alone.

Some information was also obtained as to the methods of "working up a stock," several newly selected variations being grown in the series of Peas. The rest of the time was spent in examining other series of vegetables and plants cultivated for ornamental purposes, including a fine collection of Tropaeolum, and in going over the substantial building in which the seeds are stored.—*W.M.W.*

ROUPELL PARK NURSERIES.

These compact and well-ordered nurseries, which are situated quite close to Tulse Hill Railway Station, Norwood Road, S.E., and are the property of Messrs. John Peed & Sons, have, during the past week, been wearing an especially attractive and gay appearance. Meesrs. Peed & Sons have for some time made a speciality of Caladiums and Gloxinias, devoting considerable attention both to the raising of new varieties to add to and increase their already extensive list, and to the certainly not less important point of growing standard sorts up to a high degree of merit. It is their custom each year to hold a special two days' show of these two classes of plants, and to invite whomsoever will to go and take a peep at them. This season their show was held on Tuesday and Wednesday, the 9th and 10th of July, and we were fortunate enough to get a glimpse at the preparations that were being made for the grand display, although unable to visit them upon the actual show days. Admirers of floral beauty in general, and of such important classes of plants as Gloxinias and Caladiums in particular, could scarcely fail to appreciate the treat prepared; for the bright and showy flowers of the one and the gorgeously tinted and superbly marked foliage of the other baffle adequate description.

Gloxinias.

A three-quarter span-roofed house, some 150 ft. in length, was devoted to the accommodation of these. Wide, roomy shelves on either side of the house and running its entire length were all ablaze with fine, well-grown and not less well-flowered examples of this showy subject. Flowers of various hues, be-mottled and be-starred with all sorts of colours, were present in an innumerable profusion that spoke well for the wealth of the varieties that Messrs. Peed have upon their list. Nor must the health of the plants themselves pass without a word of favourable comment, for from first to last the dwarfness of habit and vigour of growth they exemplified was remarkable, and the large dark green leaves admirably served to show off to the fullest advantage the brilliant colours of the blooms that surmounted them, a work in which the numerous potsful of Adiantum cuneatum that were used as ground work materially assisted. Indeed, when standing at one end of the house and looking down the long vista of floral beauty the visitor seemed to see banks of rich verdure on either hand plentifully relieved with brilliant touches of colouring as varied as it was bright. Regarding the plants at closer quarters we found that the greater proportion of them were strong young seedlings, in 48-size pots, obtained, we were told, from seed sown about the middle of January. Very large and clumsy specimens were conspicuous by their absence, and to the young blood all the glory of the show was due.

At the time of our visit but very few of these seedlings had been christened, and thus from the lack of distinctive titles we are unable to detail the glories of most of them. The following, however, had been given a name, and they must serve as examples of the general excellence of form characterising the flower that was conspicuous throughout:—

Owen Thomas is a rich glowing crimson-scarlet, the throat being prettily shaded with rose, and the base of the tube mottled dark brown. The segments are edged with a broad band of silvery whiteness. Duchess of York bears very large flowers, light mauve in colour, and profusely spotted with purple. Purity is well and apropriately named, having pure white flowers of medium size, and the corolla five-lobed and somewhat reflexed at the margins of the petals. G. W. Sawday is also a pure white, but seven instead of five lobes to the corolla are to be observed here. Very rich is Shahzada, which is, as we were told, something like its name-father, a "dark 'un." Its blooms are of a rich dark purple hue, spotted with a rather lighter shade, and about 3 in. in diameter. In Lord Salisbury we get a fine large bloom, the dazzling whiteness of which is prettily relieved by tinges of light violet. A very free bloomer is Howard Peed, closely resembling Owen Thomas, but of a somewhat lighter scarlet shade. The dark crimson blooms of Beacon are very distinct, whilst the leaves are exceptionally large and handsome, with their clearly defined and prettily netted veins. Robert Hyatt is dark maroon in colour, tinged with purple, and shading lighter towards the edges of the petals. A very large flower, brilliant vermilion-scarlet in hue, shading rather paler at the throat and in the tube, is A. Luff. Victoria Regina is of a rich crimson tint, flushed with pale rose at the throat, and having the edges of the petals shaded light red. Black Prince bears blooms of a rich dark purple hue, which the cream-coloured throat serves to render all the more conspicuous.

All the sorts mentioned, in common with many more that we can only deal with in the mass for the reason before stated, were of very fine form, and are well worthy the attention of any and every one of those cultivators with whom the Gloxinia in all its forms and with all its varied hues finds well deserved favour.

Caladiums.

Much has been said at various times of the grand decorative qualities of which the Caladium is possessed, and at various shows throughout the country groups of some of its many varieties have appeared to great advantage. At the late Temple Show, for instance, a great deal of admiration was excited, and numberless favourable comments were elicited from visitors to that grand floral symposium by Messrs. Peed & Sons' fine group of this noble decorative plant. Those of us who had the pleasure of seeing that fine collection were prepared to see a grand display at the nurseries from whence they came. Nor were we disappointed. A commodious span-roofed house, some 50 ft. in length by 20 ft. in width, was filled to overflowing with this brightly hued subject in all its glory and in all its pride of gorgeous beauty. The plants had been so arranged that a visitor pausing at the door was able to take in a large share of the display at a glance; for stretched out before him was a long undulating bank sloping gently upwards until the hindmost plants were waving their large heart-shaped leaves in close proximity to the roof of the house.

The arrangement here calls for a word of praise, and abundantly testifies to the fact that not only do they know how to grow Caladiums at Roupell Park Nurseries, and grow them well too, but that they are also quite *au fait* with the art of arranging them in such a manner that not only is a splendid effect obtained when they are regarded in the mass, but each plant is enabled to display its individual charms to the full without in the least infringing upon its neighbour. As material for edging the pretty little silver and green C. argyrites, together with its companion variety, C. minus rubescens, in which the leaves are reddish-crimson deeply bordered with green, were tastefully employed.

From these diminutive subjects our eyes strayed to such noble varieties as Baron Adolphe de Rothschild, which has large orbicular-cordate leaves of rosy-carmine hue. Such a difference in appearance, and yet both are worthy members of the same genus and each valuable acquisitions to our lists of decorative plants. Duke of York, a new variety, has bright rosy leaves with crimson veins and footstalks. Very pretty is Duchess of York, with its somewhat dwarf habit and soft rose leaves suffused with light yellowish green, from which the brilliant carmine veins stand out clearly and distinctly. This is also a new introduction. Charlemagne, another fine rosy-red leaved variety with darker veinings, was likewise conspicuous. The white leaves of Candidum were very prominent among the darker leaved sorts. Very charming is Madame J. Box, in which the leaves are rose, veined with crimson, with a wide green bordering. Alice Van Geert should find a place in every representative collection, with its delicate creamy-white foliage veined with rose. Baronne Clara de Hirsch exhibits numerous rose spots upon a creamy-white ground, the veins being dull red in hue. Ibis Rose is well worth attention, having leaves of a bright rose shade, while Ibis Rouge, a companion plant, is somewhat darker in hue. Very distinct is the dark red foliage of Triomphe de Compte, whilst, for contrast with it, the large white elliptic-cordate leaves and veins suffused with crimson of Rose Laing are sufficiently striking. Other good varieties which are deserving of extensive cultivation, and which Messrs. Peed & Sons have in grand condition, are Gaspard Crayer, Raymond Lemoinier, Reine de Danemark, Roncador, Princess of Teck, Auguste Carpentier, and John Peed. The sorts mentioned are, however, only a few of the many fine ones which were on view, and which went to make up a collection at once comprehensive and meritorious, and well worthy an extended notice.

PEA SUTTON'S PEERLESS.

From what we can see or have seen of this Pea it well earns its name. In the garden of E. H. Watts, Esq., Devonhurst, Chiswick, a sowing of it was made in pots during the third week of March, and later on planted in the open. The first dish was fit for use on the 25th ult. It is a main crop Pea, coming in naturally some days, or say a week later than Duke of Albany under the same conditions. We have no intention of speaking about it as an early Pea, though a gardener may by treatment and cultural skill get it ready for exhibition to fit in with some of the Rose shows where vegetables are admitted. About the time above mentioned we measured pods 3½ in. to 5½ in. long. They are compressed, of a rich glaucous green with a beautiful bloom, and have a fine appearance on the exhibition table. Each pod contains eight to eleven seeds of the largest size and of a rich, glossy green hue. Mr. Gibson, the gardener, considers the Peas the largest of any he has seen, so that the variety should have a good future before it, both for table use and for exhibition purposes. The haulm this season is about 18 in. to 2½ ft. high, so that 3 ft. in all probability would be the limit in average seasons. The foliage also is of a rich, dark, glaucous green.

THE KITCHEN GARDEN.

Cabbage.—The time is near at hand when preparations should be made for a supply of this important crop for spring cutting. It is an open question as to which is the best date to sow for standing the winter, some recommending one time and some another; but it is no doubt safest to make at least three sowings at intervals of ten days from now, because by so doing a full crop may be insured. Sow the seeds in drills very thinly, as much will depend on the sturdiness of the plants for standing the winter well. Give the drills a thorough soaking with water an hour or two before sowing, thus ensuring sufficient moisture for germination. Use a select stock of Ellam's Early Dwarf. It is one of the hardiest and best varieties that I am acquainted with.

Mushrooms.—Where Mushrooms are sought for at this season, a very simple method, and one that commends itself to the notice of cottagers and

amateurs, is to take out a trench as if for Celery, in any position somewhat shaded from the sun, filling in the same firmly with horse droppings (which have been prepared by fermenting) to within two inches of the level. Then insert pieces of spawn, two inches deep and nine inches apart, and cover with the soil taken from the trench. In about six or seven weeks the Mushrooms should appear. It will be as well to cover over with straw to prevent the soil becoming too dry. Beds of this description may be depended on to give a good return during the autumn months.

Peas.—The long period of dry weather is now considerably affecting the Pea crop. Where time can be spared it will give much aid to the filling of the pods and prevention of thrips to syringe the rows over every evening. Continue the sowing of seed, drawing lines 4 in. deep, well watering the rows before proceeding. Duke of Albany may still be sown; but for any later batches an earlier variety should be used, of which Wm. Hurst or Cannell's English Wonder are very good.

Carrots.—This will be found an excellent time to sow a large breadth of Carrots of the Horn type. The value of the crop resulting from the sowing cannot well be over-estimated, as the Carrots will be fit and sweet at a time when the greater part of Peas, Beans, etc., will be over; a southern position and where they can be covered with litter or leaves will suit them best in the event of frost. Where the Carrot fly is troublesome and the main crop damaged by the ravages of this pest, it will be well to sow an extra width to make good the loss, as after this period young roots are rarely damaged. Sutton's Early Gem is one of the best to sow at this date.

Runner Beans.—The latest sowing may now be made, and if the autumn proves favourable they will be valuable, as with the great heat the earlier sowings will be over somewhat earlier than usual. The climbing French Bean, Sutton's Tender and True is a variety that has much to recommend it, being extremely tender and very prolific.—*James Gibson, Devonhurst, Chiswick.*

FRUIT UNDER GLASS.

VINES.

Early houses from which the fruit has been cut may be thrown wide open and left so day and night, so as to allow a free passage of air about the foliage. A good syringing occasionally will do no harm, as it will serve to cleanse the leaves from any dust or dirt that may have settled upon them, as well as to keep down red spider which often makes its appearance at this stage. It will be very necessary to see that all the borders are kept well supplied with water, and although manurial stimulants must not be given anything like so frequently as when the canes were carrying crops of fruit, an occasional application will do good. Should the laterals evince a tendency to elongate, they may be suffered to do so to a moderate extent as this serves to prevent too early maturation of the wood. Some cultivators make the mistake of imagining that once the fruit has been cut the Vines may be allowed to take care of themselves, and that no further trouble is necessary. The canes are as a consequence allowed to mature their wood very much sooner than they ought to, the buds as a natural result lack the strength and the plumpness that should characterise those borne by healthy Vines and thus harm is done.

Shanking.—Very few indeed are the Vineries in which this does not take place to a greater or less extent. In some cases only a few berries will be affected, in others whole bunches will be completely spoiled. The term is employed by gardeners to indicate the drying off or withering of the footstalk of the berries. The connection being thus interrupted the berries themselves acquire an exceedingly acid taste and neither ripen nor colour properly. So perplexing is this disease that it is often very hard to trace it to its true source, and much discussion as to the special conditions that cause its development has taken place at different times. Perhaps one of the most fruitful causes of shanking is the unsatisfactory condition of the roots; for in many instances Vines which have been badly given to this habit have been found upon examination to have a portion of their roots in cold, wet and uncongenial subsoils, a state of things which when remedied by the renovation of the border has effectually put a stop to the progress of the malady. Other conditions, however, which will often account for the presence of this perplexing disease are undue strain upon the Vines, arising perhaps from systematic overcropping, sudden changes in the temperature, fluctuations in the water supply or the removal of too large a quantity of foliage at one and the same time; in fact any course of treatment or rather mis-treatment which allows of the plants receiving violent checks. During the growing season it is manifest that the border cannot be meddled with, and hence for shanking caused by the presence of the roots in unsuitable earth strata there can be no immediate remedy, but care can be taken to prevent the development of the complaint by reason of any other of the conditions previously stated. Where berries are observed to be thus affected there is nothing for it but to cut them out, for no matter how long they are left once the footstalk has gone wrong they will never ripen.

Peaches.—As the mid-season crops of these ripen off the same attention to prevent their being spoiled by falling must be paid them as was recommended in the case of the early ones. Air such houses well and freely, and where leaves are observed to be shading the fruit push them on one side; for the Peach needs the full benefit of the sun's rays to develop properly its delicious flavour. Any malformed or undersized fruits that are not fit to appear upon the dessert table may be utilised for culinary purposes, where they will serve the same purpose as the better shaped ones, and those of larger size. For houses that have been stripped of their fruit a similar course of treatment advocated for Vines in a like condition will be necessary, with the exception that the syringings instead of being intermittent and occasional must be regularly conducted. The same free buoyant atmosphere and nicely moist borders are however essential.—*A. S. G.*

HARDY FRUIT GARDEN.

In this department the small fruit season is now in full swing. At this time of the year a careful watch has to be kept upon the doings of the feathered denizens of the woods and lanes, which seem to congregate around our gardens from all parts in countless numbers in search for spoil. The netting of Cherries, Currants, and Gooseberries must, therefore, be seen to if it is desired that the gardener shall reap the fruit of his labours, otherwise the birds will soon do the fruit picking for him. In gathering fruit of any kind for preserving it is very necessary that both trees and fruit should be as dry as possible, otherwise the preserves made from it will not keep for any length of time.

Strawberries.—In most establishments of any size it is usual to force a number of plants to afford fruit during the spring months, and where this is the case no time must be lost in getting the runners layered, if, indeed, this has not already been done. The earlier the runners are pegged down the better, for a long season of growth is thus afforded them wherein to make good, strong crowns that shall produce an abundance of good fruit by and bye. Small sixty pots are the handiest size to use. These may be filled with any ordinary soil, making it fairly firm. A supply of strong pegs some 3 in. in length must also be on hand, and the layerer's stock in trade is complete. The best and strongest runners alone should be selected, taking a few from each plant, for these will soon root and grow very quickly into excellent material. The operation is simplicity itself, and may be performed by any ordinary garden labourer as easily as by an expert. A small hole should be made in the soil in the pot with the fingers to receive the base of the plant, which must then, by means of one of the pegs before referred to, be fastened securely in its place, neatly levelling the soil again. The pots should be stood quite level, and if possible should be placed together in batches, for by this means the task of watering is rendered very much easier. During the bright weather frequent attentions with the watering-can will be necessary, the best plan being to wait until evening and then to give them a good overhead watering by means of a rose can. Not only are these plants useful for forcing purposes, but they also constitute the very best material for replenishing old plantations out-of-doors or for making new ones. It is in this way that very many good growers obtain their plants for so doing, being of opinion that the increased strength and vigour of the material thus obtained more than compensates for any little extra trouble there may be in procuring it. Where, however, the gardener is short-handed and time a correspondingly valuable consideration, enough of plants for making outside plantations may be procured by allowing the runners to root themselves, lifting them and planting them out on a prepared border or vacant plot of ground as soon as they have made a sufficiency of roots to warrant so doing.

THE FLOWER GARDEN.

Seldom indeed is it that the gardener is called upon to pass through a more trying period than the last three months or so has been. During that time we have had little or no rain to speak of, at least in districts in and around London. In other parts of the country they have been visited by heavy thunderstorms, accompanied by copious falls of rain. Here, however, the little that we have had has been a veritable drop in a bucket and does not seem to have made any impression on the parched and thirsty soil. Not only is the grass completely scorched up but many of the deciduous trees are commencing to shed their leaves as if it were autumn instead of the middle of summer. Where a good supply of water is to be had the heaviest work therefore will consist in giving things that are suffering from the drought as good a soaking as time will permit. Not only must the flower beds and herbaceous border be looked after in this respect, but the closest attention will be necessary in the case of trees or shrubs which were shifted or planted during last autumn or spring; for the lack of rainfall cannot fail to be most injurious to them. For larger trees that need water it is the best plan to let a steady stream of water from the hose run upon them all night. For watering any turf such as that upon tennis courts or bowling greens, nothing is better than to affix a long piece of iron tubing perforated along its entire length with small holes to the hose. A gentle shower bath is the result and this, if continued for a few hours, cannot fail to be of great service to the parched-up turf.

Roses.—The gales of wind that we have experienced during the past two weeks have occasioned a good deal of damage amongst the standard Roses, particularly where those with heavy heads have not been securely fastened to stout stakes they have been blown about terribly. Fastenings which have become untied or broken must be seen to without delay, as well as additional stakes given to those requiring it.

Budding Roses.—Once more has the season for budding come upon us, and Rose growers will be all agog getting their buds in. As soon as the bark will lift readily operations may commence. This year owing to the drought the bark is somewhat tardy in getting fit. It is a good plan to give Briers a good soaking of water at the root two or three days before budding is commenced, as this will assist them greatly, the bark lifting much more easily where this precaution has been taken. It is also highly important that the buds although not too far advanced must be plump and well matured. It is not desirable to take them from soft sappy shoots, for these seldom give good buds. Growths which have borne flowers are usually the best for furnishing good buds that can in most cases be depended on. Make the cuts clean but only deep enough to cut well through the bark, for if made deeper than this, harm will result. Meanwhile the buds may be kept fresh by having the ends of the shoots from which they are to be taken placed in a can of water. In preparing them, a little care is necessary to see that the soft tender skin is not injured, and that all the wood is removed from them before inserting them in the places prepared for the same. In tying also it is important to observe that the ligatures do not press with undue force for this is likewise injurious. Tying in is simply meant to hold the bud in its place and to keep the lips of the wound together when nature will do the rest.

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne F.R.H.S. Price, 1s. post free, 1s. 1½d. from the Publisher of the Gardening World, 1, Clement's Inn, Strand, W.C.

HINTS FOR AMATEURS.

LILIUMS.

THE owner of small flower gardens is always on the look out for easily cultivated plants possessing a hardy constitution that, instead of causing them to resent each slight indignity offered them by straightway proceeding to leave this harsh world, or as we have heard some amateur gardeners, aye and not a few professionals likewise, laconically phrase it, "peg out," will put up with a few hardships which some amateurs' floral belongings have to contend against sometimes, and will good-temperedly continue to look gay and smiling, despite the fact that they are not quite as comfortable as they would like to be. Where the owner of the garden has followed the plan, now going slightly out of fashion, of cramming each and every available corner and bit of space with the more tender and ephemeral section of summer bedding plants, there is but little room for this class of material, but where a part of the garden is devoted to the culture of herbaceous stuff or of dwarf ornamental shrubs, Liliums of various kinds are just the sort of plants to associate with the latter to enliven and beautify their somewhat monotonous appearance.

From their somewhat leggy habit, Liliums always need to be employed in connection with dwarfer-growing hardy plants, the foliage of which not only serves to hide the long, almost leafless stems, so common to many, but acts as a foil against which the glowing beauties of the gorgeous flowers appear to very much greater advantage than they would otherwise do if such an aid were not given them. Many of our readers who have from time to time paid visits to Kew Gardens will have noticed the splendid effects there produced by judicious association of Liliums with beds of dwarf, hardy, evergreen, or deciduous shrubs. Although some of these brilliant results are entirely out of the reach of the average amateur gardener, it does not follow but what it is well within his scope to imitate them on a smaller scale, graduated to suit both his garden and, perhaps more necessarily, his pocket. For in all these considerations of how best to make a garden look attractive, what subjects to have, and in what numbers to employ them, there enters the inevitable question of how much will it cost? And thus many a lover of plants has to stifle his longings to possess some favourite plant, and modify his views to meet his particular circumstances. Still, by the outlay of a by no means extravagant sum of money, and the exercise of a little taste and forethought, something very closely akin to the original may be achieved.

Autumn is the best time of the year for shifting the bulbs or for planting new ones. In all cases, however, it is not advisable to keep them out of the ground any longer than is unavoidable, for the drying influences of the air injure the thick, fleshy scales to a considerable extent. But as this is not the time of year to talk about planting we will content ourselves with a few seasonable notes that shall be of service now. Plants which are growing amongst small shrubs in the manner described will be shaded to a certain extent and thus kept cool—a state of things that the Lilium loves. Supplies of water, must, however, be given occasionally, and if liquid manure can be obtained so much the better. For those which find a place in the herbaceous border plenty of water will be an even greater necessity than for those which have the benefit of the shade. A liberal mulching of short, well decayed stable manure will also be of the greatest aid. Staking will in many cases be necessary, especially for the taller ones, which bloom later in the summer when gales of wind are to be expected.

Included in the genus are a host of beautiful plants, many of which are worthy a place in any garden. We shall, however, from lack of space, only be able to mention a few of the kinds most suitable for the amateur, for suitability in this case must be taken to mean extreme hardiness of constitution and great floriferousness. L. croceum is, perhaps, the most frequently met with of any in cottage gardens, growing from 3 ft. to 6 ft. in height, and bearing large reddish-orange flowers. It blooms in June and July. L. elegans is very much dwarfer, and bears large flowers of a pale reddish-scarlet that often appear out of proportion to the size of the plant, so large are they. L. candidum, or as it is often popularly called, St. Joseph's Lily, is indeed a gem, with its pure white, sweetly scented flowers. This plant has long been a favourite in cottage gardens, and we have this season seen some exceptionally fine plants of it in such places as would prove an ornament to any nobleman's establishment in the kingdom. In most districts in the south of England it will now be nearly or quite out of flower. L. davuricum has beautifully bright scarlet flowers some 5 in. or 6 in. in diameter when fully expanded. Rather different in appearance from these are the Turk's Cap Lilies. L. Martagon has rather small flowers disposed in large, loose, nearly pyramidal racemes. In colour they are a variable purplish-red, profusely spotted with black. The hue, however, varies in depth, according to the situation, and often from season to season. The white Turk's Cap Lily, L. M. album, is a distinct and pleasing departure, having dull white flowers with rather green centres. Not unlike these in habit is the beautiful L. Hansoni, which, like them flowers during June and the beginning of July, according to the earliness or lateness of the season. The flowers in this case are rich orange-yellow in colour, sparsely spotted dark purple, the segments being very thick and fleshy and rather reflexed. This is one of the very best for growing in beds filled with shrubs. L. longiflorum can scarcely be overpraised. Its blooms are large, 5 or 6 in. in length, funnel shaped, pure white, and deliciously fragrant. Altogether it is one of the most distinguished members of the genus, and one a few specimens of which every garden should boast.

Rather later than those already mentioned we have the glorious old Tiger Lily, L. tigrinum, flowering in July and August. Who does not love this showy old plant with its bright orange-red flowers so fantastically spotted with black or dark purple? The species grows to a height of about 4 ft., although there are some varieties of it upon the market, such as L. t. splendens and L. t. Fortunei, that grow to a height of 6 ft. or 7 ft. It is manifest that any list of Liliums, however abridged, would be incomplete without it included L. auratum, the gorgeous, golden-rayed Japanese Lily, with its ivory-white flowers, and distinct yellow bandings, with the characteristic dark purple spots. Many varieties of this species are also cultivated, although the type is as yet quite able to hold its own amongst any or all of them. This list might be indefinitely extended, but those plants which have been enumerated will serve to give the owner of small gardens some little idea of the wealth of handsome plants which are to be found within the limits of the genus Lilium.—*Rex.*

AMATEUR GARDENERS AT ALDENHAM HOUSE.

ON Saturday last, in response to the kind invitation of H. Hucks Gibbs, Esq., upwards of 150 members of the National Amateur Gardeners' Association paid a visit to Aldenham House, Elstree, for the purpose of inspecting the gardens. The headquarters of this Society are in London, and meetings are held the first Tuesday in every month at the Memorial Hall, Farringdon Street. The Association is formed for the purpose of promoting and advancing the science and practice of horticulture among amateurs, to watch and promote the interests of amateur gardeners generally, and to secure their proper representation on all important societies. Lectures are given from time to time, and the products of members' gardens are adjudged. Cultural certificates are given for exhibits of extra excellence, and prizes are offered for competition amongst members. In order further to promote the advancement of horticulture, visits are paid about once a month during the spring and summer time to various gardens and horticultural establishments. As showing the interest which is now taken in this interesting science, it may be stated that there are between 400 and 500 members of this particular Society, or the parent Society as it may be called, and there is a number of branches and affiliated societies all over the country. The visitors, among whom were a number of ladies, were met on their arrival by Mr. and Mrs. Beckett and some amateurs from the neighbourhood (among whom we noticed a well-known amateur from Watford), and after Mr. D. B. Crane (the Secretary of the Society) had introduced Mr. T. W. Sanders, F.R.H.S. (the President), and the members generally, the whole party adjourned for the purpose of refreshment. It was a glorious day for such an outing, and the sun being very hot, tables were laid under the welcome shade of some fine old trees, and here ample justice was done to an excellent tea, which was supplied and served by Mr. Buck, of Watford, in his usual able manner.

The repast being concluded, the entire party were then conducted by Mr. Beckett round the lovely walks and gardens, and exclamations of surprise and delight were constant as each turn or bend presented to the eye some new picture more beautiful than the last. The crowning point, however, was reached when the greenhouses were inspected. The flowers of every description were admired by all, but when it came to the Grapes, Pines, Bananas, Nectarines, Peaches, &c., there was many a wistful glance cast at the lovely fruits, but one and all came to the conclusion that they were "sour." Mr. Beckett was most obliging to all, and although many questions were put to him by many people, yet to each and all he was only too ready to give whatever information was desired, and those who were fortunate enough to be in the front rank had the opportunity of hearing described by him what had been done in these gardens during the last few years, which had been the means of producing such a charming place. After the inspection of the grounds, &c., was over, a friendly game of cricket was indulged in, which caused considerable amusement.

At last the time came for the visitors to depart, and Mr. Sanders, addressing his friends, said, "that before they separated there was a duty which he had to perform, and it gave him the greatest pleasure to perform it. He thought they would all agree that their visit had been an exceptionally interesting and pleasant one, and he was sure that all felt under a deep debt of gratitude both to Mr. Gibbs and his very able gardener, Mr. Beckett, for having given them the opportunity of enjoying themselves as they had. They would all agree, especially those who had considerable experience in gardening themselves, and who possessed horticultural science, that the grounds and gardens were in very excellent condition, and testified to the skill, knowledge, and ability of Mr. Beckett. They had visited many places of interest during the summer, but he was speaking with all sincerity when he said that they had never had such a lovely outing. They would always remember the enjoyment their visit had afforded them, and he was sure they would all for many years to come look back with pleasure on that day. He hoped Mr. Beckett would assure Mr. Gibbs that they felt under a deep debt of gratitude to him for the pleasure they had derived from their visit. He also proposed a hearty vote of thanks to Mr. and Mrs. Beckett for making their visit so enjoyable. He was sure that had it not been for the them, neither he nor his friends would have spent such a pleasant day. He, therefore, had the greatest pleasure in proposing a hearty vote of thanks, first to Mr. Gibbs, and then to Mr. and Mrs. Beckett."

Mr. Crane, in seconding the votes of thanks, said that Mr. Beckett had all along taken a very great interest in the work of the Association, and during the last few years he had keenly watched its progress, and had done all he could to further its interests. They had all enjoyed their visit very much, and hoped to have the pleasure of coming again on some future occasion. Mr. Beckett had been very kind to them, and his efforts had been unremitting to make their enjoyment complete. In addition to his interesting explanations of different points during their progress round the grounds and gardens, he had provided them with a good game of cricket: in fact, he was a "jolly good fellow."

The resolutions were carried unanimously.

Mr. Beckett, in replying to the resolutions, said he was sure Mr. Gibbs would only be too delighted to know that they had enjoyed themselves so much, and if on any further occasion they should again visit Aldenham House, he hoped they would derive as much pleasure from their visit as they had done that day. He also begged to thank them very much for the kind expressions they had made use of with regard to his wife and himself. He was extremely glad to see them, and only regretted that the grounds were not in a better state of perfection, but they had had a very dry season to combat with, and it was only natural that things should not look as well as they would have done had there been more rain. He was always willing to do what he could to promote horticulture in any shape or form, and was extremely glad the Association had visited them that day.

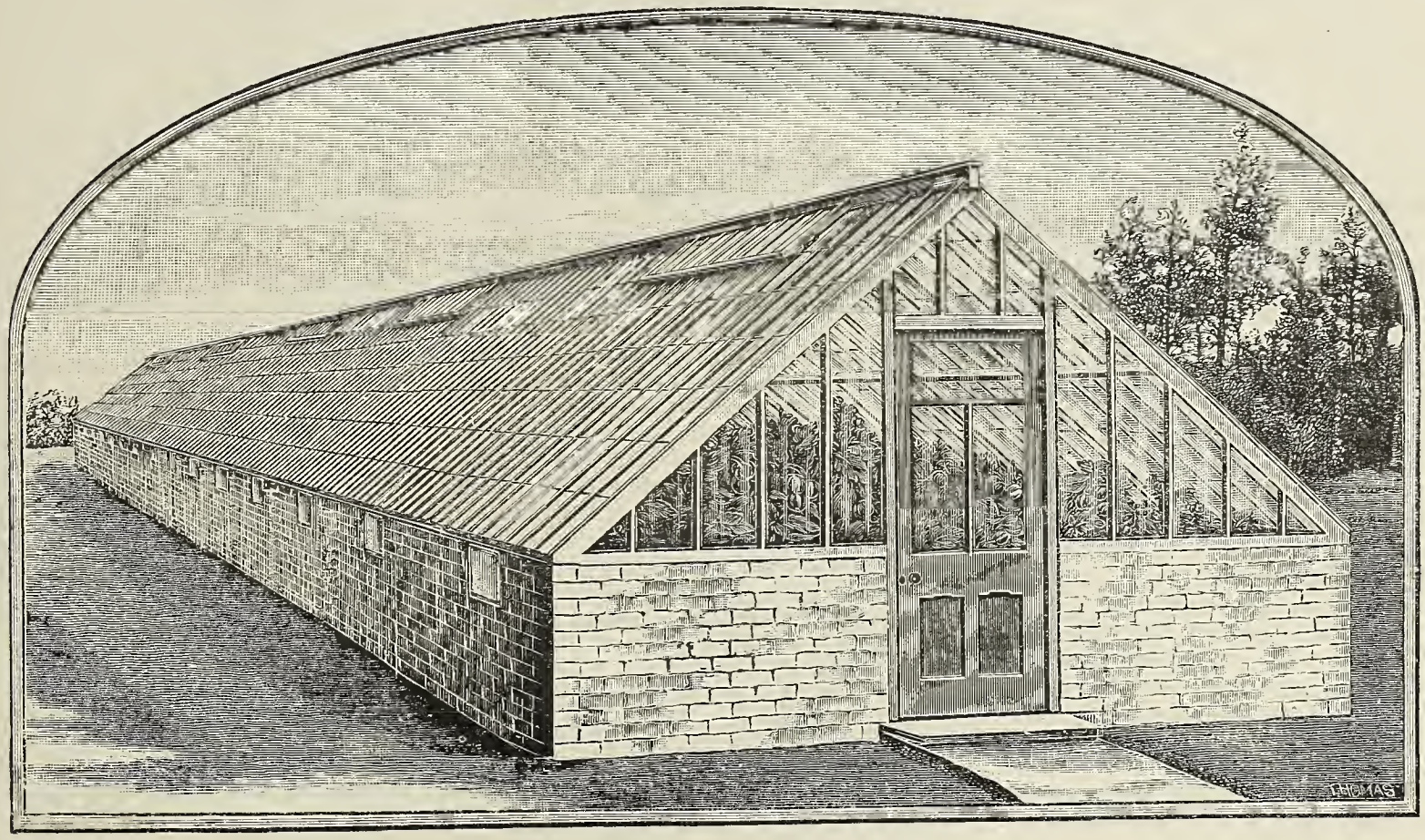
Cheers were then given for Mr. Gibbs and Mr. and Mrs. Beckett, and the visitors departed with some very pleasant recollections of their visit to Aldenham.

Mr. Crane was an indefatigable Secretary, and with such officers as Mr. Sanders and Mr. Crane, there is no reason to doubt that the Association will continue to be a great success.

TOMATO HOUSE, SWISS NURSERY, FARNHAM.

We have frequently made mention in The Gardening World of the excellence of the exhibits of fruit and vegetables made at the various London shows by Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, Surrey. At the meeting of the Royal Horticultural Society on June 11th ult., Mr. Mortimer exhibited twenty-four dishes of ripe Tomatos, including several of Messrs. Sutton & Sons' varieties which are now well known to every cultivator and exhibitor. He also had fine samples of Frogmore Conqueror, Mitchell's Ham Green Favourite, Jones' Perfection and various others of greater or less repute amongst cultivators. At the same time he exhibited fifteen fruits of a new Cucumber named Marvel, and which was notable for its dark green and ribbed but spineless fruits. The latter were in fine condition, being about 15 in. long on an average, and characterised by a short neck. On that occasion a Silver Knightian Medal was awarded the exhibitor. All of the above and other fruits, flowers and vegetables are grown chiefly for the production of seed. We have frequently noticed Mr. Mortimer's admirable exhibits of show and fancy Dahlias on other occasions during the season for that popular flower, and we may say that he cultivates them extensively and well.

On this occasion we wish to refer more particularly to the Tomato house in which most of the above mentioned varieties were grown. The accompanying illustration represents an outside view of the house, taken from a photograph, and for which we are indebted to Messrs. James Sendall & Co., horticultural builders and heating engineers, Cambridge, who built the house in question. The substantial character of the building is well shown. Only the tops of the Tomato plants are shown, but they serve to show Mr. Mortimer's method of stopping them so that all of the fruits set are ultimately brought to perfection. There is no object in allowing the plants to keep on producing flowers and small fruits after they have really become exhausted. The better plan is to mature a limited number of fruits, and then pull up the plants, making a fresh plantation.



Mr. Mortimer's Tomato House.

GARDENIAS.

Some years ago 4s. per dozen was a common price for the flowers of these, but of late there has not been the rage for them that used to be, and their culture appears to have consequently declined. The flowers are scarcely saleable in some of the large towns in Lancashire. Three or four years ago I saw a fine batch in a florist's nursery that were about to be thrown away, because, as the owner said, he did not believe that if he offered the flowers at a halfpenny each he could sell them. The flowers in a cut state used for button-holes and other floral devices, turn a rusty brown sooner than one could wish, but their fragrance remains until the flowers are well nigh perished.

Wearers of "button-holes" will however not take to the Gardenia, prefering something more durable at less price. At Whitsuntide the "button-holes" for the masses have to be made at a penny or twopence each, and a Gardenia wired with a piece of Maiden Hair Fern at the back cannot be produced at that price. Fashion changes in flowers as in other things, and there seems to be a revival of the taste for Gardenias for some purpose or another, for Mr. Walker of Golden Hill and Wellfield Nurseries, Leyland near Preston, has erected a large house for their culture which he planted this spring. And he is well satisfied with the prices realised at Manchester where most of the flowers have been sent. The plants when I saw them, early in June were remarkably clean and vigorous, promising a supply of flowers for some time to come. They were planted in peat on a raised wooden platform with the hot water pipes passing under them.

There used to be an immense quantity of Gardenias grown by Mr. Ladds at Bexley years ago; I forget the kind of soil used but they were planted on the level and I well remember wading my way through (for there was no made pathway) a forest of them six feet high, and from the puddles of water that lay about one might think the plants aquatic. I have been very successful in their culture when planted in a mixture of peat and loam, with bottom heat, but in loam alone they do not at all do well.

Has any one succeeded in growing them successfully and largely in loam alone?—*W. P. R.*

TUBEROUS BEGONIAS.

A few years ago it was said of the tuberous Begonia that it was the coming flower. It has come, and apparently come to stay, for the flower is now with us in all its possibilities of form and hue. I say "possibilities" because it is rather improbable that any marked diversion can accrue. We have single and double forms in great variation, and every gardener of any pretension aspires to possess them, either for pot culture or for bedding out. Used in either way the Begonia is alike beautiful; at least, so I thought when I recently saw it at Hanger Hill House, Ealing, W., in floriferous form. Mr. Cooper, the gardener, employs it in both ways, and, although the droughty season has affected it somewhat out of doors, he has a very fine display under glass.

Here the plants exhibit every sign of vigour and freedom from disease, for the stems are thick and solid, the leaves fleshy and clean, while the floral organs, for which they are held in such high esteem, are bright and fresh and clear. Mr. Cooper has, by continuous selection, got together a nice assortment of colours; and he informs me that although they started slowly at first they have lately more than made amends, and bid fair to surpass themselves this year in usefulness and beauty. They were wintered in boxes, in cocoanut fibre—a circumstance he makes a strong point of—hence he attributes their robustness and vigour to this fact more than any other.—*C. B. G., Acton, W.*

RAISING CABBAGE PLANTS FOR THE EARLIEST CROP.

In looking over an old volume of a horticultural journal recently I noted an instance of some seedlings of Cabbage plants raised in spring, and which, after standing several months in the seed-bed, were planted out, with the result that a good crop of useful heads was cut early the following season, and that, too, without one going to seed. It would be of some practical value to know something of the weather conditions which obtained during the interval between the seedling stage of these plants and the date on which they became fit for use; also the description of soil on which they were grown, and other cultural details.

It is true that some varieties have special capa-

bilities for standing the winter well, but, all particulars considered, I am of opinion that the most trustworthy plants are those raised from the end of June to the beginning of August. Seedlings raised much earlier are certainly not to be depended upon in all sorts of seasons. Early in July of last year I had a pinch of seed sown, the seedlings being transplanted in due course on to a well prepared portion of a west border. After an ordinary winter such a plantation would afford useable heads extra early in the year, and prove exceptionally valuable; but the severe frost and insufficient snow covering of last winter, together with the ravages of wood-pigeons, resulted in their total destruction. Good cuttings were, however, had from late July sowings, the seedlings from which were transplanted early in October; these being well protected with snow secured them from the frost and also the enemies already indicated.

Reverting to varieties, I have tested several novelties of good repute for early work, Veitch's Earliest of All included, but have found none so serviceable as Ellam's Dwarf. Having grown the latter for nine consecutive seasons it still proves the hardiest and best all-round sort I have yet seen.—*Brassica, Ayrshire.*

PENZANCE SEEDLING BRIERS.

THE sweetest of all Roses, perhaps, is the Eglantine or Sweet Brier; certain it is the one which has contributed so largely to English poetry, for not only are the flowers full of symmetry and beauty, but the very foliage possesses a charm unlike that of any other garden form, Lord Penzance's Seedlings excepted. Here we have quite a new departure, which his lordship has brought about by crossing the common Sweet Brier with various old-fashioned garden Roses. The results are quite astounding, for the new and beautiful race of Roses has, in addition to larger and more gorgeous blossoms, that exquisite perfume of foliage which is the *raison d'être* of the older form. Again, these remarkable hybrids have a tendency to become semi-double, so that the florists may be induced to take them in hand with a view to still further multiply their petals. Alas! if such is done they will be single no longer. [Nor Sweet Briers we are afraid.—ED.] They will lose, at least, half their charms, even if they do not become altogether "abnormal" and uninteresting. Moreover, these beautiful Roses now are succeeded later on by bright scarlet hips, which would not occur if the doubling process was sufficient to bring about a complete "reformation."

There are several varieties as might be expected, and the group at Kew includes tints from pink-white to deep rose. The bees seemed to have a decided preference for their lovely colours, for they were very busy, and doing their best to bring about fruitful results, in return for the nectar and pollen which the lavishness of nature has stored up for their delectation. As these Sweet Briers were only put into commerce last year by Messrs. Keynes, Williams & Co., Salisbury, they cannot yet be generally known. Those, therefore, who are able to visit Kew for comparison will find the journey amply repaid by the vigour of the plants, the sweetness of the foliage, and the beauty of the flowers.—*Le Vert.*

KEW GARDENS.

THESE are at present almost at their best, and nothing can be more beautiful than the plants both indoors and in the open. To begin with, the greenhouse (which is lovely all the year round) is unusually gay. If a visit is paid to "No. 4" once a week (while of course many plants remain for some time) there is generally some one new feature—that is, that each week there is a fresh introduction of plants. This time we think we may single out the dwarf Gladioli. We call them "dwarf" because they are christened "nanus," but as a matter of fact they are slender graceful plants about a foot or more in height very different from the tall robust species grown in our gardens. Their markings and colours present infinite variety.

The Begonias are always *en evidence* and some of those with large spreading petals are truly magnificent. There is a fine display of Schizanthus and Salpiglossis interspersed with Gloxinias and Achimenes. At the entrance is a charming specimen of Mitraria coccinea, a tall shrubby plant with tubular scarlet flowers. A very neat and showy Iberis called I. umbellata with three or four full-flowered white spikes is also noticeable. The Cannas also are extremely fine, some of them resembling scarlet Irises, but we cannot say as much for the Carnations and Pelargoniums which are rather poor. Outside in the gardens some of the beds are well worth attention as affording hints to those who have sufficient space to copy them. The four beds which form the circle at the end of the broad walk are planted with bush Roses. Three of these are of red and pink Roses filled up respectively with blue, white and variegated Violas each bed of one colour only. The fourth bed of dark Roses has its complement made of yellow Violas—a very pleasing contrast. A bed of Lychnis Viscaria splendens; another of dark Coleus, a third of white Cytisus, and a fourth of dwarf Box interspersed with Digitalis are to be found near the Palm house. In the same direction is a collection of standard Roses three or four plants of the same sort in each bed. These were hardly at their best at the end of June, but there is a fine group of the White Baroness which is, however, slightly tinged with pink and like its namesake "de Rothschild" quite scentless. We may add that the trees and shrubs are now in perfection.—*Communicated.*

GARDENING MISCELLANY.

SEEDLING ROSES.

THREE seedling Roses, said to have come from seeds of Madame Isaac Pereire, have been sent us by Mr. James Bryson, nurseryman, Parkend, Helensburgh. Having been in rather an advanced stage when we received them, the petals had most of them dropped, and thus it was impossible to go into much detail respecting them. Although all three sprang from the same parent, a considerable difference both among themselves and between them and the parent plant was evident. One, a large nicely double one, is of a rich glowing rose shade, petals massive and of good substance, and very strongly and sweetly scented. The other two were semi-doubles, of fair size and good form, although they, too, were too far gone to describe accurately. One, a light rose in colour, was exceedingly pretty, the other being several shades lighter. Neither, however, had the strong perfume characteristic of the double one. All appeared to be of vigorous habit as far as we could judge from the specimens submitted for our examination, and if fairly free bloomers should be valuable acquisitions to our lists.

SPARTIUM JUNCEUM.

THIS rather curious and, to say the least of it, not unornamental plant, commonly known as the Spanish Broom, is now flowering at Kew. The flowers are large, rich yellow in colour, and produced in long terminal racemes. The shrub is not inaptly given the specific name of junceum, for the sparsely leaved or often entirely leafless branches present a curious rush-like appearance. It is a native of the Mediterranean region and the Canary Isles, where it is often to be found existing upon the higher levels where nothing else will grow. Being of such a hardy constitution it may be utilised with advantage in this country for planting in places where other tenderer subjects will not succeed. It looks very effective either when grown in the mixed shrubbery or when planted in masses, and it is a pity that its fine decorative qualities are not more extensively taken advantage of.

A FINE SEEDLING CARNATION.

AT the meeting of the Royal Horticultural Society on the 25th ult., Mr. Gibbs, gardener to Miss Alice de Rothschild, Eythorpe, Aylesbury, exhibited a beautiful variety of Carnation of immense size. It was a seedling and the bloom resembled that of a Malmaison, but does not belong to that type, being indeed a remarkable flower of the ordinary race of tree Carnations, and measuring a good 5 in. across. Each of the outer petals measured nearly 2 in. across, and all are pure white, except the smaller central ones which are lightly striped with bright rose. The flowers are deliciously scented, a quality which is by far too rare in this beautiful and popular class of plants. We understand that Mr. Gibbs had not a sufficient number of flowers to bring before the Floral Committee for their adjudication of its merits.

THE CHEROKEE ROSE.

ORIGINALLY from China, but now naturalised in the South, and recently reported hardy in the middle of New Jersey, this is well known as a cool greenhouse climber, of rampant growth. The large, glossy, trifoliate leaves are persistent. The freely produced flowers are white and very large.—*American Gardening.*

EALING FLOWER SHOW.

BY kind permission of the Messrs. de Rothschild, Ealing and District Flower Show was held in the delightful grounds at Gunnersbury Park on Wednesday, July 3rd. Although in the early part of the afternoon the weather was somewhat threatening and the wind boisterous, the latter part of the day was more favonrable. The exhibits of plants, cut flowers, fruit, and vegetables were numerous, although the accommodation provided for them was ample, no less than five tents of different sizes, two or three of which were very roomy, being devoted to this purpose. A very pretty and effective group of stove foliage and greenhouse plants, which well deserved the "highly commended" it received, was contributed by Mr. Hudson, gardener to the Messrs. de Rothschild at Gunnersbury House, Crotons and Ixoras being very prominent. E. C. Oakshott, Esq., Orchardene (gardener, Mr. C. Long), was successful in obtaining a first prize for six fine foliaged plants. A like position was taken by J. Butler, Esq., 5, North Common Road (gardener, Mr. T. Wiseman), for six fine specimen Ferns, dissimilar. A first prize was likewise won by W. Owen, Esq., The Elms (gardener, Mr. C. Edwards), for four Ferns. First prizes in their respective classes fell to J. Harris, Esq., North Common Road (gardener, Mr. W. Roberts), for four plants in flower, also for four fine examples of Caladiums, and for specimen stove plants, whilst Mr. C. Long had the best four, and Mr. T. Wiseman the best two Fuchsias in their several classes. Mr. C. Edwards' six Coleuses were adjudged to be superior to the rest, and consequently received a first award. Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick, made a fine display with a group of Japanese Acers shown by them. A neatly arranged group of miscellaneous plants contributed by Mr. W. Roberts also came out first. Mr. C. Long was again successful in obtaining first awards for six tuberous Begonias and for six Gloxinias in pots. A. Robinson, Esq., Mill House, Southall, had a small though very tastefully arranged group of plants, a first prize being given it.

Cut flowers were by no means wanting. In this division Messrs. Charles Lee & Son occupied a conspicuous position with a superior exhibit of cut Roses, Liliums, and miscellaneous herbaceous material in first-class order. Next to this came a bright group of hardy ornamental shrubs, amongst which much that was excellent was to be observed. The arrangement also was very tasty, and thoroughly deserving of a tribute of praise. Messrs. J. Veitch & Sons staged a neat little collection of cut Roses in their usual thorough style, also hardy herbaceous cut flowers, Delphiniums principally, in quantity. Mr. Charles Turner, of Slough, took a first for several fine stands of cut examples of the Queen of Flowers, as did also Mr. C. Long. Very fine were the trusses of bloom of zonal Pelargoniums shown by Mr. C. Edwards, and Mr. T. Skingle, gardener to M. Hulbert, Esq., Ingleside.

In the classes for table decorations some wondrously pretty combinations were on view. The floral baskets, sprays, and bouquets shown by Mrs. Smith, Florist, Broadway, were very pretty. Miss C. W. Dunlop, Ellerslie Tower, distanced all competitors in the race for first prize for the best floral basket suitable for table. Three neat and tasteful epergnes were sent by Mrs. Boosey, Mount Avenue, which also obtained a first award. Miss C. A. Savage was likewise honoured for an epergne contributed by her.

The classes for vegetables brought out some very praiseworthy material. The first prize for the best collection in a class in which the prizes were offered by Messrs. Lee & Sons, fell to Mr. C. Edwards, who had Tomatos, Peas, Potatos, Onions, and Turnips in good condition considering the unfavourable season. Second in this class came Mr. M. Peasy, Jun., 10, St. Mark's Road,

Ealing Common, and third J. Harris, Esq., North Common Road (garderner, Mr. W. Roberts). Mrs. Boosey, Mount Avenue (gardener, Mr. W. Merridew), took first place for a similar exhibit, in which Vegetable Marrows and Cauliflowers appeared in addition to the subjects shown by Mr. Edwards; second, J. Shepherd, Esq., Woodlands (gardener, Mr. G. Brockwell). Another collection of vegetables coming from Mr. H. Viner, gardener to A. Fraser, Esq., The Mount, also received a first award. Fruit was by no means lacking. Mr. S. Wickerson, gardener to R. Dawes, Esq., Edmonscote House, took first place for black Grapes, and Mr. G. Brockwell first for Strawberries. A number of dishes of small fruits were also forthcoming from not a few exhibitors.

NATIONAL ROSE SOCIETY'S SHOW.

The annual exhibition of this Society was held at the Crystal Palace on Saturday, the 6th inst., and was favoured by cool and dry weather, making a glorious day for an exhibition of Roses; and there was a large attendance of people, especially in the afternoon. The show was scarcely so large as we have seen it, but that is easily accounted for by the abnormally dry nature of the season. The quality of a large number of the exhibits left nothing to be desired; and if some favourite varieties were not in their best condition, others were unusually fine. Tea and Noisette, as well as hybrid perpetual and garden Roses, were wonderfully fine, and in many cases remarkably finely tinted, rich in colour and clean.

Nurserymen.

In the Nurserymen's classes, Mr. B. R. Cant, Colchester, secured the premier award for seventy-two distinct varieties. He also had the Silver Medal for the best hybrid perpetual bloom in this section of the show in Her Majesty. Other fine blooms were Marie Baumann. Merville de Lyon, Ulrich Brunner, A. K. Williams, Duke of Fife, Victor Hugo, White Lady, Alfred Colomb, Alfred Dumesnil, Jean Soupert, Duke of Edinbro', Mrs. J. Laing, Marie Verdier, and Gustave Piganeau. Fine Teas were Souvenir d'un Ami, The Bride, and Comtesse de Nadaillac. Very curious was the red and yellow Luciole. The second prize was taken by Mr. Frank Cant, Colchester, whose blooms were not quite so large, though there were several grand blooms in his stands. He won the Silver Medal, however, for the best Tea in Comtesse de Nadaillac, which was of handsome size. Messrs. Harkness & Sons, Bedale, Yorkshire, came in for the third prize with a very even lot of fresh blooms though generally smaller than those from Essex. Mr. Frank Cant took the leading award for forty varieties in trusses of three, showing fine samples of Her Majasty, Suzanne Marie Rodocanachi, Niphetos, Merville de Lyon, The Bride, E. Levet, and others. In this class Mr. B. R. Cant was second, showing many fine blooms, though some of the rest were weak. Messrs. Harkness & Sons took the third place. Messrs. D. Prior & Sons, Colchester, had the best forty varieties, including fine blooms of Merville de Lyon, Madame E. Verdier, Caroline Testont, &c. Mr. Henry Merryweather, Southwell, Notts, took the second place with a good exhibit. Messrs. G. & W. H. Burch, Peterborough, showed the best twenty-four Roses in trusses of three, including fine blooms of Her Majesty, Duke of Fife, Dr. Andry, and others. They were followed by Messrs. D. Prior & Son, Colchester, with fresh but medium sized blooms. Messrs. Townsend & Sons, Worcester, were a good third. Messrs. Paul & Son, Cheshunt, took the first prize for eighteen bunches of Roses, showing them with stems. Mr. Geo. Mount, Canterbury, was second. The first award for eighteen Teas or Noisettes in the Nurserymen's classes was taken by Mr. F. Cant, showing fine blooms of Catherine Mermet, Niphetos, The Bride, Marie van Houtte, Comtese de Nadaillac, Souvenir d'un Ami, &c., all in splendid form. Messrs. D. Prior & Sons were second with some very good blooms. Mr. B. R. Cant took the third place with a very even lot. There was good competition here, Mr. F. Cant being equally successful in this class for twenty-four varieties of Tea Roses, showing grand blooms of The Bride, Madame Angéle Jacquier, Souvenir d'Elise and others. He was closely followed by Mr. B. R. Cant, and Messrs. D. Prior & Son were a good third. Mr. John Mattock, New Headington, Oxford, had the best eighteen Teas in single trusses, Mr. Henry Merryweather was a good second, and Messrs. J. Burrell & Co., Howe House, Nurseries, Cambridge, took the third award. The first prize for thirty-six bunches of garden Roses was taken by George Cooling & Sons, Bath, who had a most attractive display. Messrs. Paul & Sons, Cheshunt, were second. Mr. F. Cant was third. Messrs. J. Townsend & Sons took the first prize for eighteen bunches of garden Roses.

Amateurs.

In the trophy class for amateurs, the premier award for thirty-six varieties, single trusses, was taken by E. B. Lindsell, Esq., Bearton, Hitchin. Very fine blooms were Mrs. J. Laing, G. Piganeau, A. K. Williams, Ulrich Brunner, Alfred Colomb, Her Majesty, Dupuy Jamain, and Madame Hausmann. His finer Tea varieties were Caroline Kuster, C. Mermet, Souvenir d'Elise, and Innocenti Pirola. The Rev. J. H. Pemberton, Havering-atte-Bower, Essex, took the second place with magnificent blooms of large size, but a few of them were slightly past their best. The blooms shown by T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, were smaller, but wonderfully fresh and remarkably bright in colour, and secured the third prize. There were several other competitors. E. B. Lindsell, Esq. again came to the front with forty-eight distinct single trusses, staging fine blooms of E. Levet, Her Majesty (which was the best hybrid perpetual in the classes for amateurs), Duke of Edinbro', Earl Dufferin, Dupuy Jamain, and others of moderate size. The second prize went to W. Drew, Esq., Uplands, Ledbury, with good blooms of Merville de Lyon, Ernest Metz, and Comtesse de Nadaillac. Alfred Tate, Esq., Downside, Leatherhead, came in third with several very fine blooms. The leading prize for twenty-four single trusses was accorded to J. Gurney Fowler, Esq., Glebelands, South Woodford, Essex, showing A. K. Williams, Francois Michelon, and Mrs. J. Laing, well. W. Boyes, Esq., 30, Duffield Road, Derby, took the second place with a good exhibit, and the Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich, was third. In the class for twelve single trusses of any Rose except Tea or Noisette, the Rev. J. H. Pemberton came to the front with fine blooms of A. K. Williams. H. V. Machin, Esq., Gateford Hill, Worksop, was second with Her Majesty. W. Drew, Esq., was third with the same variety. In another division W. C. Romaine, Esq., took the first prize for twenty-four varieties, which were small but fresh. A. Slaughter, Esq., Jarvis Villa, Steyning, took the second place with a neat lot. The Rev. H. Berners, Harkstead Rectory, was a good third. A good exhibit was that of James Parker, Esq., Oakfield, Hitchin, who took the first place for eighteen varieties. Edward Mawley, Esq., Rosebank, Berkhamstead, took the second place with some fine blooms. E. M. Bethune, Esq., Deme Park, Horsham, was third. Rev. H. Berners had the best nine blooms of one variety in Madame G. Luizet. A. Slaughter, Esq., was second, and E. M. Bethune, Esq., took the third award. For eight varieties, three blooms of each, E. B. Lindsell, Esq., again led the way with fine blooms of Earl Dufferin, Her Majesty, and Mrs. J. Laing. Alfred Tate, Esq., was a good second, staging nicely. Rev. J. H. Pemberton was a good third. There was great competition in this class. The last-named came to the front for twelve bunches of distinct varieties. They were cut with stems and were very effective. H. V. Machin, Esq., was a good second, but the flowers were more crowded, with shorter stems. M. Whittle, Esq, Belgrave Avenue, Leicester, had the best nine varieties in the class for growers of over 1,000 Roses. Rev. H. B. Biron, Lympne Vicarage, Hythe, Kent, was a good second. Four prizes were awarded in this class. P. G. C. Burnand, Esq., Reigate, had the best six varieties in trusses of three. He was followed by M. Whittle, Esq., Leicester. Here again a fourth prize was taken. Jno. Bateman, Esq., Rosevale, Archway Road, N., took the leading place in the class for nine varieties shown by growers of less than 500 Roses. He was followed by Henry Foster, Esq., North Street, Ashford, Kent. Harcourt P. Landon, Esq., Shenfield Lodge, Brentwood, was a good third, and Geo. Moules, Esq., Hitchin, was fourth. E. R. Smith, Esq., Muswell Hill, had the best six varieties. The Rev. G. E. Jeans, Showell Vicarage, Isle of Wight, was second, and W. D. Fresbfield, Esq., (gardener, Mr. G. Crofts), The Wilderness, Reigate, was third. A. Evans, Esq., Marston, Oxford, had the best four varieties in trusses of three. W. D. Freshfield, Esq., was second. The Harkness Challenge Cup offered by Messrs. Harkness and Sons, Bedale, was taken by O. G. Orpen, Esq., West Bergholt, Colchester, who had beautiful blooms of Merveille de Lyon, Comtesse de Paris, The Bride, C. Mermet, and Kaiserin Augusta Victoria. P. G. C. Burnard, Esq., was second in this class; M. Whittle, Esq., was third, and Conway Jones, Esq., Hucclecote, Gloucester, came in fourth in great competition. For six blooms of one variety in another class, James Parker, Esq., was first. The piece of plate for amateurs who have never won a N.R.S. prize was secured by C. E. Shea, Esq., Foot's Gray, Kent, whose blooms were fine. F. W. Campion, Esq., Colley Manor, Reigate, was second. R. W. Bowyer, Esq., was first in the class for those who have joined the Society since last Crystal Palace Rose Show. Keppel H. Gifford, Esq., Streatham, won the piece of plate for Roses grown within eight miles of Charing Cross. M. Hodgson, Esq. (gardener, Mr. G. Prebble), Shirley Cottage, Croydon, was first for twelve Roses grown within eleven miles of Charing Cross. The Rev. J. H. Pemberton had the best six new Roses in Marchioness of Londonderry, Duke of Fife, Mrs. Sharman Crawford, &c.

The Challenge Trophy for eighteen Tea or Noisette Roses was won by O. G. Orpen, Esq., showing neat and pretty blooms of Ernest Metz, The Bride, Madame Lambard, Marie Van Houtte, Madame Bravy, Ethel Brownlow, Madame Hoste, Devoniensis and others. Rev. A. Foster-Melliar was second with grand blooms of Marechal Niel, Souv. d'Elise, The Bride, and La Boule d'Or. Rev. H. Berners was a good third. O. G. Orpen again came to the front with twelve Teas or Noisettes, and was followed by E. M. Bethune, Esq., both showing well; Rev. H. Berners was third. O. G. Orpen was first again for eight varieties in trusses of three, taking the piece of plate offered. He was also first for nine varieties. Rev. A. Foster-Melliar was second for the eight sorts in trusses of three; H. V. Machin, Esq., was third. In the second division for Tea Roses, Conway Jones, Esq., had the best twelve, which were in capital condition. James Parker, Esq. followed. R. H. Langton, Esq., Raymead, Hendon, had the best nine blooms, which were fine; he was followed by A. Evans, Esq. James Parker had the best nine blooms in another class. Rev. F. R. Burnside, Sutton-on-the-Hill, Derby, was equal first with G. W. Cook, Esq., North Finchley, for six blooms. Conway Jones, Esq., was first with four sorts in trusses of three, and was followed by R. H. Langton, Esq. A. Evans, Esq., had the best six of one variety in Marie Van Houtte. J. Parker, Esq. had the best nine bunches of Tea and Noisette Roses, which were pretty.

Open Classes.

In the open classes Mr. Frank Cant had the best twelve blooms of hybrid Teas. Mr. B. R. Cant was second; and Mr. Geo. Prince, Oxford, was third, but came to the front for twelve blooms of any yellow sort except Marechal Niel, showing Comtesse Nadaillac. Mr. J. Mattock, New Headington, Oxford, was second in this class showing the same sort. Mr. Geo. Mount, Canterbury, had the best twelve blooms of a white Rose in Merveille de Lyon. Mr. Geo. Pince was second. Messrs. Townsend and Sons, Worcester, had the best crimson Roses. Mr. B. R. Cant and Mr. G. Mount were equal first for velvety crimson Roses, both showing Fisher Holmes. Mr. B. R. Cant was first for twelve blooms of any Tea or Noisette. Messrs. D. Prior and Son, Colchester, had the best Marechal Niel. Messrs. Alex. Dickson and Sons, Newtownards, Co. Down, Ireland, had the best stand of light Roses in Mrs. R. G. Sharman Crawford, which was charming. There was great competition. Mr. F. Cant had the best twelve trusses of any Rose except Teas, showing Her Majesty in magnificent trim. Messrs. Alex. Dickson and Sons were again first for twelve blooms of any new Rose, showing the same variety as above, and equally good. The Silver Cup offered by the Right Hon. Lord Penzance for garden Roses was won by H. V. Machin, Esq., with fine bunches of Teas, Noisettes, Polyantha, Moss, and monthly Roses in great variety. Alfred Tate, Esq., was a good second; and O. G. Orpen, Esq., came in third. These banks of Roses proved a great attraction to

visitors. The first prize for twelve bunches of Roses suitable for button-holes was taken by Mr. John Mattock, who had fascinating bunches of W. A. Richardson, L'Ideal, Ma Capucine, The Bride, Isabella Sprunt, Marie Van Houtte, and others, which were charming. Messrs. Townsend and Sons were second. Messrs. D. and W. Croll, Dundee, had a second prize for eighteen bunches of garden Roses. Mr. J. Mattock had the best display of Roses, and was followed by Messrs. J. Townsend and Sons.

MISCELLANEOUS.

In the miscellaneous class Messrs. J. Laing & Sons, Forest Hill, exhibited a collection of Roses in great variety including hybrid perpetual, garden and single varieties. The firm also set up a splendid group of tuberous Begonias, including Picotee, Dowager Lady Williams Wynn, Duchess of York, and Countess of Craven, all double, and John Roberts, a huge single flowered sort. All were gracefully set up with Asparagus and Ferns producing a handsome effect. A large collection of Roses was exhibited by Messrs. Wm. Paul & Son, Waltham Cross, including basket of Tea, Noisette and Polyantha varieties. A collection of herbaceous plants including Gaillardias, Delphiniums and others was staged by Messrs. J. Cheal & Sons, Crawley, Sussex. A very extensive collection of Violas was exhibited by Messrs. Dobbie & Co., Rothesay, N.B. All the varieties were set up in sprays of a dozen blooms and had a fine effect in the aggregate. All the leading varieties including both selfs, rayed, rayless, edged and parti-coloured were well represented in great profusion. The firm also had an exhibit of Sweet Peas and Sweet Williams in variety. A good collection of hybrid perpetual, Tea and garden Roses was exhibited by Mr. W. Rumsey, Waltham Cross. The hybrid perpetual varieties were very fine. An attractive exhibit of Lilium auratum, L. longiflorum giganteum and Mariposa Lilies (Calochortus) was shown by Messrs. R. Wallace & Co., Colchester. A very fine display of Turner's Crimson Rambler Rose was made by Mr. C. Turner, Slough. Some of the branching stems were 6 ft. to 8 ft. high. Spiraea Anthony Waterer was shown by Mr. A. Waterer, Knap Hill, Woking. A fine collection of Sweet Peas was exhibited by Mr. E. Tidy, Brockhampton Nurseries, Havant, Hants. A large collection of Roses of the leading exhibition varieties, as well as garden Roses and Liliums, was shown by Messrs. Geo. Jackman & Son, Woking Nursery, Surrey.

LONDON PANSY & VIOLET SOCIETY.

THE annual show of this Society was held at the Crystal Palace on the 6th inst. in conjunction with the exhibition of the National Rose Society. Any one at all acquainted with this class of plants, knows that they have not had a chance with the prolonged drought. The northern growers had it all pretty much their own way, notwithstanding the severe hailstorms with which they had been visited. A Gold Medal was awarded to Mr. Septimus Pye, Catterall, Garstang, for a large collection of Pansies and Violas. The latter were set up in sprays of twelve to eighteen blooms, and were prominently displayed on an ascending stage facing the visitors. The rayed, rayless, edged and other varieties were both numerous and highly effective. The fancy Pansies were neatly staged on show boards along the front of the exhibit, and were both extensive and varied. Mr. Septimus Pye, also took the leading prize for a basket of plants of Violas which were very floriferous and in great variety. Messrs. Cheal & Son, Crawley, Sussex, were second with a smaller exhibit. The first prize for twenty-four sprays of Violas was taken by Mr. John Smellie, Busby, N. B. Mr. John Sutherland, Lenzie, took the leading award for forty-eight varieties of fancy Pansies which were in first class condition. Mr. Lister, Meadow Bank Nursery, Rothesay, N. B., took the first prize for twenty-four fancy Pansies which were the best in the show, and the first place for twelve seedling fancy Pansies of his own raising. The leading award in the amateurs' classes for twelve fancy Pansies, was taken by Mr. J. McFarlane, Gordon Street, Glasgow, and the first in the class for six varieties. He also had the best bloom in this section for amateurs. Colonel M. R. G. Buchanan was admitted to be the best yellow-edged Pansy ever introduced and was shown by Mr. Lister. Pressure on our space this week prevents us from going into a lengthy report of the Pansy and Viola show, but others will be found in the miscellaneous class of the Rose show.

VARIETY IN THE GARDEN.

IN nothing more is the old adage respecting variety more true than in connection with gardening. Variety, truly, is charming to the many professional and amateur cultivators of plants who find an almost endless amount of amusement in getting together collections of plants adapted to the means at their disposal and individual taste. Whatever class of plant is taken in hand by a true lover of plants and flowers it is well nigh impossible for him to avoid collecting as large a variety as he can possibly find room for. He will always be wanting and on the outlook for species and varieties of which he has read or been told of. This gives scope for the exercise of thought and quickens both inquiry and research, which instils into the mind a larger knowledge and love of plants. In every step in this pathway he will be ever learning that there are many more beautiful and interesting plants in the world which he has not yet obtained.

It is astonishing the variety of some things which can be grown in a limited space. Take succulents for instance; we know an amateur grower of these (a zinc worker), who took up their cultivation some years back and in all probability has the most extensive and varied collection of them for some miles round. His plants are necessarily small, for his accommodation is limited to a few odd corners in his business yard, which are covered over with glass. This is his one recreation and we have never met with a more varied one outside a botanical garden with the one exception of Mr. Peacock's collection once so well known. It is rather late in the day now to draw a comparison between the pleasure a collection like this is constantly affording its possessor, and that derived from a garden which is all glare and glitter for a few months with bedding plants. There is surely, if somewhat slowly, a great change taking place; and the gardens exclusively devoted to bedding out plants are becoming fewer every year.

At the same time it is a prime necessity of decorative horticulture, and in public parks and large gardens must always remain the most prominent feature. But the owner of a small garden who wants entertainment from it all the year round must restrict the bedding plants to somewhat narrow limits; for with the wealth of material obtainable at a small cost, the smallest garden may be made a repository of objects of interest and beauty, delighting the senses of sight and smell all the year round. During the spring, summer, and autumn there are myriads of hardy plants, many of which are showy enough to satisfy the taste of those who delight in glare and glitter, and many more sober in their colours, but with grace, form, and harmonious tints, and individual characteristics, which must always create pleasure and interest.

The poverty of many gardens as to the variety of trees and shrubs contained in them, is, considering the almost boundless variety available, quite deplorable. A few common things, and those not always the best, are crowded promiscuously, where at the same time a considerable variety could be introduced, both of deciduous and evergreen shrubs and trees, so varied in form and beauty, and many most magnificent when in flower, especially the deciduous ones. Amongst the evergreens what can be more gorgeous than the Rhododendrons, more chastely beautiful than the Kalmias; what more deliciously scented than the Daphnes and Honeysuckles? Many and varied are the tints of colour among both the plain leaved and the variegated plants. These and the berry-bearing plants impart to places where a free use is made of them a cheerful, pleasant appearance during the most dreary days of winter.—*W.B.G.*

SOCIETIES.

Royal Horticultural, *July 9th.*—The features of the meeting on Tuesday last were Roses, Orchids, Sweet Peas, hardy herbaceous plants, Lilies, fruit and vegetables. A large collection of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans. Notable in the group were well flowered pieces of Cattleya Rex, C. Gaskelliana virginalis, C. G. Madouxiana, C. Wallisii, white with an orange blotch on the lip, Laelio-Cattleya Arnoldiana, and many grand varieties of Odontoglossum vexillarium, including that named Empress Augusta Victoria. Curious and interesting were Lycaste Dyeriana, Dendrobium bracteosum, D. speciosissimum and Catasetum Christyanum (Silver Banksian Medal). George Marshall, Esq. (gardener, Mr. Johnson), Grimsby, exhibited a group of Orchids in which were several fine forms of Cattleya gigas including C. g. imperialis, C. g. splendens, and C. g. Marshalliana with splashed sepals and petals. He had several others besides a fine piece of Epidendrum vitellinum majus (Silver Banksian Medal). A very varied and interesting group of Orchids was exhibited by Sir Trevor Lawrence, Bart (grower, Mr. White), Burford Lodge, Dorking. Uncommon and interesting plants were Trichocentrum hymenantha, Masdevallia melanoxantha, M. guttulata, Pleurothallis Grobyi, P. macroblepharis, Oncidium olivaceum Lawrenceanum and Masdevallia Rolfeana, Luddemannia Pescatorei, Nanodes Medusae and others that make a collection a source of endless instruction. Messrs. Hugh Low & Co., Clapton, staged a group of Orchids showing great variety. The Odontoglossums were numerous, and showy also were Oncidium Lanceanum, O. L. leucochilum, O. macranthum, Laelia grandis tenebrosa, and Grammatophyllum Measuresianum (Bronze Banksian Medal). Messrs. W. L. Lewis & Co., Southgate, staged another collection of Orchids including Laelia tenebrosa, L t. bella, Eria Clarkiii, Polystachya luteola, and the extremely curious Cynorchis grandiflora with its four-lobed purple lip. The firm also had Cattleyas, Oncidiums, and others. Lord Rothschild (gardener, Mr. Ed. Hill), Tring Park, Tring, exhibited Schomburgkia tibicinis, Polycerinus muscifera, Promenea stapelioides, Oncidium Lawrencianum and others of considerable interest. J. Forster Alcock, Esq., Exhins, Northchurch, Herts, showed some fine Odontoglossums, Laelia grandis tenebrosa and others. Malcolm S. Cook, Esq. (gardener, Mr. W. Buchell), Kingston Hill, showed a spike of Cattleya gigas with four flowers. A fine piece of Brassia verrucosa with fifteen spikes was shown by De B. Crawshay, Esq. (gardener Mr. S. Cooke), Sevenoaks. Two hybrids named respectively Cypripedium Dominianum albicans, and Dendrobium porphyrogastrum, both very pretty and delicate in colour, were exhibited by Messrs. J. Veitch & Sons, Chelsea. A varied and showy collection of Orchid flowers was shown by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. Amongst others were Cattleya Gaskelliana albescens and others, also Laelio-Cattleya Schilleriana, Vanda tricolor superba, fine variety of V. suavis which scented the Hall for a great distance round, Masdevallia coriacea, etc. Miltonia vexillaria Constance Wigan, was shown by Sir F. Wigan (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

From Messrs. Barr & Son, King Street, Covent Garden, came a fine collection of hardy herbaceous cut flowers for which a Silver Banksian Medal was given. Liliums testaceum, Brownii, Thunbergianum, and its richly coloured variety Prince of Wales, candidum, and croceum were well represented, besides Irises, Sweet Peas, Eryngiums, Statice incana nana, Achilleas, Veronicas and Phloxes, in considerable quantity. A very meritorious and interesting exhibit was that made by Mr. Henry Eckford, Wem, Shropshire, of cut flowers of named varieties of Sweet Peas, over forty sorts being represented. Amongst these numerous brilliant and delightful shades of pink, purple and yellow were to be seen. Blanche Burpee is a splendid white variety, Captivation, rich purple, Queen Victoria, light yellow, Her Majesty, bright rose, and Dorothy Tennant, light blue, were also notable both for beauty and colouring and size of flower (Silver Banksian Medal).

Messrs. Sutton & Sons sent a box full of the showy Nemesia strumosa Suttoni, some fine shades of yellow and orange being forthcoming. From Mr. H. Becker, Jersey, came plants of the new Carnation, Border Maid, and cut flowers of the same that evidenced fine form and substance, and possessed a strong, sweet Clove smell. Mr. Charles Turner's stand of cut blooms of Carnations and Picotees contained some real beauties. Couronna, rich yellow self; Salamander, bright crimson; Prince Louis Napoleon, rich bronzy-salmon; Rose Unique, bright rose; Favourite, light rose-edged Picotee; and Lady Mary Currie, rose-flake, were especially good (Silver Banksian Medal). Messrs. John Laing & Sons, Forest Hill, S.E., staged a neat little group of double and single flowered tuberous Begonias. Messrs. R. Wallace & Co., Colchester, had a comprehensive

collection of cut blooms of Liliums, L. auratum, L. excelsum, L. Parryi, L. longiflorum giganteum, and L. canadense flavum were of the best. A considerable number of kinds of the pretty Calochortuses, and a stand of well-defined varieties of Iris Kaempferi also came from the same firm (Silver Flora Medal).

Mr. J. Forbes, Hawick, contributed some large and well-grown spikes of varieties of Delphiniums. The long journey, however, had had a marked effect upon their freshness. Messrs. Daniels Bros., Norwich, had fine examples of their new Godetia Marchioness of Salisbury.

Roses formed one of the principal features of the show, and a special schedule had been drawn up for the occasion by the Society. In the classes for hybrid perpetuals for amateurs only, Mr. E. B. Lindsell, Bearton, Hitchin, had the best twenty-four blooms, distinct, showing amongst others fine examples of E. Y. Teas, Ulrich Brunner, and Mrs. John Laing. Second came F. B. Haywood, Esq., Woodhatch Lodge, Reigate (gardener, Mr. C. J. Salter). Mr. Jno. Batemann, Rosevale, Archway Road, N., had the best twelve blooms, distinct, and Rivers H. Langton, Esq., Raymead, Hendon, the finest six. For six single trusses of one variety, T. B. Haywood, Esq., took premier position with A. K. Williams. In the open classes for hybrid perpetuals a first prize went to Mr. Frank Cant, Colchester, who had Marie Baumann, Alfred Colomb, Horace, and Duchess of Bedford in excellent condition. The second award fell to Mr. Benjamin R. Cant, who had a scarcely inferior collection. The last-named gentleman was also successful in obtaining first awards for the finest three blooms each of twelve distinct varieties, and for twelve single trusses of any one variety. Singularly enough Mr. George Mount, Canterbury, took the second place in both these classes, running the first prize-winner very close indeed for chief honours.

Blooms of the Tea and Noisette sections did not afford so fine a display as the hyprid perpetuals but nevertheless some good material was forthcoming. In the amateurs' classes the premier award for twenty-four blooms comprising twelve varieties, not more than three trusses of any one variety being allowable, fell to the lot of O. G. Orpen, Esq., Hillside, West Bergholt, Colchester. The Honourable Edith Gifford, Souvenir D'Elise Vardon, Miss Ethel Brownlow, Madame De Watteville, Comtesse De Nadaillac and Marie Van Houtte were especially noticeable here. Rivers H. Langton, Esq., was again successful in distancing other competitors for six single trusses of not less than four varieties and for six trusses of any one sort. In the open classes Mr. Frank Cant came out first for twenty-four blooms distinct, also for three trusses of twelve different sorts thirty-four blooms in all. In both these classes Mr. Benjamin R. Cant made a very good second. Mr. Frank Cant completed his list of successes by taking chief honours for twelve single trusses of any one variety, showing The Bride, Mr. B. R. Cant once more being second.

Vegetables and fruit made a more than usually imposing display. A Silver Banksian Medal was awarded to Mr. Wingfield, Ampthill House, Beds. (gardener, Mr. J. Empson), for a very meritorious collection of fruit and vegetables, the latter being especially praiseworthy. A magnificent collection of vegetables that came from Mr. E. Beckett, Aldenham House Gardens, Elstree, deservedly obtained the high award of a Silver-gilt Knightian Medal. Cauliflowers Walcheren and Veitch's Early Forcing, Tomatos Cutbush's Polegate and Sutton's Perfection, Onions, Peas, Beans, Carrots, Beetroots, &c., were of the very best, and constituted by far the best exhibit of vegetables we have seen this season. Upwards of thirty dishes of different varieties of Peas were contributed by Messrs. J. Veitch & Sons in fine style, a Silver Banksian Medal being given. From the same firm came a fine collection of hardy fruit, amongst which thirty dishes of sweet Cherries occupied a prominent position. All the leading varieties were represented. Raspberry Superlative, ten dishes of Gooseberries, and four of red and white Currants comprising ten varieties, together with sprays of the latter to illustrate the heavy fruiting qualities of the bushes, were likewise shown. A Silver-gilt Knightian Medal was given for this exceptionally fine exhibit.

Silver Knightian Medal was awarded to the Messrs. de Rothschild, Gunnersbury House, Acton (gardener, Mr. Jas. Hudson), for some good examples of sweet Cherries, which, despite the fact that they had been borne by aged trees were large and well coloured. New seedling Melons were sent by Mr. S. Mortimer, Swiss Nursery, Farnham. The one named Nugget was of medium size and extra fine flavour. Epicure was of somewhat larger size, and was also of exquisite flavour. A number of dishes of red and white Currants comprising upwards of twenty varieties came from the Society's gardens at Chiswick.

Obituary.

It is with sincere regret that we record the death, on the 2nd inst., of Mr. Alexander Cruickshank, the late, much and widely respected gardener to James Badenoch Nicholson, Esq., Glenbervie House, Fordoun, Kincardineshire. Mr. Cruickshank had been ailing for some time past, but about a fortnight previous to his death he contracted inflammation of the lungs, from which he never recovered, but, gradually sinking, passed peacefully away on the above-mentioned date. He was in the sixty-fifth year of his age, and was consummating the twenty-eighth year of his residence at Glenbervie, during the whole of which time he has been gardener there. In the course of his duties outside the garden, he has planned and executed new steadings or dwelling houses on every farm on the estate, being engaged at the time of his death on repairs of the only homestead remaining in need of restoration. As there are upwards of two dozen farms on the estate, the performance of such an amount of work, besides faithful attention to garden and forest duties, bespeaks his untiring energy. He was an elder of the Church of Scotland, and Kirk Treasurer for the Parish of Glenbervie. He had also been the mainstay of the local horticultural show for many years, and latterly of the Glenbervie Hortus Club, which was, in fact, a horticultural body for organising and carrying on a cottagers' show, limited to competitors residing in the parish, and which was a great success, the annual fête being held in the beautiful grounds of the estate. He was also connected with various other societies. In his younger days Mr. Cruickshank was an enthusiastic and successful exhibitor at Aberdeen and various other towns in that county. He was gardener at Pitmedden House previous to his translation to Glenbervie, and is now mourned by a wide circle of friends, by whom he was much respected, both in The Mearns and in Aberdeenshire. He leaves a widow and a large family, all of whom are grown up, and mostly, if not all, pushing their fortune in some occupation or other, and who have to thank their father for timely and useful education, wise counsel, and an admirable example. Mr. Cruickshank has been a personal friend of ours for nearly twenty years.

We sincerely regret to hear of the death of Mr. Benjamin Soddy, of 243, Walworth Road, who for some years carried on a large seed and bulb business in addition to his flour trade. Mr. Soddy was only thirty-eight years of age, but has had a lengthened illness. The funeral took place at Nunhead Cemetery as we were going to press on Wednesday afternoon.

Questions and Answers

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

Plant in box to name.—*Hampshire*: The fine specimen you sent was Saxifraga Cotyledon pyramidalis, and is perfectly hardy but gives most satisfaction when grown as single crowns in pots. It is very largely grown for market purposes as well as in private establishments. Select crowns of fair average size and pot them singly in 60-sized pots, using a compost of good fibrous loam, a little leaf mould, and a similar quantity of well decayed cow manure, and sufficient sand to keep the whole porous and open. Pot moderately firmly and stand the pots in a cold frame, simply watering them as they require it. When the leaves have about covered the pots, re-pot the plants into 48 or 32-sized pots according to the vigour of the specimens. After making a good growth in this size during summer they may be taken into a greenhouse in winter and they will throw up fine spikes in spring. They submit to gentle forcing, and can be brought into bloom a couple of months at least before they flower in the open.

Mignonette.—*Market Gardener*: To obtain plants for blooming during April and May seed may be sown some time during August for a first batch, and a month later for succession. The seed may be sown in the pots in which the plants are intended to flower, placed in a cold frame, and the seedlings, when large enough, thinned out, leaving three to a pot. They will keep well through the winter if frost is excluded.

Hydrangeas.—*Market Gardener*: To obtain good bushy plants of these to produce several corymbs of flowers during April and May, it is necessary to take cuttings in spring. These should consist of growths that are not carrying flowers, which, if carefully treated, will form nice plants of the kind required by the next spring. To flower them successfully it is necessary that the growths should be well ripened, and to this end they should be freely exposed to air and sunshine during autumn. As the leaves begin to fall water must be gradually withheld until it is time to start them into growth again. For compost use three parts of good loam, one of leaf soil, and one of well dried cow manure or horse droppings, with a fair sprinkling of river sand.

Sheep Barking Trees.—*A Subscriber*: Possibly some of the same receipts as are used to keep hares and rabbits at bay would answer in the case of sheep. One of these is to take equal parts of soft soap, sifted ashes and flour, and knead them into a paste. Apply the latter over the stems to a thickness of $\frac{1}{8}$ in. to $\frac{1}{4}$ in. Another receipt is to rub the trees with grease and blood at intervals of two months or thereby. Sometimes the trees are painted with coal tar, but we should reckon that injurious unless the stems were covered with old and thick bark. A better plan would be to tie some Gorse, or Black or White Thorn branches round the stems with a few bands of wire. A more durable protection and neater than either of the above would be to tie some galvanised wire netting round the stems as far up as the sheep can reach. The meshes should be pretty close to prevent the sheep from gnawing the bark through the openings.

Springtails and Orchids.—*A. L.*: The specimens you sent are best known under the name of Poduras. Another name is Thysanuran. The springtails constitute an order of creatures closely allied to insects, but are wingless and manage to get about nimbly, leaping by the aid of a long forked filament or tail from the end of the abdomen, and bent under the latter. Your experience with them is rather singular. We and others have frequently met with them amongst plants, but never attributed any harm to them, either to seedlings or anything else. We should suspect that small slugs were at the bottom of the mischief in eating your seedling Orchids; or it might have been small snails with a slaty grey, coiled and flattened shell, and by Orchid growers termed the garlic snail, from the smell emitted when bruised. In such a case we advise you to go round at night with a lantern and search for the marauders at their work of destruction. If the pots are stood on a bench covered with ashes, gravel or sand we should advise you to give the same a good sprinkling with common salt. This will do much to drive away slugs and snails. With regard to dipping, we may say that you might use water at a temperature of 120° to 130°, but you must not keep the pots or baskets longer than one minute in the water and that only in the case of plants of relatively small value, for fear that you might injure the younger and more tender roots.

Yellow foliage plants.—*Soton*: In the London parks yellow foliage plants for carpeting the beds under taller plants are not confined to any one thing. For instance, Lysimachia Nummularia, Golden Feather, Mesembryanthemum cordifolium variegatum, several of the yellow-leaved Alternantheras, some of the yellow-leaved Fuchsias, Stellaria graminea aurea and Spergula pilifera aurea are all of them utilised, besides others. The last two named belong to the Carnation family and Spergula has very small leaves. All of the above are perfectly hardy with exception of Mesembryanthemum, Alternanthera and Fuchsia. They are easily propagated by cuttings and some of them by division. Mentha Pulegium gibraltaricum does best when kept in a frame during winter and may be propagated in both ways mentioned.

Names of Plants.—*J.T.G.*: Lilium pardalinum. —*J.R.*: 1, Philadelphus coronarius flore pleno; 2, Spiraea discolor ariaefolia; 3, Tilia vulgaris; 4, Genista aetnensis.—*W.C.*: 1, Asplenium Adiantum-nigrum; 2, Pteris longifolia; 3, Aspidium aculeatum; 4, Lonicera semperflorens minor; 5, Hibiscus sinensis var.; 6, Swainsonia galegifolia.—*A.H.*: 1, Rosa lutea; 2, Rosa multiflora var.; 3, Rose Gloria Mundi, not York and Lancaster; 2, Aristolochia Sipho; 5, Campanula latifolia.—*Peach Blossoms*: 1, Cymbidium pendulum; 2, Stapelia normalis; 3, we shall see to next week; 4, Odontoglossum crispum.—*Stuart*: 1, Campanula carpatica turbinata pelviformis; 2, Campanula carpatica; 3, Campanula Waldsteinii; 4, Chrysanthemum maximum; 5, Delphinium La belle alliance, probably; 6, Del-

Insects on Plants and Fruit Trees cheaply cleared by Calvert's Carbolic Soft Soap, if used as directed on label. The best preparation. Highly recommended by users. 1 and 2 lb. jars, 1s. and 2s. each; 4 and 7 lb. tins, 3s. and 5s. each. At chemists, &c., or tins post free for value.—F. C. CALVERT & CO., Manchester.

phinium formosum; 7, Heuchera sanguinea; 8, Erigeron Roylei; 9, Dicentra formosa; 10, Polygonum affine.

COMMUNICATIONS RECEIVED.—W. H. Waite.—J. A.—J. G. Pettinger.—D. P. F.—M. G.—A. H.—H. M. C.—A. M. G.—T. West—F. R.—C. S. F.

LONDON SEED TRADE.

July 9th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report larger offerings of French Trifolium incarnatum at unchanged rates as there is no consumptive demand at present. Reports from all districts as to growing crops of Clover seeds are favourable.

COVENT GARDEN MARKET.

July 10th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples..... per bushel		
Nova Scotia Apples per barrel	12 0	21 0
Cob Nuts and Filberts, per 100 lbs.		
Cherries, half sieve	3 6	5 0
Currants, Black...half sieve	3 6	3 9
Currants, Red... half sieve	2 0	0 0
Grapes, per lb.	6	2 0
Pine-apples. —St. Michael's each	2 6	6 0
Strawberries	0 2	0 6
Peaches ..... per doz.	2 0	8 0
Tasmanian Apples, per case	8 0	11 0

VEGETABLES.—AVERAGE RETAIL PRICES

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus, per bundle	1 6	4 0
Beans, French, per lb.	1 0	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 6
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Small salading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	1 0
Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arum Lilies, 12 blms.	3 0	6 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	2 0	3 0
Eucharis ...per doz.	4 0	6 0
Gardenias ...per doz.	3 0	4 0
Geranium, scarlet, doz. bunches	4 0	6 0
Lilac (French) per bch.	4 6	5 0
Lilium lancifolium per doz.	4 0	6 0
Lilium longiflorum per doz.	3 0	4 0
Lilium candidum, per bch.	1 0	2 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.....	1 0	2 0
Pelargoniums, 12 bun.	6 0	9 0
Primula, double, doz. sprays	0 6	1 0
Pyrethrum doz. bun.	2 0	4 0
Ranunculus, doz.....	2 0	4 0
Roses (indoor), doz.	0 6	1 0
,, Tea, white, doz.	1 0	2 0
,, Yellow, doz. ...	2 0	3 0
,, Safrano (English), doz. ...	1 0	2 0
Red Roses.....	3 0	6 0
Pink Roses	5 0	7 0
Roses (French) Moss, doz.....	1 0	1 6
Roses (French) red, doz. blooms. ...	1 0	1 6
Smilax, per bunch ...	5 0	6 0
Stephanotis, doz. sprays	1 6	2 0
Tuberoses, doz. blooms	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
,, specimen plants	5 0	10 6
Cineraria, per doz.	4 0	8 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, Invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Fuchsia, per doz.....	6 0	9 0
Heliotrope, per doz.	6 0	8 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	8 0
Lobelia, per doz.....	4 0	6 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	4 0	6 0
Marguerite Daisy doz	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	15 0
Rhodanth, per doz.	4 0	6 0
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READERS OF ADVERTISEMENTS

in these pages will greatly oblige and assist us by mentioning

THE GARDENING WORLD

when writing to the Advertisers.

FLOWER SHOW FIXTURES, 1895.

JULY.

17.—National Rose Society at Derby.
18.—Halifax Rose Show.
18.—Canterbury Rose Show.
20.—Rose Show at Old Trafford.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24.—Chesterfield Rose Show.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).
31.—Woking Flower Show (2 days).

AUGUST.

1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
3, 5.—Liverpool Rose Show.
5, 6.—Northampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
8.—Great Grimsby Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15—Goole and District Flower Show.
15.—Martock Horticultural Show.
17 or 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.
28, 29.— Bath Autumn Show.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days)

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.

NOVEMBER.

16.—Bacup Chrysanthemum Show
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23.—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.
29, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10—R.H.S. Drill Hall Meeting.

[The Editor will be greatly obliged if Secretaries will kindly forward the dates of their Society's Shows as soon as fixed, for inclusion in the list.]

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Fern Nurseries, Sale, near Manchester.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 20th, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, July 22nd.—National Chrysanthemum Society's Outing to Burford Lodge, Dorking.

TUESDAY, July 23rd.—Royal Horticultural Society. Meeting of Committees at 12 o'clock. Tibshelf Flower Show. Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

WEDNESDAY, July 24th.—Beckenham Summer Show. National Carnation and Picotee Society's Show at the Crystal Palace. Chesterfield Rose Show. Opening day of Newcastle-on-Tyne Summer Show.

THURSDAY, July 25th.—Trentham Rose Show. Continuation of Newcastle Show.

FRIDAY, July 26th.—Wellingborough Flower Show. Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

ROSES AND ROSE SHOWS IN 1895.—Once more the Rose season, all too brief in any year, but particularly so on this occasion, has come and gone. The Rose growers have had their annual display on the show boards; hopes have been realised or disappointed in different cases; and no doubt several are perfectly satisfied that they were fairly and honestly beaten, taking notes and making resolves that they will make another determined effort in next year's tournament. The season has been against them, but throughout the length and breadth of the land the conditions have been the same, so that all growers have been on a relatively similar footing, except for the differences which latitude makes. One fact is pretty plain, namely, that in wet and dry seasons alike, the Tea and Noisette section of Roses is in its prime a week in advance of the hybrid perpetuals. This has been well demonstrated at the provincial show held by the National Rose Society at Gloucester, where those Roses enlisted the admiration of all who see them. Tea and Noisette Roses succeed in much warmer climates than ours usually is, and even in countries where hybrid perpetuals frequently fail, so that we might expect them to make a good display in Britain during warm seasons. We may take it for granted, however, that their duration will be more restricted; and in the cut state the petals certainly begin to tumble about very early if the day is dry and breezy and the sunshine bright.

Another peculiarity of a droughty season, is that certain Roses come to the front as premier and medal blooms, which attract but little notice in moister seasons. In the nurserymen's classes at Gloucester, Comtesse de Ludre, comparatively a little known variety, was accorded the Silver Medal as the best hybrid perpetual. Here also Ethel Brownlow took the premier position amongst Tea Roses. Comtesse de Nadaillac, so frequently in the front rank, has everywhere been in relatively poor form, and exhibited in small quantity only. The severity of last winter as well as the dry weather may be responsible for this falling away. At Windsor the Silver Medal for the best hybrid perpetual in the nurserymen's classes, was awarded to Marchioness of Dufferin, while Marie Baumann won the coveted honour in the amateurs' division. Never, perhaps, has Her Majesty been seen in much finer form than it has this year, for it figured well at Gloucester, Windsor, and the Crystal Palace, taking the Silver Medal at the latter place as the best hybrid perpetual, both in the nurserymen's and amateurs' classes. In the former case Comtesse de Nadaillac was the best Tea, though very moderate at that; and in the amateurs' competition, Marechal Niel was accorded the coveted medal. The premier blooms at the various shows came from growers fairly well distributed, but yet mostly from the eastern counties, and East Anglia secured the lion's share of the leading awards at all the more important shows, though, singularly enough, the Yorkshire firm of growers, scored heavily in the leading classes for hybrid perpetuals at Gloucester. With this exception the southern growers had it mostly their own way, in striking contrast to the results of the London Pansy and Violet Society's show at the Crystal Palace.

The numerous and excellent exhibits of Her Majesty has given that variety great prominence this season; but other hybrid perpetuals that deserved attention, besides those already mentioned, were Horace Vernet, Gustave Piganeau, Caroline Testout, Alfred Colomb, A. K. Williams, Suzanne Marie Rodocanachi, Merveille de Lyon, Dupuy Jamain, E. Levet, Earl Dufferin, Fisher Holmes, Mrs. J. Laing, Ulrich Brunner and Mrs R. G. Sharman Crawford. The latter is a pink Rose nearly of the same colour as Mrs. J. Laing, but has more spreading petals, the central ones of which are tinted with a lively rosy-salmon hue, and attracted a considerable amount of attention from the general public. In like manner other Tea Roses that came prominently to the front, were Madame Cusin, Marie Van Houtte, Madame Lambard, The Bride, Innocente Pirola, Catherine Mermet, Souvenir d'Elise Vardon, Souvenir d'un Ami, La Boule d'Or, Ernest Metz, and Caroline Kuster. Few of the above were notable for their great size; nor indeed has the season been productive of large Roses. Though quality was discernible in many cases, the blooms were moderate in size, particularly those coming from northern counties, and many blooms were lacking in staying texture. There was a little complaint about the lack of colour, but until the great heat of the 7th and 8th inst., nothing serious could be laid to them on this score. Some of those shown at the Drill Hall on the 9th, looked rather burnt. The Teas on the contrary, in several cases were wonderfully finely tinted.

There have been no Gold Medals for new Roses awarded this year, though two were highly commended including Mrs. G. Sharman Crawford, already mentioned. Garden Roses, as usual, attracted a considerable amount of attention from the general public, but were shown in moderate quantity, and in many cases exhibited evident signs of distress before the shows were over. This was what might have been expected after such a lengthened period of drought. The cluster or Polyantha Roses were amongst the most plentiful and prominent in this class; and indeed many of them are yet holding out bravely in gardens, including White Pet, White Fairy and others. Crimson Rambler is still in the ascendancy amongst the newer kinds in this class, and was grandly represented at the Crystal Palace. The three varieties just mentioned might well be extensively planted in isolated beds upon the grass, in every garden where decorative Roses are valued. Single Roses had been hard hit before the advent of the Rose shows where they made but a poor display. A week or two previously they were indeed glorious, but had a very short innings, the fragile and delicate petals being scorched and scattered about by the burning sun, the heavy downpours of rain and hail, the result of thunderstorms, and by the blustering winds. Frail and fragile as are the hybrid Sweet Briars originated by Lord Penzance, they, nevertheless, turned up at many of the Rose shows, both urban and provincial, where they secured their due mead of praise from a wide circle of admirers, drawn to them by reason of their innate charm and intrinsic merit, as well as old time associations.

H.M. The Queen drove over from Windsor to Slough on Monday evening last and paid the Royal Nursery a visit in order to see Mr. Turner's new Crimson Rambler Rose in bloom.

We understand that Mr. T. Crasp, formerly of Cranford Manor, Wimborne, has been engaged to succeed the late Mr. Woods at Osberton.

Carnation and Picotee Union.—The annual exhibition of this Society takes place at The Cottage, Stanley Road, Oxford, on Saturday, July 27th.

Royal Horticultural Society.—The next meeting of this Society will be held on Tuesday, July 23rd, in the Drill Hall, James Street, Victoria Street, London. At three o'clock a paper will be read by Mr. P. Brotherston on "The Carnation in Scotland."

Large Strawberry.—On the 2nd inst. in the Vicarage Garden, Ancroft, Mr. Jas. Neshitt picked a Strawberry of unusual size, which, upon being measured, was found to be over seven inches in circumference.

Layering Rhododendrons.—Now is a good time for layering Rhododendrons and Belgian Azaleas, just as they are coming into full growth.

Strange place for Bees.—The Post Office at Fortrie, Inverkeithney, was recently taken possession of by a swarm of bees, which entered the letter slit at the window. They made forcible entry early in the afternoon, and were not evicted till four o'clock next morning.

Golden Wedding.—Mr. Grant, head gardener and land steward on the Park Estate, Drumoak, and his wife celebrated their golden wedding on the 28th ult. at Park. There was a large gathering of the tenantry and friends on the occasion, and they presented Mr. and Mrs. Grant with handsome presents. Mr. Grant has been gardener at Park during the whole of his married life.

Strawberries at Fyvie.—Early in the second week of this month Mr. A. Harvey, Lethenty, Fyvie, Aberdeenshire, gathered some ripe Strawberries in his garden. This was the first heard of in the district, so that those in the south and whose crops are over may well envy the first fruits of the late northern district.

A Floral sheep.—A representation of a "sheep" is Cincinnati's latest floral monstrosity!

Pineapples are sold in Madagascar at the rate of four for a cent.

Several Petrified Forests have been found in Arizona, Mexico.

Drought in Ireland.—According to one of the oldest residents in Kerry this is the driest season he remembers in Ireland.

Indian Corn, Beans, Squashes, Plantains, Cassava, Tobacco, and a few other easily cultivated plants used to constitute the whole of Indian agriculture.

Owls.—There are only six or seven species of owls native to Great Britain, and some of them are rarely seen. Sportsman, spare that owl!

Hazel nuts.—Numerous varieties are cultivated in Kent, but Filberts are more extensively grown than the Cob in the neighbourhood of Maidstone. Ground which is good for Hops is equally good for Filberts. Woollen rags make the best and most lasting manure, in the opinion of many growers.

Wooden Houses.—By chemical processes wood may be compressed, moulded into bricks, and then rendered as hard as iron and absolutely fire proof. A hotel in Hamburgh has been entirely built of wood prepared in this way.

Hyacinths in Holland.—The Hyacinth is still the bulb grown in the biggest quantities, though, in all, there are 18,000 different varieties of bulbs cultivated in Holland.

Propagating Asparagus by Division.—There is nothing new in propagating Asparagus by division. In the case of fine varieties increase by division is the proper method, as stated by our esteemed contemporary *Gardening* (American). Do not wait till the plants get large and old, otherwise there is a risk of losing some of the middle cuts in large root stocks.

Plant Photographs at the Aquarium.—At the annual Photographic Exhibition held at the Royal Aquarium on Thursday, Friday, and Saturday, July 11th, 12th, and 13th, Mr. Theodore Brown, Portland House, Salisbury, exhibited a series of photographs of groups of plants that were remarkable for their clearness, being some of the best of the kind we have seen. The photos in question were taken by means of the Stereoscopic Transmitter. Very pretty also was the representation of "Winter on the Backwaters of the Yarra," sent by Miss M. Rollason, Melbourne. Magnificent views of Glengarrif Harbour, Co. Cork, Innisfallen, Lower Lake, Killarney, and the Lakes of Killarney from Kenmare Road came from Mr. W. Lawrence, photographer, Dublin.

Kingswood Horticultural Society.—On the 3rd inst. a meeting of Kingswood Horticultural Society was held at the King's Arms Hotel, Bristol, under the presidency of Mr. Philip Fussell. It was mentioned that the prize money, which now amounted to £215, for the forthcoming show had been added to by a guinea prize presented for six foliage plants in class 41 open to all amateurs. Also that a special amateur ladies' prize of a fine Wedgwood jardinière in jasper, relieved in white flaxman figures, had been presented for the most artistic floral arrangement. It was mentioned that the wires for the electrical tramway about to be erected would interfere with the display of floral arches for which premiums were offered, but it was pointed out that the committee could not now alter the schedule.

Syndical Chamber of Belgian Horticulturists.—At the monthly meeting of this Society held on the 7th inst., to adjudicate upon the horticultural products brought up, Certificates of Merit were awarded to Phoenix humilis, presented by M. Kuyk; to Cattleya Mossiae var., shown by M. Jules Hye; to a collection of twenty plants of Cattleya Mendeli, C. Mossiae and C. gigas, and to Cypripedium Youngi and Cattleya Arnoldii, all shown by the same exhibitor; to Pteris longifolia Mariesii, shown by M. De Smet-Duvivier; to Odontoglossum Wilckeanum, presented by MM. Vervaet & Co.; to Aechmea fulgens major, exhibited by M. Petrick; and to a hybrid Cypripedium (Stonei x Spicerianum), shown by M. Pynaert Van Geert.

The Wesley Tree.—It is represented that the "Wesley Tree" at Camho, Northumberland, is greatly decayed. Various appliances have been used to keep the parts together, supplemented and fortified by a substantial fence. A new tree has also been planted close by, and a stone monument erected by Sir George Trevelyan bears the simple inscription: "John Wesley preached here on his 79th birthday, June 17th, 1782."

Hurst & Son v. Carter & Co.—At Lower Clapton on Thursday, the 11th inst., a cricket match was played between the teams of Messrs. Hurst & Son, and Messrs. J. Carter & Co. Two innings were played and the match was won by Hurst & Son by five wickets.

A Plea for the Blackberries.—Just now the roadside hedges in Wales are teeming with Blackberry blossom, and this year it seems to be more luxuriant than ever. I regret to see the ruthless hand of the loppers cutting back the growth and spoiling the opportunity for a grateful appetising meal to many a poor worker who counts upon this most wholesome additional food as a luxury, and whether culled for sale or use seems to be always appreciated. One would think the lopping, if delayed for a month, would not make much difference to those on whom devolve the care of our roads. Will the various authorities kindly see to it, and order it differently?—*Michael Lavin.*

National Carnation and Picotee Society (Southern Section).—I beg leave to remind your readers that the eighteenth annual exhibition of the above Society will be held at the Crystal Palace on Wednesday, the 24th inst. Upwards of £150 is offered in prizes. Amongst special prizes may be mentioned the Martin Smith prizes for border Carnations. The flowers to be cut from plants which have been wintered without protection in the open border, and staged without dressing exactly as they are cut from the plants. The Turner Memorial Trustees give a very handsome Silver Cup value £5 for the best stand of Carnations, bizarres and flakes distinct, and twelve Picotees distinct, open to amateurs only. Another special prize, "The Ernest Benary Memorial Prize" (not in the schedule of prizes), will be given by Mr. Ernest Benary, of Erfurt, Germany. A large Silver-gilt Medal is given by the firm in memory of the late much regretted founder of the firm, Mr. Ernest Benary, for the most meritorious exhibit, either of plants or cut flowers, by an amateur.—*James Douglas, Hon. Sec.*

Woolton Gardening Association.—The annual show, comprising vegetables, fruit, flowers, poultry, pigeons, and eggs, given under the auspices of the Woolton Gardening Association, took place on the 10th inst. in a field kindly lent by Mr. Holbrook Gaskell, in High Street, Woolton. There were ninety exhibits in the poultry, pigeon, and egg department—which is an innovation this year—and they made an excellent show. There were not quite so many exhibits in the floral section as compared with last year, but the quality was very good and compared favourably. Miss Gaskell distributed the prizes to the successful exhibitors in the evening. The show was well patronised during the afternoon, and in the evening the numbers greatly increased. The band of the Grafton-street Industrial School rendered a choice programme of music during the day, and Maypole and other dancing—the former being skilfully performed by children—helped to vary the day's proceedings. Altogether, the committee are to be congratulated on the success which has attended their latest effort.

Importance of Water.—Professor L. H. Bailey, Ithaca, N.Y., in reading a paper recently before the American Association of Nurseryman, said:—"I am very thoroughly convinced that in all our discussions of the fertilization of land we overlook the great importance of water. Water is not only itself a plant food in a very important sense, inasmuch as it enters into the growth and structure of every plant tissue, but it also takes into solution every particle of plant food which comes into the roots of a tree, and it makes no difference how much fertilizer you put on an acre of ground that fertilizer is of absolutely no value if there is no water to take it into solution.

Flower Show at Debenham.—On the afternoon of the 10th inst. a bazaar and flower show were held in Mr. Amass's meadow, Gracechurch Street, Debenham, in aid of the fund for rebenching the Congregational Chapel. Debenham flower show was, some four years ago, one of the largest country

shows in the district, but was allowed to drop and was not revived till this year. Under the circumstances a large entry could not be expected, but the quality was a great deal above the average seen at small shows. In the cottagers' division H. Copping secured the largest number of awards, and in the class for subscribers Mr. H. Abbott was practically alone; his collection of vegetables would have done credit to any show in the county. Mr. Abbot also exhibited, not for competition, a grand collection of Ferns, an enormous Fuchsia, and a dish of exceptionally fine Strawberries. B. Salter's collection of window plants was an easy first. Notwithstanding the long drought, Potatos were large and of good quality, as were the Beans. Peas and Onions were fair, but Cabbages and Lettuces made a poor show. Nothing extraordinary was shown in the fruit classes, with the exception of the firsts for Currants. Honey attracted a large entry and was of splendid quality.

Dundee Horticultural Association. — The usual monthly meeting was held in the Technical Institute on the 2nd inst. Mr. Wm. Grant, gardener, Fernhall, occupied the chair. Mr. Alexander M'Intosh, gardener, Greystone, Invergowrie, read a very interesting paper entitled, "Some Properties of the Vegetable Kingdom." He said the products of the vegetable kingdom played an important part in adorning the earth, and affording food for the inhabitants. The essayist referred to the various plants used as food and medicine, mentioning the various diseases for which they were supposed to be remedies, and closed with a reference to poisonous plants and the art of embalming. After a discussion Mr. M'Intosh received the hearty thanks of the meeting for his paper. Mr. George Masson, gardener, and Mr. J. B. Whitelaw, St. Fort, exhibited a large collection of single and double Begonia blooms, which were much admired, and a Certificate of Merit was awarded for a splendid sample of a double white bloom. Mr. James Reid, gardener, Dudhope House, exhibited a large bunch of cut Rose blooms, a bunch of Almond, a bunch of Clematis blooms (Hemyii), and a bunch of Plumbago capensis. There was a large and varied assortment of early Peas shown by different members. The first place was unanimously awarded to the variety Gradus, a new Pea of excellent flavour, with pods as large and well-filled as the Duke of Albany, and coming into use with William the First, and height 4 ft. The second place was assigned to William the First, and the third to May Queen; the fourth to American Wonder and William Hurst. The usual votes of thanks were awarded the exhibitors and the chairman, and the meeting adjourned.

Past and Present Kewites at Play.—On Saturday last, 13th July, a goodly number of past and present Kewites held high festival upon the famous old Kew green with which so many pleasant memories are inseparably connected. The old boys turned up in strong force, whilst the present staff of gardeners employed in the gardens were also present in goodly numbers. The feature of the afternoon, and one which those who took part in it will doubtless long remember, was a cricket match between those that "used to be" and those that "are." King Sol was shining his brightest, but his rays were not less bright than were the faces of the cricketers, who, having come out for a spree, tried their hardest to enjoy themselves, and succeeded. It is said that a Briton takes even his pleasures seriously, but whoever made that statement should have been a spectator of that cricket match, when we think he would have altered his views; for mirth reigned supreme, and quips and jokes at one another's expense kept going the rounds. Despite all their efforts the "Arcients" received a severe beating, being outplayed at all points of the game by the younger men, who, accustomed to practice together, fairly had their opponents on toast. However, as one gentleman facetiously remarked, "Although it is not in mortals to command success the old Kewites did more, for they deserved it." As the sinking sun as well as the sinking sensations in the stomachs of the players announced that the time for drawing stumps had come, the party adjourned to the Rose and Crown Hotel, weary and worn but *not* sad, where mine host had provided a substantial spread, to which ample justice was done. Here it may be remarked that, although in the cricket-field the "men of the present" had it all their own way, at the dinner table honours were fairly even, and more than one player of both classes "followed on" with right good will his innings for roast beef and boiled mutton. After all had scored well the tables were cleared, and at the suggestion of the chairman, Mr. Goldring, the room was fumigated thoroughly and well. Of warblers there were plenty, and encores were freely and vigorously given. Short speeches were made by the chairman and by one or two other gentlemen present, and the announcement that this reunion was to be made an annual affair was received with hearty and vociferous cheers. Auld Lang Syne, sung as only a party of healthy and happy Britons can sing it, echoed forth at the close, and with hearty hand shakes an exceedingly pleasant time came to a close, the memories of which we doubt not will linger long in the minds of those who participated in it.

EARLY PEAS.

This has proved a very interesting subject, because it is only by such dates that we can judge the earliness or lateness of the season, and of the localities in which they are recorded. It it also interesting to see Scotland—especially the north—recording its dates, because we are often told by our friends in the sunny south that we are too far north to do anything in the way of early fruit and vegetable growing; in fact, we have to be very careful in our speech lest they *smile* at us.

Such is not the case, however, and in proof of this I, like Mr. Urquhart, Balnagowan, Ross-shire (Ross-glime is a misprint) referred to my notes. I shall not trouble with the coddling part; that is not a fair criterion, nor with sowings made on borders (because, there we have reflected heat off the walls), but with sowings in the open garden. William I. was sown on 19th March, and a continual supply obtained from 14th June. Sangster's No. 1 was sowd 22nd March, and I picked the first dish on 21st June. Duke of York (Taber's), sown on the same date as William I. (19th March), but rather a late Pea, was not ready for ten days after William I. This is a splendid Pea of the Ne Plus Ultra style, very prolific, of good quality and not too tall, being only about four feet. These dates will compare favourably with those further south in Scotland, and in parts of England too, and will prove the old saying to be true that we are "nae sae heiland to be so far north."—*Wm. Ogg, The Gardens, Duffus House, Elgin.*

IS GARDENING HARD WORK?

At sight of the above in one of the leaders in a recent issue of The Gardening World I was greatly interested. It is comforting to know that at least there are a few that have their doubts about it being such an easy task. To my mind present day gardening is one of the hardest trades or professions that can be conceived. So many young men have the idea that the proper handling of the spade and other tools, mowing, sweeping, tying, watering, etc., spells gardening. Never were they who think so farther astray. Gardening is like the profession of music—so far do its devotees go and no farther. I have all sympathy for any head gardener, nurseryman's foreman, or anyone else in power that has to work short handed, the direct result of this being that they are always behindhand. This is not what gardening should be.

A private place or nursery should be well kept? things must be put in their proper places and all operations performed at the right time; in fact, everything kept well in hand, then the hard work of gardening is considerably lessened, but at the same time there is plenty of it remaining. Then again, how many gardeners out of a hundred can be put down as real good men? For myself I should not like to say more than twenty-five out of the hundred, —perhaps not even that are efficient men. Many of them are ruined, perhaps through no fault of their own, at half and half places—my readers will know what I mean—that place where the "handy man" is kept who has to be gardener, coachman, cowman, etc., all in one. To my thinking this is the great evil attached to the trade. I have known men who have been five or six years in a place like I have described and then applied for a head gardener's post.

Let us just glance for a few minutes at what is required to make a good all-round man. Not to take things in any kind of order we will start with forcing. Rhubarb, Strawberries, early Potatos, Beans and endless other things have to be forthcoming as much out of season as possible, and the sooner he gets them the more he is thought of. The same applies to flowers of many descriptions. The gardener must thoroughly understand Vines, Melons, Peaches, Nectarines, Figs, Pines, Cucumbers, Tomatos, etc., and must, moreover, possess good taste for decorative work. Chrysanthemums at present are a great undertaking in themselves. Very few employees of head gardeners would credit the ceaseless watchfulness, morning, noon and night, that is necessary that they may have the pleasure of looking on fine blooms. The stove is another department in the management of which a great amount of knowledge is required. Button-holes, sprays of all sizes, bouquets, wreaths, anchors, harps, lyres, etc., he must also be able to make. Then again there are "Awkwards" or Orchids in endless variety to be looked after, many of the names of which would puzzle a dean or a bishop to get his tongue round. Grafting, budding and propagation of every description must likewise not be forgotten.

There are still many more things required of the all-round man, but I think I have mentioned sufficient to show that a good gardener should be no fool. Good men can command a living wage whilst the others do not deserve it. As long as so many unqualified men are about gardeners' wages will continue to be low. Lastly, as a word of warning, let me advise parents who are about to put their sons to gardening to let the lad have a sincere liking for it in the first instance, and if so to send him to an establishment where a thorough knowledge of the various branches of the trade can be acquired.—*J. T. Pettinger, Strawberry Dale Nursery, Harrogate.*

SUMMER SCHOOL OF HORTICULTURE.

In pursuance of their studies, the students attending the Summer School of Horticulture in the Technical Laboratories, Chelmsford, paid a visit to the seed farm of Mr. Seabrooke in the suburbs of Chelmsford on the 11th inst. They were attended by the biological staff and were met by Mr. Seabrooke in person, who not only conveyed them over his premises, but in the most generous spirit explained his methods of working in order to obtain certain results. He showed them two extensive sowings of Godetias, including a new one of great merit, and detailed his method of selection and rogueing in order to keep the strain in the highest state of excellence and true to the type. He stated that a good crop of seed of a good strain of Golden Feather could only be obtained at intervals of some years, occasionally only once in ten years. The seed of Beet that has ripened on the ground often partly scatters itself, and will come up at intervals during the next six years. A self sown crop is now ripening a splendid crop of seed. He then took the students over his plantations of young fruit trees worked upon the English Paradise in the case of Apples. Peaches, Cherries and other fruit trees were also dealt with, and the methods of budding described. A visit was paid to the Tomato house where a heavy crop of fruit is now ripening. A detour was then made round a field of Peas, Cabbages and other members of the Brassica tribe, as well as a fine variety of Beet, and a beautiful strain of Moss-curled Parsley now maturing a crop of seed. The effect of drought upon the Peas and other crops was demonstrated. Here also was a plantation of some hundreds of Maiden Apple trees which had been grafted in the comfort of a room during the winter evenings, when work out of doors, and especially of this nature, could not be carried on. After thanks had been expressed to Mr. Seabrooke for his services the students returned to Chelmsford.

On the afternoon of the following day the class was taken over the Chelmsford Corporation Farm, under the management of Mr. Holman at Springfield. The object of this visit was to demonstrate the value of the liquid sewage of towns in the raising of vegetable and other crops. There are tanks upon the ground for the reception of sewage, and Mr. Holman explained the method adopted to obtain the solid contents of the sewage for the purpose of manuring the land. Large earthenware pipes are also laid all over the farm for the purpose of irrigating or flooding the several squares to enrich the soil. This is done

in winter or at any other season when the ground may be vacant; and after a period of flooding the flow of sewage is stopped, the land drained, and after it has become sufficiently dry it is ploughed, and otherwise prepared for the reception of a crop. At present the several squares are carrying crops of Cauliflowers, Brussels Sprouts, Peas, Cabbages, Corn, Vegetable Marrows, Osiers and others. In spite of the dry season the land shows the effect of this mode of manuring in the vigour of the crops, and the rich dark green hue of the foliage. A field of Italian Rye Grass is at present under irrigation, and though it has already been twice mown, the healthy dark green crop is again fit for mowing. Five or six crops are obtained during the course of the season. The vigour of the Willows is also astonishing. All these things were explained to the party by Mr. Holman, who is now preparing his extensive seed beds to sow Cabbages and Collards for the spring crop.

CARNATIONS AT CHELSEA.

Learning that Messrs. James Veitch & Sons' border Carnations were in fine condition at the present, we hied our steps towards their well-known Nurseries at Chelsea congratulating ourselves upon the expectation of feasting our eyes upon something that was worth seeing. Nor were our hopes doomed to disappointment; for in a neat arrangement of oblong beds was accommodated a host of the showy modern representatives of the Gilly-flower of Chaucer, of Spenser, and of Shakespeare, that in all their wealth of beauty and profusion of gay and varied colourings constituted a marked and decisive tribute of praise to the skill of the florists who, from the original simple, single, uncoloured flowers, have procured a race of such gorgeously beautiful productions as are our present day Carnations and Picotees.

The plants were in the majority of cases healthy vigorous examples of their kind, despite the fact that the present dry season has not been at all to their liking; for we were told that last year the growth of the plants was much more vigorous than that of the present season. Be that as it may the supply of bloom was abundant, and of first class quality. The following sorts appeared to us to be specially noteworthy from their all round excellence.

Self-coloured varieties seem to be the greatest favourites amongst the Carnation loving public, for although Flakes and Bizarres are also largely grown the peculiar tendency exhibited by them to sport and run into all sorts of conceivable shades other than those supposed to be characteristic of the particular variety, and hence the great difficulty of keeping any one variety true to character, militates not a little against their widespread popularity. Included amongst the novelties for this season are several really good and useful sorts. Hayes Scarlet is a fine scarlet self, very bright and free, and boasting a vigorous constitution. Not less worthy of mention than it is King Arthur. A grand flower this, bright crimson-scarlet in hue, very distinct in habit also, for the foliage is broader and more vigorous than that of the usual run of the ordinary members of its class. One of the finest whites is Miss Ellen Terry. The blooms are extra large, in fact almost the size of Malmaisons and deliciously scented. This sort is exceedingly useful for producing an abundance of flowers for cutting purposes and we have no doubt will be largely grown on this account. Duke of Orleans is a lovely bright yellow of large size, whilst closely resembling it in colour of flower and vigour of habit comes Mrs. Audrey Campbell. A distinct and pretty sort is The Pasha with its apricot or deep buff-coloured blooms and charmingly fimbriated petals. There is as yet a comparative dearth of varieties exhibiting this peculiar shade and The Pasha is decidedly the best of them so far. Duchess of Portland is a white bloom flaked and splashed with rosy-pink, whilst Duchess of York, which is also enjoying its first season, is of a lovely blush shade tinted with bright coral in the middle of the bloom.

Among the older varieties there are numbers that have not yet been beaten in their respective classes. Aline Newman, Cantab, Joe Willet and King of Scarlets are all good scarlet selfs. Lothair, a rose self, is wondrously pretty, and Rose Celestial, belonging to the same section, is not far behind. Of the richer crimson sorts Oxonian and Sultan are really good. White varieties are always popular and those who wish to indulge in a few of the best of them cannot do better than include Mrs Gifford, Mrs F. Watts, W. P. Milner and The Bride in their collection. Germania still continues to hold its high position amongst yellow-flowering varieties and a nice little bed of it at Chelsea was exceedingly bright and happy looking. John Ball and Lyons are two of the best scarlet and St. Gatien and Thalia two of the best rose flakes we have. James Douglas is a grand purple flake when it comes true, but this season half of Messrs. Veitch's plants have thrown purple flowers, and in fact on one plant alone two or three kinds of flowers were to be seen, showing how strong is the tendency to sport, or to throw back, exhibited by this variety. James Gardiner, John Hines and True Briton are three of the best scarlet Bizarres, whilst Dr. Cronin and Phoebe are exceptionally fine crimson Bizarres.

Picotees were by no means wanting, and although no very new sorts were to be seen the older varieties well sustained the credit of the section. Alice, although an old variety, is yet a distinct and pretty one, boasting of a very heavy crimson edge. Dr. Epps, although it does not throw so large a flower as many of the rest, is one of the most free-flowering, heavy crimson-edged Picotees to be found, Grosteen and J. B. Bryant are two more of the very best varieties of the heavy crimson-edged section and their hardy constitution and great floriferousness should insure them a place in any collection, however limited it might be with regard to number of sorts. Among other Picotees that are in good form at Chelsea this season may be mentioned Mrs. May, Little Phil, Admiration, Mrs A. Chancellor, Edith D'Ombrain and Mrs Payne, the last two varieties so closely resembling each other as to make it difficult to distinguish between them.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects received Certificates from the Royal Horticultural Society:

FLORAL COMMITTEE, *June 25th.*

Calochortus venustus pictus.—The large petals of this variety are white, marbled with brownish purple on the lower third of their length; above this there is a brownish-crimson blotch, edged with yellow. Award of Merit. Messrs. R. Wallace & Co., Colchester.

Potentilla California.—The flowers of this garden variety or hybrid are of huge size, globular and double, with clear and bright yellow petals tinted with bronzy red on the edges of several of them. The leaves are hoary or silvery-white beneath, showing affinity with P. argyrophylla. It should increase the popularity of this hardy, showy and useful class of herbaceous border plants. Award of Merit. Mr. M. Pritchard, Christchurch, Hants.

Paeony Madame de Galhan.—The flowers of this beautiful variety are of large size and delicate satiny rose fading to pink, with the smaller central petals white or blush. All the outer petals are very broad. Award of Merit. Messrs. Paul & Son, Cheshunt.

FRUIT AND VEGETABLE COMMITTEE.

Pea Carter's Daisy.—The pods as shown by Earl Percy (gardener, Mr. Geo. Wythes) Syon House, Brentford, are 3 in. to 4 in, long, somewhat compressed and light glaucous green. Each pod contains eight to ten seeds of large size and excellent quality. The stems vary from 18 in. to 2 ft. high and are furnished with dark glaucous green foliage. For a marrow Pea it is relatively early. Award of Merit.

Melon Bishop's Favourite.—The fruits of this variety are oblong, yellow-skinned, and finely netted. The flesh is white, of great depth, and remarkably tender, juicy, rich and sweet. If it could always be produced of this same quality and merit generally, it would certainly well earn its name, Favourite. Award of Merit. R. Burrell, Esq. (gardener, Mr. A. Bishop), Westley Hall, Bury St. Edmunds.

Strawberry Monarch.—This magnificent looking variety was exhibited by Messrs. Laxton Bros., Bedford. The fruits are of large size, more or less flattened or cockscomb-shaped, a bright crimson-red in colour, and of full rich flavour. The plant is of strong vigorous habit and a most prolific bearer. Even in the present remarkably dry season it has afforded heavy crops of good fruit. It was shown in some quantity. First-class Certificate.

FLORAL COMMITTEE, *July 9th.*

Arnebia cornuta.—This beautiful and interesting annual is a native of the Orient and Turkestan. The plant is 9 in. to 12 in. high, and much branched, with linear and hoary leaves. The flowers are borne in scorpioid cymes, terminating the shoots, and are bright yellow with five large velvety-black blotches, which disappear after a time in the same manner as those of the better known A. echioides. For these reasons and the beauty of the flowers, the species is well worth cultivating. First-class Certificate. Messrs. Dobbie & Co., Rothesay and Orpington.

Hemerocallis aurantiaca.—The flowers of this beautiful Day Lily are of large size, golden-yellow, and of good texture, with broad ovate segments. They are borne in cymes consisting of more numerous blooms than is usual to the species of this genus generally. This showy new plant should make the Day Lilies more popular even than they are at present, and they are by no means neglected. First-class Certificate. Messrs. R. Wallace & Co., Colchester.

Calochortus luteus.—The petals of this pretty Mariposa Lily are golden-yellow with a transverse brown band towards the base, and a narrow brown zone at the very base. They are bearded for the lower third of their length. There seems to be some doubt about its specific name, some calling it C. concolor and others naming it C. Nuttallii, but the beauty of the flowers is not altered thereby. Award of Merit. Messrs. R. Wallace & Co.

Calochortus macrocarpus.—In this case the sepals are purple tinted with green on the back. The petals are very large, rich purple, and bearded with yellow hairs on a white ground towards the base, which is furnished with a darker purple zone This showy species ought to be more widely cultivated. Award of Merit. Messrs. R. Wallace & Co.

Begonia carminata.—The parents of this beautiful hybrid were B. coccinea and B. Dregei, the latter being the pollen parent we suspect, for the obliquely oblong red-tinted leaves are shallowly scolloped as if influenced by it, whereas in the typical B. coccinea the leaves are not even toothed. The flowers consist of rosy petals with darker red winged fruits of large size, and, being produced in quantity, render the plants highly ornamental. The plant is bushy with short spreading stems. Award of Merit. Messrs. J. Veitch & Sons, Chelsea.

Streptocarpus Laing's Multiflora. — The flowers of this showy variety are of large size, and borne two to three together on scapes well above the foliage. They are produced in abundance, and are light blue with violet bands on the lower lip. The size of the flowers is one of their leading features. Award of Merit. Messrs. J. Laing & Sons, Forest Hill.

Begonia Mr. F. Bostock.—The petals of this tuberous variety are glowing scarlet, wavy, crimped, and arranged round a single centre. The flowers are only of moderate size, but large enough, in our opinion, for any purpose, and the wavy character of the petals recalls a Hollyhock, giving the blooms a handsome appearance. Award of Merit. Messrs. J. Laing & Sons.

Godetia Marchioness of Salisbury.—The four large petals of this charming variety are of a rich crimson-carmine with a white edge, like lacing to a Pansy. It is a pity these beautiful flowers are not more largely utilised for the adornment of gardens, for they can be made to produce a magnificent effect when well grown. Award of Merit. Messrs. Daniels Bros., Norwich.

Carnation Mrs. W. Bright.—The large bright yellow flowers of this variety and their broad and smooth petals give it a refined and attractive appearance. The petals are not too crowded nor liable to burst the pod. The plant itself is a vigorous grower, producing plenty of grass. Award of Merit. Miss McRonald, Norgate Nursery, Chichester.

Rose Haileyburyana.—The form of this hybrid perpetual reminds us to some extent of A. K. Williams, but it is of an intense rose colour and fragrant. It is compact in the centre, slightly flattened on the top, and has many of its petals more or less revolute at the edges. It should make a useful exhibition kind. Award of Merit. Messrs. Paul & Son, Cheshunt.

FRUIT AND VEGETABLE COMMITTEE.

Melon Nugget.—The fruits of this scarlet-fleshed Melon are globular, gray, densely netted, and each

about three to four pounds in weight. The flesh is bright orange, very juicy, luscious and sweet, though the specimen cut was a little over ripe. We should imagine it will become a favourite. Award of Merit. Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, Surrey.

Melon Epicure.—Here again the fruits are globular but larger, and weigh four to six pounds each. The skin is yellow and netted with gray lines. The flesh is of great depth, pale green passing almost to white in the centre, and juicy but scarcely so highly flavoured perhaps as that of Nugget, though a proper degree of ripeness might improve the quality appreciably. In any case it has the appearance of being a good Melon.

Red Currants.—A collection of fruit in different varieties of Red Currants, was brought up from the gardens of the Royal Horticultural Society at Chiswick. The berries of Wallares Seedling were of great size, and of a rich, dark, shining red, but so transparent that the seeds are visible in the interior. Another variety whose name we failed to find was also shown, and a Certificate of Merit was awarded each of the two sorts.

THE PLANT HOUSES.

The Stove.

From the fact that a greater number of fine foliage plants are to be found among the occupants of this department than of any other, the gardener usually flies to this for plants for decorative purposes for use in the rooms of the mansion. At most flower shows, moreover, classes for collections of stove subjects are very popular. Neither a lengthened sojourn in darkened rooms or a comparatively brief stay in a draughty show tent can fail to do damage to plants that have been used to a warm atmosphere heavily charged with moisture. Indeed, some of the subjects so used present but a sorry appearance when they come back, and need a little coddling to recall them to their pristine splendour. As the large stove should now be given plenty of air on favourable occasions it is advisable to have a pit which can be kept close to accommodate these ill-used subjects. Care must be taken in the application of water at the root, as it is a mistake to deluge them with water at this time. The syringe, however, may be plied among them several times a day with freedom.

Conservatory.

Coleuses.—Although these do fairly well in the cooler houses in the height of summer they do not last so long in condition as they do under warmer circumstances. Spells of dull damp weather are very trying to them, and if long continued, infallibly causes them to lose a large number of their lower leaves. Such plants as have become too large and unwieldy, or from the reason stated are unsightly, should be thrown away to make room for younger ones. The tops of the shoots, however, may be saved and put in as cuttings, when they will furnish a nice little batch of plants for late use.

Fuchsias.—These have been exceptionally brilliant this year, the bright weather having apparently suited them well. Liberal feeding with liquid manure will now be necessary if they are to keep on blooming. Thrips often cause a lot of trouble at this season of the year amongst Fuchsias, the tender juicy leaves evidently proving a great attraction to them. A sharp look-out must be kept for their appearance, therefore, as they are especially rampant this year. In case the plants get very bad sponging with a solution of Fir Tree Oil must be resorted to, although they should not be allowed to get as bad as this before remedial measures are taken.

Balsams.—These are among the most showy of summer-flowering cool-house plants and batches of seed will have been sown at intervals during the preceding months to keep up a succession. Potting them in rich soil, and being very careful not to give them too much water until they have filled their pots with roots, are the chief points to be observed in growing Balsams. The same remarks will apply to Celosias.

Pelargoniums.—The later batches of these will now have served their turn, and, like the earlier ones, may be turned out of doors to ripen their wood. It does not follow, however, that because they have done flowering they need no further attention. Less water will, as a matter of course, be required, but it should be gradually withheld so as to allow of a natural maturation of the wood instead of the sudden drying off that they too often receive. A position where the sun can have free play upon them is essential.

Liliums.—These are practically indispensable in every show-house that it is required to keep up to a fair standard of merit all the year round. During the summer months they come in exceedingly handy, as tall plants are at a premium in the conservatory at this time of the year. The period of flowering may be regulated very easily so that a constant succession is kept up, always supposing that sufficient numbers of plants are on hand. A cool shady corner out of doors, not overhung by trees be it observed, but sheltered from the rays of the sun, as for instance in the angle formed by the junction of north and east walls, should be chosen, and here the plants may be placed, the result being that their flowering period is retarded considerably.

Lapagerias.—As these favourite climbers begin to come into flower some of the growths may be loosed from the strings or wires to which they have hitherto been trained and allowed to hang down with their graceful burden of showy flowers. Careful tying and training is of course necessary during the earlier months of the year, in order to prevent the intertwining with each other that would otherwise result, but now it is a different matter, and the growths must be allowed some freedom if they are to show off their flowers to the best advantage. Plenty of water is very necessary here, liquid manure being used now and again.

Pits and Frames.

At this season of the year under-glass space is of less value than at any other season from the fact that so many subjects, which, during the colder weather need warm treatment, may now be placed in unheated structures without fear. Any repairs, therefore, which it is desired to make should be seen to in the course of the next month or so. If possible some of the warmer pits should be emptied of their contents and whitewashed, and of course, if necessary, painted.

Amaryllis.—Where a number of these handsome spring-flowering bulbs are grown, a special house is usually devoted to them. During the growing period they need plenty of light and air, and an abundance of water at the root. It is always the best plan to plunge the pots to the rims in some material such as old tan, cocoanut fibre or leaves.

Pinks.—Cuttings of these may be taken without delay. If inserted in the open ground they are usually very difficult to strike, such a small percentage of the pipings rooting as to render it scarcely worth the trouble of putting them in. A bed of sandy soil should be made up in a cold frame, and the cuttings dibbled into this. They may be placed fairly close together, and afterwards covered with hand lights; shade from hot sun and an occasional light dewing over with the syringe are likewise essential. Treated thus they will be found to strike with comparative freedom.

General Work.—Attend to the potting off or shifting on of such plants as require it, as it is a great mistake to allow the roots to become matted in the pots before a shift is given. Azaleas, Camellias, and Acacias that have been turned out from the greenhouse or conservatory during the summer months must be syringed regularly to keep down thrips and red spider. The watering must be seen to, however, before syringing is commenced, otherwise the surface soil alone will be wetted and a wrong impression given as to the condition of the ball of the plant, which may, indeed, be suffering for lack of the necessary fluid. Pay attention to the clearing away of all odds and ends of bedding stuff which have been left over. More than once have we seen rubbish of this sort littering the frame-yard till well towards the end of summer, a few miserable plants stuck here and there, perhaps, which are of no earthly use, and not likely to be. Boxes from which plants have been taken should be put in the sun to dry, a good brushing out with a stiff birch broom given them, and stored away in a shed or outhouse until they are wanted again. Empty pots must be neatly stacked in heaps according to their sizes in readiness for a wet day, when they may be washed.—*A.S.G.*

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne F.R.H.S. Price, 1s. post free, 1s. 1½d. from the Publisher of the Gardening World, 1, Clement's Inn, Strand, W.C.

THE ORCHID HOUSES.

Odontoglossum crispum.—Treatment of Imported Plants.—Being now busy potting up several hundred plants just received, it may not be out of place if I give your numerous readers our mode of procedure with these dry pieces of the most variable and beautiful of the genus. In the first place they are each carefully looked over, cutting away all decayed bulbs, bracts, and old dead roots, after which they are laid out singly on the stages or shingle. Here they receive frequent syringings until they begin to plump up their bulbs, which will be in about a fortnight, unless they are very much shrivelled, when it will take longer.

Potting Up.—By this time they will be ready to go into their pots, which will require to be of various sizes and thoroughly clean inside and out, for in a large batch of plants, unless they are selected, you will be sure to get some small as well as large plants. These should be filled to within an inch or so of the rim with small pieces of crock, over which place a layer of sphagnum moss.

Compost.—Have in readiness a good quantity of fresh picked moss and pulled peat before commencing operations. Speaking for myself, I very much dislike to have to leave off for want of material, and I think most gardeners are alike in this respect. Put each plant into as small a pot as will conveniently take it, pressing the compost moderately firm about them. Some growers mix the moss and peat altogether on the bench before using it, and this is no doubt a very good plan. We, however, prefer to have it in separate heaps on the bench, mixing it as the work proceeds by first working in a lump of peat, to be followed by a small quantity of moss, and so on until it is finished, when all the loose and untidy pieces are sheared off with a sharp pair of scissors kept for that purpose.

Watering.—This is very important, for if too much is given at first the compost soon becomes sour, and the roots refuse to take hold of it. Odontoglossums are generally supposed to require an immense amount of water at the roots, and, in fact, never should be allowed to become dry. This is all a mistake; we have conclusively proved that they, like all or most all other plants, will be much better if allowed to get moderately dry at least once or twice a week. They become dry in their own homes at times, or they would not be provided with bulbs for the storing up of moisture to be given off in time of need. A gentle syringing overhead is needed to keep the moss alive and growing until such times as the roots reach the sides of the pots, when more liberal treatment should be the order, always, as mentioned above, giving them time to take up what is afforded them in one watering before giving more.

Shading.—Shade from strong sunshine, give air judiciously, and keep the atmosphere fairly moist. —*C.*

Gleanings from the World of Science.

Marsh Sow Thistle as Fodder.—Some of the London papers have recently been discussing the utility of the subject under notice as a fodder plant; but if they were really in earnest it is high time for them to put the cultivation of the plant into active operation before the species becomes exterminated, for it has really become very rare. Formerly the Marsh Sow Thistle (Sonchus palustris) was found in greater or less abundance in the marshes of Suffolk, Huntingdon, Kent, and Essex, but recently it has all but become extinct, except in the marshes of Woolwich and Plumstead, bordering the banks of the Thames in Kent. Even there the land has been drained and placed under the care of the London County Council. The land is now under pasture and hay fields, so that the Sow Thistle in question is confined to the open ditches, dug for the purpose of draining the land. It is by no means plentiful even there, and at no distant date (to all appearance) must become extinct. If it is of any value as a fodder plant, those concerned must bestir themselves while a remnant of this rare British plant still remains. Of course, if the cultivation of it is undertaken, it would prove most serviceable for planting in marshy land that cannot readily be drained.

HINTS FOR AMATEURS.

Seasonable Work in the Flower Garden.—One of the greatest benefits which the horticulturally inclined householder reaps from his small flower garden is that it always furnishes him with some little employment to while away his time, to distract his attention from business cares and family worries, and thus to rest and refresh his mind; and we might add not only is the mind strengthened and refreshed by occasional half-hours or hours spent in this way, but the body is benefited likewise, for as has been proved over and over again change of occupation is rest of the truest and best kind. During the summer months, particularly, there are always some little jobs that need to be performed in the garden, some favourite flower that needs especial attention; for if the garden is to possess the charm that it should rightfully do, it must wear a tidy and well-looked-after appearance, and there is nothing that can give it this other than consistent and careful attention.

Turf.—What looks nicer in a garden than a piece of green, level, nicely-mown grass? Indeed, we might say what does a garden look without it? It is manifest that in a hot, dry season like the present this can only be obtained where great care is taken in the giving of water. Our neighbours across the Channel take a great deal more pains with their lawns with regard to watering than we usually do, and their trouble is rewarded by a beautifully green sward that is all too seldom seen in our gardens here. If a length of hose can be obtained and a rose or spreader to affix to it, the amateur may find many an hour's amusement watering the grass of an evening after the day's regular work is over. Besides these regular waterings care must be taken in the use of the mowing machine, for if the cutting blades are set down too low the roots of the grass sustain serious injury, especially if hot weather takes place just after mowing. Many of the bare brown plots of grass which we see are more or less the result of too close mowing during very hot weather.

Grass Edges.—These will need a little attention at times. If the grass is allowed to get too long the negligent gardener will find that it has produced roots from the nodes of the stems, and after he has been along and cut it with the shears, an hour or two's weeding is wanted to put things tidy again.

Gravel Paths.—The dry, hot weather is not less trying to those than it is to the grass. It is quite true that weeds will not grow very fast now, and hence a little trouble may be saved in this way, but for all this the time saved in weeding will have to be spent in another way if the paths are to be kept in such a condition that walking upon them is a pleasure. During the summer every advantage must be taken of showers, so that the roller may be used while the ground is yet damp and soft from its effects. It often happens, however, that these showers are long in coming, and then the hose or the watering-can must be called into requisition, for it is not of the slightest use to roll with the ground dry and hard as iron.

Flower Beds which are filled with Pelargoniums must be gone over every now and again, say once a week, with a sharp knife or a pair of scissors, and old blooms and yellow leaves removed, as this will serve to keep the display up for a much longer time than would be the case were the seeding trusses allowed to remain on, weakening the plants and producing a decidedly untidy appearance. The surface of the soil between the plants must be occasionally broken up by means of a Dutch hoe. Frequent waterings followed by bright scorching sun are sure to result in the surface of the soil being baked into a hard crust and the roots which the waterings have drawn to the surface receive injury. Incipient weeds are likewise kept in check by this simple and easily exercised precaution.

Carnations.—These are in their full glory just now, and the advancing season necessitates the making of preparations for procuring next year's stock. This is usually done by layering. There is nothing in this operation to prevent even the veriest tyro in the art of gardening from trying his hand at it. Like the art of Rose budding it is practised, and practised successfully, by hundreds of amateurs. As soon as the plants begin to go out of bloom the work may be commenced, as the layers are thus allowed a good long season wherein to make sufficient roots to insure their passing through the winter safely. Some light, finely sifted soil should first be placed around the plants to a depth of 2 or 3 inches. The necessary implements for the work will consist in a supply of stout pegs, about 4 in. in length, and a sharp, rather thin-bladed knife. First of all the lower leaves must be stripped off so as to allow the operator to see what he is doing. In taking these off, it may be observed, a little care is necessary to prevent undue laceration of the stem. With regard to the length of the shoots above the point where the incision is to be made it is obvious that long straggling layers will only produce lanky unwieldy plants, and as these are by no means desirable the cutting must not be made too low down in the stem. In all instances 5 or 6 in. may be taken to be the maximum length of the growth above the place where the tongue is to be made, and in the case of the less vigorously growing sorts they may be considerably shorter.

So much for preliminaries, and now for the actual operation. Commencing on the outside of the stem, that is to say the side turned from the main axis of the plant, and about half way between two nodes, make a transverse cut half way through the stem. Then, turning the blade of the knife, make a longitudinal cut upwards right through the node immediately above the point at which operations were commenced. A tongue of about three-quarters of an inch in length is thus made. This, by means of a gentle pressure must be inserted in the soil, carefully noting the while that the tongue is not allowed to return to its original place, for if allowed to do so the wound will heal and no roots will be emitted. Finally, by means of a peg the layer may be made secure in its new position and the soil neatly levelled about it. Only the strongest shoots should be layered, whilst the weaker growths may be cut away in order to benefit those that are left, together with all old flower stems from which the blooms have been taken, the whole strength of the parents being thus devoted towards the making of good strong young plants, a few of which are far more likely to give satisfaction than a much larger number of weaklings would be.—*Rex.*

LORD NAPIER NECTARINE.

At Gunnersbury House, Acton, Mr. James Hudson has probably the finest tree of Lord Napier Nectarine to be found in the kingdom. Planted inside a house the dimensions of which are 24 ft. by 13 ft., it now covers the whole of the interior of the roof; the branches are covered with healthy, vigorous foliage, and there are on the tree some four hundred fruits about the size of walnuts. This tree is a triumph of cultural skill, and does Mr. Hudson, the head gardener, the highest credit. Last year Mr. Hudson allowed the tree to carry a larger number of fruits, but what he this season loses in quantity he will gain in size. Lord Napier is one of our earliest Nectarines, the fruit of large size, the quality very good, and probably no other Nectarine is so much grown in the present day as this.

The Nectarine.

The Nectarine, like the Peach, is Persica vulgaris, and one can quite understand its receiving the common name—evidently derived from the Latin, nectar, the drink of the gods; hence, Nectarine, because of its exquisite flavour. The Peach was known to Theophrastus in 322 B.C., so it is a fruit of great antiquity; and the Nectarine, notwithstanding its striking differences to the Peach, is but a form or variety of it, distinguished from it in general character only by the fruits having a smooth instead of a rough skin, as in the case of the Peach; also in flavour and general appearance, and yet, as proof that it is but a twin-fruit to the Peach, a tree of the latter has at times produced fruits of both types on the same branch, and even a closer relationship has been recorded in a single fruit being half a Nectarine and half a Peach; and yet for exhibition purposes Peaches and Nectarines are considered to be two kinds of fruit.

That a form of the Nectarine has been with us for many years is shown by the fact that the White Nectarine, one of the oldest of all races of Nectarines, is mentioned as having been grown in this country for the space of 250 years. The late Mr. Thomas Rivers, who did so much to improve our stone fruits—Peaches, Nectarines, and Plums—has left on record the fact that he commenced to raise seedlings by sowing the stones of the White Nectarine, and the first batch, when they fruited, showed that he had among them a white Peach—a Peach in appearance, but having the brisk flavour of a Nectarine. The stones of this white Peach were sown. Several of them bore fruit when four years old; two among them produced Peaches, and one of them proved to be the earliest Peach then known. From this experiment Mr. Rivers deduced the conclusion that it is to the old White Nectarine we owe the pale-skinned Peaches, such as the Noblesse, the Malta, and the White Magdalen, all remarkable for briskness of flavour peculiar to the Nectarine, and equally so for retaining in the trees the character of the White Nectarine, producing large pale flowers peculiar in their shape. I may add that Mr. Rivers' first attempt at raising seedling Peaches was by using the stones of a large, handsome, but in this country worthless Clingstone Peach, the Pavie de Pompone, and the first generation gave one Peach producing large flowers like its parent, but with a melting, rich flesh perfectly its converse. This was named Princess of Wales, in honour of that illustrious lady. Still, hoping to raise a Peach as large as the Pavie de Pompone, with tender flesh, and, like that, a good keeper, so that in a well-managed fruit room good Peaches might be preserved till November, Mr. Rivers selected some fine fruit of the Princess of Wales, sowed the stones, and waited patiently. One of the first of the seedlings to fruit produced in September, 1865, such late Peaches as had never before gladdened his eyes—large in size and fine in quality. This was named after the late Lord Palmerston, who was then living.

Some Singular Results in Nectarine Seedlings.

Mr. Rivers next tried his hand at seedling Nectarines, and sowed stones of the Pitmaston Orange, a variety raised near Worcester by a Mr. Williams from the Elruge Nectarine, and which first fruited in 1815. The Pitmaston Orange Nectarine is a variety so diametrically opposite to the Elruge in flowers and fruit that it greatly interested Mr. Rivers, and he became possessed by a desire to try and reproduce its parent by going through two or three generations of seedlings. Twelve to eighteen seedlings were obtained from the Pitmaston Orange, and all the trees of this generation, except one, proved to be Orange Nectarines like their parent, and the trees also produced large brilliant flowers peculiar to that sort, except one, and this proved to be a large crimson Peach, the tree producing small deep red flowers instead of the large brilliant ones borne by its brethren. Mr. Rivers concluded that a Peach stone had got among the Nectarine stones by accident, and produced this stranger. To try and solve any doubts, Mr. Rivers took particular notice of this Peach, and he sowed all the stones it produced, and watched with great interest what they would bring. Out of about twenty trees raised from them the greater part bore Peaches like their grand-parents, and the trees gave the same large flowers; but the most remarkable fact in this experiment was that two trees bore white fleshed Nectarines, a little red at the stone like the Elruge Nectarine, from which it is stated the Pitmaston Orange Nectarine was raised, and the trees, like that variety, gave small flowers. Now here was a strange and most interesting event in pomology. A white fleshed Nectarine with Mr. Williams, of Pitmaston, had produced a seedling with orange coloured flesh (the Pitmaston Orange), this in its turn yielded to Mr. Rivers a large white fleshed Peach, and stones from that Peach produced trees with the characters of four generations, viz., the Elruge Nectarine, the Pitmaston Orange Nectarine, a Peach the child of the latter, and again the Pitmaston Orange Nectarine. Truly, there are wonders in vegetable physiology—the whys and wherefores no man knoweth.

Freestone and Clingstone.

These two peculiarities divide Peaches and Nectarines, as the fruits of both have the flesh separating freely from the stone, or else the flesh clinging to it. It is the same with Plums. In the case of a freestone the flesh lies quite free from it, except at the simple points of basal attachment. When the flesh adheres we have a clingstone. This difference seems to have existed ever since Peaches were cultivated, being mentioned by the oldest horticultural writers. The "freestone" condition arises simply from the

natural decay of the fibrous cords which connect the pulp with the surface of the endocarp, i.e., the inner membrane of the fruit. Why it should occur is not yet explained; that the difference consists in no more than this natural decay is shown by the existence of intermediate forms, by French called "semi-cling stones."—*R. D.*

THE ROYAL GARDENS
AT FROGMORE.

We recently had the privilege of passing through the extensive ranges of hot-houses in the Royal Gardens at Frogmore, Windsor, and which are under the superintendence of Mr. Owen Thomas, gardener to Her Majesty the Queen. Time would only permit of a passing glance at the flowers, plants, fruits, and vegetables that are reared and brought to maturity at all seasons of the year for the supply of the Royal household; but we was sufficient to convince us of the enormous amount of work that has got to be effected in regular and unceasing rotation every twelvemonth, and the responsibility of the gardeners in charge, from the head downwards. Some of the plant houses were practically depleted of their contents at the time of our visit, for the purpose of furnishing the extensive decorations needed in the Castle at that particular time.

In passing through the large conservatory we noted that the structure was chiefly occupied with huge Camellias and tall Palms at present brightened with great quantities of Hydrangea hortensis, H. paniculata grandiflora, Lilium Harrisii, Kalosanthes coccinea, and others, all flowering profusely. On the side benches were fine batches of Germania and Uriah Pike Carnations, beautiful and floriferous little plants of Erica Parmentieri rosea, and others, well shown up against the dark green foliage of various subjects. In the Rose house, tall plants of Homer, William Allan Richardson, and other varieties trained up close to the glass were flowering more or less freely, and the back wall was covered with tall plants of Bougainvillea glabra and Cassia corymbosa, loaded with a profusion of rose and yellow blooms respectively. The Gloxinia house was gay with a fine strain of that class of plants as well as Mussaenda frondosa, Clerodendrons, and Stephanotis, the two latter being upon the roof. Cattleya Gaskelliana was also noticeable, and in a raised border at the back some large and healthy bushes of Gardenias showed what can be expected of them.

The stove was replete with dark coloured Dracaenas, Phyllotaenium Lindeni, Alocasia Thibautiana, Anthurium crystallinum and other fine foliage plants in the best condition. A house was mostly devoted to numerous varieties of Crotons, the prevailing colour of which is yellow, as such are found to be most serviceable in lighting up groups of dark leaved Palms, &c. Here also were Allamandas, Tuberoses, Pitcher Plants, Fittonias and a fine batch of Calanthes now making vigorous growth. Another house was devoted to Caladiums in great variety and in small pots for decorative purposes. In a house filled with decorative and regal Pelargoniums were Volonte nationale alba, and Duchess of Teck, both white and other sorts flowering profusely. Passing into another structure we noted a fine lot of Lilium speciosum, L. s. rubrum, L. s. Kratzeri (album) and others, together with a fine batch of Achimenes. The Fernery was replete with Adiantum concinnum latum, A. cuneatum, A. c. gracillimum and other Maidenhair Ferns in healthy condition.

The glass for the production of fruit is very extensive, and the crops in the several houses are in various stages of progress. We are unable to name them in the order of succession, and can only refer to them seriatim as we found them during a hurried survey. In the first Peach house entered a fine crop of Royal George, Grosse Mignonne and Stirling Castle had just been harvested. Next to this a tempting crop of Nectarines was not quite mature. Elsewhere was a house of Nectarines, including Elruge and Violette Hative just being harvested. The fruits of the former were handsome, and the fruits of the Peaches we noted were remarkable for their size, notwithstanding the fact that frequently two or more were to be noted on the same branch in close proximity, indicating the skill of the cultivator.

The crop of Grapes had been finished in three of the houses, and in the earliest one the wood and foliage were ripening off. Black Hamburgh and Foster's Seedling Grapes, large both in bunch and berry, were fit for use in another house close by. A heavy crop of Foster's Seedling was well advanced in another structure. This crop, however, is only likely to be temporary, for three Vines of Muscat of Alexandria, planted along the front of the Vinery, and making vigorous growth, are intended to occupy the house ultimately. There is only one huge Vine of Foster's Seedling in the house, and, being both old and having been heavily cropped, may get exhausted and die at any time. The three Muscats will, however, be ready to take its place. The heavy crops of Lady Downes, Alicante, Raisin de Calabar, Gros Guillaume (Barbarossa), and Trebbiano had not commenced to colour at the time of our visit. The bunches of the last two named were of huge size. Two houses filled with Lady Downes were in gradually successional stages to those in the house just named. The three-year-old Vines of Madresfield Court, Golden Champion, Gros Maroc, and Duke of Buccleuch in another house were carrying very heavy bunches. Yet another house of Muscats in which the berries had not begun to colour.

Very interesting were the Pineapples, not in pots but planted out in soil consisting of heavy loam, in pits adapted for the culture of this particular crop. One pit was occupied by the Queen variety, every plant of which was fruiting. Another pit was filled with Smooth Cayenne, recently planted. Large suckers only are rooted for making fresh plantations, and the fruits are ready for cutting nine to ten months after the Pines are planted. Elsewhere we noted another pit filled with Pines in fruit, and a fourth plantation in the flowering stage. Numerous houses are devoted to the cultivation of Melons in various stages of progress, some being newly planted, some in bloom, some with fruits the size of a pigeon's egg, and thence onwards to the final stages of maturity. A large number of varieties are grown, including Windsor Castle, Hero of Lockinge, Sutton's Improved, Sutton's Ar, Royal Favourite, The Duchess, Royal Ascot, Scarlet Premier, and several others. Successional batches of Tomatos may also be seen in all stages. Some of the varieties grown are Frogmore Selected, Windsor Castle, Golden Nugget, Sutton's Dessert, Earliest of All, &c. The plants are topped after reaching a certain height, so as to direct their energies to the perfecting of the bunches set, and when that crop is gathered the plants are destroyed to make room for another batch. Cucumbers are also grown more or less extensively, and amongst those we noted were The

Windsor Castle from the Home Park.

Rochford, Sutton's Progress, and others. The kitchen garden is very extensive.

The accompanying illustration represents a view of Windsor Castle itself, taken from the Home Park in which the Windsor and Eton Rose and Flower Show was recently held by kind permission of Her Majesty e Queen. Seldom is so romantic a spot obtainable for the holding of a flower show. The flagstaff indicates the ancient tower, the rest of the building in view being more recent. Between the trees and this front is the terrace, high above the level of the Home Park. Looking at this view of the Castle from the latter standpoint the Winchester Tower is seen on the right, and the Cornwall Tower corresponds to it on the left. The various portions are of different ages, one between these towers being inscribed, E. R., 1583, and another is of the date of George IV. The buildings surrounding the courtyard are of much earlier date. From the terrace a magnificent view is obtained, stretching away over at least four counties.

REV. GEO. HENSLOW ON INTERESTING PLANTS.

At the meeting of the Royal Horticultural Society on Tuesday, June 25th, the members of the Association were disappointed of the lecture on "The Uses of Botanic Gardens," which was to have been dealt with on the afternoon in question. The gap was, however, ably filled by the Rev. G. Henslow, who proceeded to unfold to his hearers some of the wonders of nature as exemplified in the curiosities and freaks of plant life. The reverend gentleman used as illustrations some of the plants which had found a place in the day's show. As an authority on plant life Mr. Henslow's reputation is well known, but his delightfully simple manner of imparting of his store of knowledge to his hearers is not less remarkable and noteworthy. In speaking of the Primula the lecturer, after commenting on the peculiarity usually to be seen of the varying lengths of stamens and pistil, said that Darwin had discovered that very many more seeds were produced as the result of a union between pistils and stamens that were at the same height in their various flowers than when pistil and stamens were at different heights.

This led up to the question of crossing and intercrossing and the marvellous results that had sprung from its practice. In some cases we did not even know exactly from what parentage some of our races of garden plants had sprung, so much had they been modified from their ancestral forms by the painstaking labours of the florist. As a case in point of the confusion that existed with regard to the parentage of some of our favourite flowers, the lecturer touched upon the controversy that was at present being carried on in the horticultural papers as to what was the real origin of the showy strains of garden Cinerarias, which were now everywhere looked upon with such special favour for their showy decorative qualities, some authorities asserting that they were all sprung from the various modifications which the descendants of Cineraria cruenta had put on under cultivation, others being of opinion that at least two, and perhaps more, species were concerned —most likely C. cruenta and C. Heritieri, or, as it used to be called, C. lanata. With regard to the history of the tuberous Begonia, however, this mystery did not exist, for the scarlet-flowered one was introduced in 1864, the yellow one in 1865, and the pink one in 1867. Since then the repeated crossing and intercrossing which had been zealously prosecuted on all hands has produced the gorgeous race of plants which we prize so highly and cultivate to such a large extent. The brightly hued Violas which were now such general favourites in our gardens had also been brought into existence by the exertions of the florist. Burbidge states that Lady Mary Bennett in the year 1725 was the first to pay attention to the Viola as a garden plant. Subsequent to that date the work of crossing had been vigorously carried on, V. altaica, V. lutea and possibly many others being largely utilised as parents of the present race.

The lecturer then went on to remark upon the wonderful ability that plants possessed of adapting themselves to varied circumstances and different environments, their structure and appearance being often greatly modified to suit the changed order of things. Examples of this would, he said, be found n many of the members of Euphorbiaceae and in the Cactae, for although these two orders were very widely severed from each other, their members actually in very many cases assumed a certain likeness to one another, from the fact of their growing together in the same dry, hot, arid regions. The thick fleshy leaves and stems, covered with a thick hard cuticle or with an abundance of hair, was a wise provision of nature to hinder the excessive evaporation of water from the plant systems. Brodiaea volubilis was next cited as another instance of plant adaptation. The flower stems, which are long and ungainly, exhibited a desire to reduce their apparent length by coiling themselves around any rigid substance that came within reach by virtue of the force of circumnutation, coupled perhaps with a slight degree of sensitiveness.

Very curious examples of how plants adapt themselves to changed conditions might, Mr. Henslow continued, be observed in the way in which some of them will actually alter their habit of growth. Thus a plant which may be originally a climber affects a dwarf and shrubby habit for some reason or other, the climbing propensity being held in abeyance for very lengthy periods, although now and again there would be an attempt at a reversion to the original order of things. As a familiar instance of this he might mention our common dwarf French Bean, which, originally of climbing habit, had been induced under cultivation to take up a dwarf and bushy style of growth, but which would occasionally evince a tendency to elongate its stems and to take to climbing again. The Convolvuluses again, although, with us, essentially climbing subjects, in Southern Africa were not so. Speaking of the existence of dwarfs, the lecturer said that it was very difficult to discover just exactly the true reasons for plants exhibiting a tendency to dwarf. True it was that the florist was able by carefully selecting as seed bearers and parents of a future generation the shortest of the parents at his disposal, and by consistently continuing this was able to give us comparatively dwarf plants, but still up to the present no one had hit upon the plan of creating dwarfs. Mr. McNab, of Edinburgh, had, however, in the course of his investigations discovered that a dwarf race of Rhododendrons may be obtained by fertilising with pollen from the short stamens.

The peculiarities manifested by many plants at some period or other of their lives of reverting back to an ancestral form was next dealt with. The Gloxinia was mentioned as a case in point. The reverend gentleman said that G. speciosa when introduced in 1815 was a drooping irregular flower with but four stamens. This crossed with one or two other species, probably G. caulescens, produced a race of hybrids which were soon extensively cultivated. In 1846 a seedling, G. Fifeana, was raised by Mr. Fife, of Rothesay, which had erect flowers, a peculiarity which is usually considered to have been characteristic of the normal and original form. Since that time the flower has become regular and has five instead of four stamens, as was the case with G. speciosa. A most interesting conversation then ensued upon regular and irregular flowers, and upon the several positions they occupied in the economy of nature. Here the lecturer stated that the regular flower was the true ancestral form, but that owing to various causes numbers of them had become irregular during a lapse of a considerable number of years. Thus, as doubtless many of the audience had observed, some of the Linarias, or Toadflaxes were irregular because the corolla was spurred. But here nature, attempting to throw back to an earlier form, now and again strove to do away with this irregularity. As an instance of this Linaria peloria was mentioned, in which the flower had been made regular by the production of four extra spurs, making five in all. It often happened, moreover, that the terminal bloom in an inflorescence of what are usually irregular flowers was nearly or quite regular. This again was a clear attempt on the part of nature to produce something more nearly in accordance with what was doubtless an original form. Irregular flowers, such as those of the Pea, were without doubt brought about in great part through the influence which various insects exercised upon them.

The various methods by which some plants increased the showiness of their flowers with a view to attracting the various insects to themselves necessary for pollenising purposes was next discussed. Some, as in many of the Campanulas, have a highly coloured petaloid calyx, whilst the Hydrangea in a natural state has the outer flowers aborted and sterile, the greatly enlarged calyx materially contributing to the showiness of the plant and serving to attract insects to the centre blooms, which are comparatively inconspicuous and fertile.

ENGLISH AND SPANISH IRISES.

After the beauty of the dwarf and tall bearded Irises (Iris barbata var.), commonly known as Flag or German Irises, one gets what are principally known and represented in cultivation as the English and Spanish Iris (I. xiphioides and I. Xiphium). With this class one has a grand succession of bloom from the Iris family. These latter Irises are fast growing into repute, both as a garden plant and as a florist's flower, by the large quantities that are used for table decoration, lasting so well in water, and for the beauty of their blossoms, as well as the endless colours as there are in a collection of them. From the old blue it has been converted by the able connivance, so to speak, of the hand of man, into almost all shades and colours; there are pale blues, deep blues, lemon and deep golden, white, blush, lilac, purple, claret, bronze, crimson, and violet, selfs and shaded, mottled and striped, and so marvellously blended that no description can do them full justice, and many are delightfully fragrant.

They are both of Spanish origin, and were introduced into England some centuries ago. The English Iris has by many been claimed as a British plant, and justly so, yet this is erroneous. The Iris xiphioides, or English Iris, is a vigorous growing species, with very large flowers, measuring from four to six inches across, and have together with its congeners been deservedly termed the "Orchids" of the flower garden. Their culture is very simple, as they will grow in almost any ordinary garden soil, but succeed best in a compost of sandy loam and leaf mould well drained. It is advisable that the bulbs should not remain in the ground longer than two or three years, as the young bulbs are formed directly under the old bulbs, and thus in the course of a few years the bulbs descend so low as to be out of reach of the necessary air to be capable of vegetation. Such varieties as those mentioned are some of the most attractive in the garden, and most effective when grown in pots for conservatory decoration. The bulbs should be planted any time during September and October in clumps from three to twelve, and about four inches deep, and five inches apart.

Varieties of English Iris.

Mountain of Snow: a beautiful white.

Abigail: s., crimson-purple, splashed lavender f., lavender and violet.

Blanche Fleur: s., white with a rose tinge; f., white.

Gertrude: s., mauve, splashed purple; f., lavender and violet.

Amusant: s., purple; f., deep blue, splashed purple.

Graaf Bentinck: s., crimson, flaked white; f., white, spotted crimson.

Cleo: s., violet-purple; f., rich violet-blue.

Armida: s., purple, mottled black: f., crimson-purple and black.

Mont Blanc: the best pure white.

King of the Blues: the largest and best blue.

La Charmante: s., lavender-blue; f., white, laced lavender.

L'Unique; a rich claret, very handsome.

Vaniqueur: a pretty lavender, mottled violet.

La Vierge: s., azure blue; f., violet and black.

Palatinus: s., mauve, flaked purple; f., rosy-purple.

Victoria: s., magenta, flaked white; f., splashed rosy-purple.

Ruby: a very beautiful crimson-purple.

Grande Blanche: white, feathered and blotched purple.

The above represent the finest and most distinct, and would be found to be most strikingly beautiful and varied if planted in groups as recommended. They are nearly a fortnight later to bloom than the Spanish Iris, and differ from them considerably, the latter being smaller, and the combination of colours more varied. The peculiar blending of shades in these render them one of the most curious yet interesting bulbous garden plants we have, and can be compared if not quite equal to the rarest Cattleya, the choicest Laelia, or the finest Sobralia, as they possess all the delicate tints and varied shades,

together with the same grace and form as such hot house plants. They require the same treatment as the English Iris, but plant three and a half inches deep and the same apart, the bulbs being less than half the size of the English type. As pot plants the Spanish Irises are exceedingly beautiful; plant from five to eight bulbs in a pot of sandy loam and leaf mould with good drainage. The best twelve are as follows:—

Blue Beauty; s., violet; f., azure blue with yellow base.

Golden King: s., deep yellow; f., deep yellow with orange base.

Carmen: s., rosy-purple; f., yellow with orange base.

D'Azara: s., violet-blue and purple; f., olive with orange base.

Lemon Queen: a beautiful soft lemon.

Snow Queen: pure white, with orange base.

Velasquez: s., red-purple; f., olive and orange.

Marie Louise: s., violet-blue; f., olive and orange.

The Moor: a beautiful chestnut-purple, with orange base.

Princess Ida: s., white; f., primrose, with orange base.

Joanes: s., dark porcelain; f., sulphur, orange base.

Bronze Queen: s., bronze; f., olive, orange base.

The above by no means exhaust the collection of these lovely flowers, for there are many more, and all deserve a place in the flower border. One commonly known as the "Thunderbolt" Iris is a charmingly effective plant when seen blooming in quantities; it has large bronze-purple standards and chestnut-brown falls, with orange base, and is a very strong grower.

The Iris family is a large one, and, by a judicious selection, the flowering season might be extended nearly through the whole year.—*W. L.*

A WHITE ROSE.

A Rose which I should like to offer a few comments upon, I will say at the outset, is not a florist's flower. It is one of those much neglected, albeit very beautiful types of single flowers—nature's own—yclept by the botanist Rosa tomentosa nivea. It is, therefore, a natural variety (differing from the type in size and colour), and would not, of course, on that account, recommend itself to those otherwise very admirable persons who always prefer something "all very fine and large." It is, however, one of those exceedingly exquisite floral forms which take the beholder by surprise, and force him, as it were, to render homage whether he will or not. The pure white petals are delicately spread out here, at Kew, to catch the sunshine and allure the bees. The rich golden anthers show up well on the satiny flowers, which cluster together in twos and threes on long graceful branches, producing quite a unique effect, surrounded as the branches are by a good stretch of grass.

This grouping of single subjects together in beds is one to be commended, as thus not only is a more artistic ideal brought about, but an inspection can be more readily effected. "Ah!" I fancy I can hear someone murmur, "very pretty, but very fragile." True, single Roses cannot be compared to double for substantiality and endurance, but on the other hand, do they not produce their flowers more freely and over a longer period? There is, however, no need for comparison. Both are desirable, and both have their uses in the garden where beauty is a *sine qua non*.—*Le Vert.*

ARDISIA CRENULATA.

Among ornamental berry bearing plants suitable for table and other decorative purposes, this is, when well done, one of the very finest. The best plan is to raise it from seed sown in heat early in the year, as this gives it a good long season for growth. The latter end of January is a good time to sow, and a temperature of 65° Fahr. with a gentle bottom heat is necessary to get them up well. A mixture of fibrous loam, peat and leaf mould in equal proportions, with a liberal portion of sharp silver sand is a suitable compost for them. When large enough to handle prick the seedlings off into a pan, and before they commence to crowd each other pot off singly into small pots. This plant delights in plenty of heat and moisture, but should not be shaded to any great extent at any time; in fact to obtain the sturdy growth so desirable in this subject full exposure to every ray of light is essential. The best place for it is on a shelf in a warm house, where, besides the light, it will on favourable occasions be benefited by the free circulation of air. Towards the end of August they should have become sturdy, well-rooted plants in large sixties when they may be transferred to cooler quarters for the winter. Late in spring give a shift into 4-in. pots, and treat as in the first year. By the end of summer every plant should be a sturdy little bush with dark green foliage and loaded with bright red berries. They may be kept for more than one year giving them a shift into 6-in. pots. The most useful size, is, however, the two year old plant. To keep up a succession a small batch should raised yearly. This plant is a little more trouble to grow than are the popular berried Solanums, but at the same time it is very distinct from them, and far surpasses them in beauty.—*W.B.G.*

GARDENING MISCELLANY.

THE ALTAI MOUNTAIN ROSE.

This is a name given to a grand variety of the Burnet or single Scotch Rose (Rosa spinosissima) The variety under notice is sometimes mentioned under the name of R. grandiflora, but it is merely a glorified form of a very old favourite and is now described by the botanists as R. spinosissima altaica. A fine bush of it may be seen in the pleasure grounds of the Royal Gardens, Kew. It proves perfectly hardy, flowering tolerably early and profusely. The flowers are much larger than those of the wild British type and quite as pure white. For garden decoration it should be more extensively planted, for it is of great decorative value, either in isolated beds on the grass or in the form of large bushes in the shrubbery. It is a native of the Altai Mountains as the name implies. The dark fruits are also very large.

VERONICA INCANA.

What a handsome plant this is, and what a beautiful carpet-like habit it assumes, although of strong growth as compared with most other dwarf-growing Alpines. The flowers are of rich deep lavender shade, thickly borne upon erect racemes some four or five inches in length. The leaves and stems are also very attractive and ornamental from the silvery sheen of their hoary covering. Veronica incana, or, as it is sometimes called, V. neglecta, was introduced into this country from Russia about the year 1759. We recently noted a very fine batch of it growing in Messrs. James Veitch & Sons' nurseries at Slough.

LILIUM DALHANSONI.

Growing side by side with its closely allied relative, L. Hansoni, in the American Garden at Kew, and under the self-same circumstances as it, is this noble plant. The flowers are slightly smaller than those of L. Hansoni, and the racemes are rather longer. The segments are not so thick, and are rather more reflexed. The flower has a greenish-yellow centre, and the segments, which are reddish-orange in hue, heavily mottled with chocolate-brown. This is both a distinct and a pretty plant, and one that is well worthy a place in all gardens where Liliums find favour.

THE PELICAN PLANT.

The great Pelican flower, 5 ft. long from tip to tip, and 1½ ft. broad (Aristolochia gigas var. Sturtevantii), a native of Guatemala, is now in bloom in the plant stove in the Botanic Gardens, Glasgow. It is a most wonderful plant, and bloomed for the first time in these gardens in the last week of June. It will keep open only for a day or two.

THE PRAIRIE ROSE.

R. setigera is better known in cultivation by its double forms, no doubt hybridised to some extent, which one sees trained over the porches of old houses, and sometimes most effectively for draping masonry. These varieties are known commercially as Baltimore Belle and Mrs. Hovey; there are several other varieties. The large single flowers of the species are, to some minds, handsomer than the double ones. These Prairie Roses are exceptionally hardy and especially valuable on account of their late blooming qualities, producing clusters of large rose coloured flowers late in the season when nearly all other Roses are out of bloom.—*American Gardening.*

ROSA WICHURIANA.

Recently introduced from Japan, this is a distinct and handsome trailer, with stems running from 16 to 20 ft. in one season. It is a splendid subject for the wild garden where space is unlimited. The leaves are smooth, shining, resembling somewhat our native R. lucida, and the flowers white, rather large, and produced in great abundance.—*American Gardening.*

LILIUM GIGANTEUM.

In this case at least the specific title of giganteum is no misnomer when applied to this truly magnificent plant, for like a giant it towers far above the rest of its congenors in height, and is not a whit behind any of them in beauty, even the most showy numbers of a genus that contains perhaps a larger number of handsome garden plants in proportion to its size than any other. A splendid specimen occupying a prominent position in the Bamboo Garden at Kew is now in flower and is the observed of all beholders, standing quite eight feet in height; the stout stem is carrying a dozen large fine blooms disposed in a long raceme. The flowers are some 7 in. or so in length and distinctly funnel-shaped, for the segments only spread slightly at the tips. In colour they are white, spotted or blotched with purplish-crimson on the inner side of the tube, a slight tinge of green being apparent on the outer side. They are all borne on short pedicels The leaves are large, ovate-cordate in shape, the lower ones having stout furrowed petioles from 1 ft. to 18 in. in length. The plant is a native of the Himalayas having been brought from thence about the year 1852.

SOCIETIES.

Worthing Horticultural, *July 3rd.*—The sixth annual summer show in connection with the horticultural society took place in the People's Park. The exhibition was a distinct advance on those of previous years, the entries showing a large increase in number and an improvement in quality. Although in all departments the exhibits were of a most gratifying character, the display in the children's classes deserves special mention. Mr. Burburry, of Arundel, Mr. George Miles, Brighton, and Mr. E. Nicholson, Lewes, officiated as judges, and the general arrangements were carried out by the representative committee, of which Mr. W. Sams was chairman, and Messrs. R. W. and F. J. Chidwick were hon. secretaries. Mr. I. Rolfe, gardener to Colonel Dawes, of Homefield, Worthing, took the first prize for the best group of foliage and flowering plants arranged for effect; Mr. W. Greenyer, gardener to Mr. G. W. Charters, of Goring Hall, and Mr. C. Short, gardener to Major Henty, of Broadwater Hall, being second and third respectively. These gentlemen, together with Mr. F. Hipgrave, gardener to Mr. J. Ritchie, of the Manor House, Broadwater; Mr. Dinnage, gardener to Mr. A. Thrupp; Mr. G. Howell, gardener to Mr. C. A. Sennett, of Heene; Mr. A. Slaughter, of Steyning; Mr. Laker, foreman to Mr. A. G. Linfield, of Worthing; and Messrs. Johnson & Crook, of Seldonville, Worthing, also took most of the other prizes offered in the open division, while the most successful exhibitors in the amateurs' division included Messrs. C. C. H. Aldridge, W. Court, Chidwick & Co., D. Erlam, A. Newington, J. W. Sheppard, F. G. Tupper, and F. Tate, all of Worthing. Messrs. Bursnall, H. Bouts, J. Clark, H. Loveland and A. Standing being the most prominent prize-winners in the division for cottagers and artisans. The show included some very fine non-competitive exhibits from Messrs. Grogan & Ravenscroft, Worthing; Messrs. J. Cheal & Sons, Crawley; and Messrs. Balchin & Son, Brighton and Hove. Variety and liveliness were imparted to the proceedings by the presence (by kind permission of Colonel Sir Henry Fletcher, Bart., M.P.) of the

regimental band of the 2nd Sussex Volunteers, under Bandmaster Wallace. During the afternoon a cricket match was played between Worthing Park and Burgess Hill clubs.

Ipswich and East of England Horticultural, *July 9th.*—For the first time for years the annual summer show of this society, which was held in Christchurch Park, was an unqualified success, and should have the effect of thoroughly replacing in a satisfactory condition the finances of the society, which, owing to the poor attendances at recent shows, have been in a serious condition. At the conclusion of last year there was a debt of £48, and a meeting was called to consider whether under the circumstances the society should not be wound up. It was, however, wisely decided to raise a special fund to clear off the debt, and this has been so heartily responded to that up to date it has been practically covered. With the record attendance of Tuesday there should be a considerable balance in favour of the society. Christchurch Park was closed to the public for the day, and that attraction with the magnificent weather accounted for the large attendance. The show was an excellent one, but pressure on our space prevents a detailed report. The exhibits, which were more numerous than usual, were placed in tents. Roses were a disappointing part of the show, but all other exhibits may be said to have been good. The band of the York and Lancaster Regiment, under Mr. F. W. Wood, played a fine selection of music, and the day's proceedings closed with a creditable display of fireworks by Mr. P. Aggio, Colchester. During the afternoon, when the admission was one shilling, the takings amounted to £24 6s. 6d., and in the evening, when sixpence was charged, to £92 10s. 6d. This represents over 4,000 people, but in addition must be considered the subscribers, officers, and exhibitors, who had free passes, and thus it is probable that some 6,000 were present during the day.

The National Pink (Midland Section), *July 9th, 10th, and 11th.*—This Society held its fifth exhibition in the Public Park, in connection with the Wolverhampton Great Floral Fête. The severe winter had a very deleterious effect upon the general stocks of Pinks, and many of the growers were in consequence unable to exhibit. Mr. Herbert, the able and courteous manager of Messrs. Thompson & Co., Birmingham, was amongst the unfortunates in regard to class showing, but he was awarded the first prize for a bouquet of various kinds of Pinks, arranged with their own foliage, and a very artistically made up specimen it was, and thoroughly deserving the honour it received. Messrs. M. Campbell, Blantyre; Arthur A. Brown, Handsworth, Birmingham; and the honorary secretary of the society, Charles F. Thurstan, Penn Fields, Wolverhampton, were the principal prize-winners; the latter, for the third year in succession, carrying off the premier prize for the best Pink in the exhibition with Thurstan's Duke of York, an exceedingly large well-formed flower with dark, heavily laced, refined petals, a seedling from Boiard, but larger in size, and more refined and heavier in its lacing.

Mr. Brown was awarded first prize for twelve laced Pinks of distinct varieties, beating Mr. Campbell, who was second in this class, by a narrow shave, owing to superior refinement in the lacings. Mr. Campbell, however, got ahead of Mr. Brown in a class for twelve blooms of laced Pinks in not less than six varieties. Mr. Thurstan held his usual position in class three for six laced Pinks of distinct varieties. He was also awarded first prize for six laced Pinks in not less than three varieties; also the first for the best purple laced Pink in the single bloom section. Several hundred blooms were exhibited, and on the whole the quality was very satisfactory considering the hardships with which the growers have had to contend, and it is evident that the Pink enthusiasm is rapidly increasing. The best varieties staged in the show were Duke of York, Boiard, The Rector, Minerva, Emeline, Arthur Brown, Adelaide, Capt. Kennedy, Alexander Gibson, Amy, Mrs. J. Monty, Modesty, Mary Auberton, Godfrey Bertram, Bertha, Emily, and R. L. Hector. Mr. Thurstan was awarded a First-class Certificate for a fine seedling called President, raised by Mr. James Thurstan. This should be a great acquisition to our collections when it gets well known, it being a fine full Pink with well shaped petals, laced in a most charming manner with dark maroon. We were sorry to see absent from Mr. Thurstan's stands his father's celebrated seedlings, Robert Houlgrave, Mr. Draton Braide, and that very grand variety, Princess May, for which First-class Certificates have already been awarded. Both Mr. Thurstan's collection and his father's have suffered most seriously from the severity of the winter, and those of the latter so much so that it is feared many of his fine seedlings may never be seen again. Mr. Brown also obtained a First-class Certificate for a Pink he has named Purity, which in colour and style much resembles old Modesty, which we should not omit to say was exhibited in very good form by Mr. Campbell.

The following are the names of the winners in each class. CLASS 1. For twelve blooms of laced Pinks in distinct varieties:—first, Mr. Arthur R. Brown; second, Mr. Campbell; third, Mr. Alexander Lister, Rothesay. CLASS 2. For twelve blooms of laced Pinks in not less than six varieties:—first, Mr. M. Campbell; second, Mr. A. R. Brown; third, Mr. Charles F. Thurstan. CLASS 3. For six blooms of laced Pinks in not less than six varieties:—first, Mr. Charles F. Thurstan; second, Mr. Brown; third, Mr. Campbell. CLASS 4. For six blooms of laced Pinks in not less than three varieties:—first, Mr. Thurstan; second, Mr. Brown; third, Mr. Campbell. CLASS 5. For single blooms red laced Pinks:—first, Mr. Campbell; second, Mr. Brown; third, Mr. James W. Bentley. CLASS 6. For single blooms of purple laced Pinks:—first, Mr. Thurstan; second and third, Mr. Brown. CLASS 7. For the best Pink in the show:—premier prize, Mr. C. F. Thurstan. CLASS 8. For six bunches of miscellaneous Pinks, dissimilar, and not to exceed twelve blooms in one bunch (border Pinks exhibited):—first, Mr. Campbell; second, Messrs. Thompson & Co.; third, Mr. Alexander Lister. CLASS 9. For the best bouquet of any kind of Pinks, arranged with their own foliage only:—first, Messrs. Thompson & Co.; second, Mr. J. W. Bentley; third, Mr. Alexander Lister.

Chelmsford and Essex Horticultural *10th July.*—The annual show of this society was held on the Chelmsford Recreation Ground in glorious weather. The attendance was better than usual, while the exhibits, considering the unfavourable weather for flowers, were all that could be desired. Indeed many of the classes were of exceptional excellence. For the first time in recent years a Rose tent was added, and Essex growers of the Queen of flowers were well represented. The Colchester collections were very fine, and were much admired. Prizes to the value of £100 were awarded, besides three silver cups. The 3rd Essex Regiment (from Warley) and the Essex Industrial School Band supplied the music, and the duties of hon. sec. were efficiently carried out by Alderman W. W. Duffield, and those of assistant secretary by Mr. Phillip Edwards. Mr. W. W. Duffield took the premier position for nine foliage plants. Mr. A. R. Motion, Faulkbourne Hall, Witham, took the first prize for a collection of plants. Mr. Walter Gray, Chelmsford, secured the first prizes for another collection of plants, for stove plants, foliage plants, Fuchsias, Petunias, and twelve Pelargoniums; Mr. W. W. Duffield was again successful with exotic Ferns, and three Coleus. First prizes were taken by Messrs. Saltmarsh & Son, Chelmsford, with four Achimenes, four zonal Pelargoniums, four double Pelargoniums, six Cannas, six Coleus, six Begonias, twelve hardy Ferns, twenty-four and twelve Zonal Pelargoniums, hardy herbaceous plants, Pansies, and the best arranged basket of pot plants. Mr. J. B. Arnold took the leading prize for a collection of fruit. Mr. W. Gray was equally successful with three bunches and one bunch of Grapes, Nectarines, Peaches and Gooseberries. Mr. R. Warner had the best collection of Grapes, white Grapes, and a collection of Strawberries. Mr. F. Chapman had the best white Cherries and Raspberries. Mr. B. Cant, Colchester, secured the first prize for forty-eight Roses, showing them in his usual grand style; he was followed by Mr. F. Cant, Colchester. Messrs. D. Prior & Son, Colchester, had the best thirty-six and twenty-four Roses, and eighteen trebles. Messrs. Saltmarsh & Son, secured the leading awards for twelve Roses and twelve in trebles. In the amateurs' classes, the Rev. J. H. Pemberton, Havering-atte-Bower, had the best twenty-four Roses. Mr. E. Mawley, Berkhamstead showed the best twelve, also six in trebles, and the best twelve in a special class, as well as the best six Tea or Noisettes. Mr. Jackson, Springfield Place, took a first prize for twelve varieties; and Mr. Landon was first in a special class for an equal number. Mr. Munro, Essex Industrial School, had the leading award for six blooms. In the vegetable classes, the chief winners were Mr. G. B. Hilliard, Writtle; Mr. Thomas Harris, Chelmsford; Mr. J. Fulcher, Chelmsford; Mr. W. Gray, Mr. Gadd, Mr. Warner, Mr. Jackson, Mr. Benson, West Hanningfield; the Bishop of Colchester, Mr. Chapman, Mr. Duffield, Mr. G. Bollingbroke, Mr. Moore, Danbury Park, and Mr. C. W. Parker. The cottagers' exhibits were especially good.

Woodbridge Horticultural, *July 11th.*—The forty-fourth annual show of the Woodbridge Horticultural Society was held in the beautiful grounds of the Abbey, the residence of Mr. R. J. Carthew, and was in every way a record show. The entries numbered considerably over 1,000, the exhibitors totalling 104, while last year the exhibits did not exceed 700. The schedule has been somewhat extended especially in the class for table decorations, to which a separate tent was devoted. The entries had been large, but owing to illness at the house of Misses Carter, who had made 12 entries, the show was unfortunately thin. The Rose classes were excellently filled and the show surprisingly good, taking into consideration the lateness of the season. The medal blooms shone out conspicuous and were really splendid flowers. Pot and cut flowers were good, while the fruit and vegetables gave the judges great difficulty to decide the awards. The vegetables were freely stated to have been the best ever seen at the show. Messrs. F. Smith and Co. made a good display of their flowers. Mr. J. Andrews was again honorary secretary and collector, but all the arduous clerical part of the work was done under the superintendance of Mr. W. Brinkley. Amongst the committee who should be noted as hard workers on the show ground were—Mr. T. Carthew (chairman), Gen. W. H. Hessey (vice-chairman), Mr. W. Bloxsome, Mr. G. Booth, Mr. J. Collins, Capt. R. J. Carthew, Mr. A. Fairweather, Mr. A. Gall, Mr. W. Parsons, Mr. F. Smith, Mr. A. Sowman, Mr. G. E. Walker, Mr. J. Wright, and Mr. F. J. W. Wood, with the Treasurer, Mr. A. S. Gross. The show was declared open by the Hon. Mrs. Pretyman. During the afternoon and evening the excellent band of the York and Lancaster Regiment, under Bandmaster F. W. Wood, played selections of music which were much appreciated. The grounds were brightly illuminated and at dusk a creditable display of fireworks by Messrs. Brock and Co., of London, took place. Cheap special trains were run and much appreciated, a large number of Ipswichians taking advantage of them.

Royal Botanic.—This society held its special evening fête on Wednesday, July 12th, the weather being as fine and dry as could possibly be wished. In view of the almost tropical heat that prevailed during the afternoon the various exhibits of plants in pots, and of cut flowers, that were made, looked exceedingly fresh and pretty. The tent-room was greater than usual, being augmented by the addition of a long corridor-like erection leading out of the larger one, and containing the major portion of the numerous table decorations which formed the principal feature of the show, at least as far as floral effects were concerned. Some very pretty groups of plants were also forthcoming that evidenced a good deal of taste in the arrangement. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, received a large Silver Medal for his nice group of tuberous Begonies. The single flowered section were most *en evidence*, and the plants were dwarf and sturdy examples, whilst the form and size of the flowers they bore was especially good. A class for a group of plants arranged for the decoration of an alcove or a recess in a room contained some neat exhibits. One of these coming from Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park, received a first prize. Another neat group from the same exhibitor suitable for a bow-window obtained another first prize.

One of the features of the show was the fine group of cut Roses, exhibited by Messrs. Wm. Paul & Son, Waltham Cross, Herts, a Silver-gilt Medal being given in recognition. Conspicuous in this group were grand examples of such varieties as Clio, Mrs. J. Laing, Ulrich Brunner, Spencer, Marie Baumann, Paul Neron, and fine large trusses of Crimson Rambler. From Messrs. Barr & Son, King

Street, Covent Garden, came hardy herbaceous cut flowers in quantity. Hemerocallis Thunbergii, Liliums Brownii, testaceum, Krameri, pardalinum Michauxi, and candidum, Sweet Peas, and Poppies were very gay and showy (small Silver Medal). A like award went to Messrs. J. Cheal & Sons, Crawley, Sussex, who had a small collection of hardy cut flowers including bedding Violas.

In the exhibits of wreaths, sprays, bouquets, &c., much that was worthy of praise was to be seen, and the competition in the various classes was keen and well sustained throughout. Mr. H. O. Garford, Floral Depot, Stoke Newington, was adjudged to have the prettiest dinner table. His arrangement of Asparagus, Gypsophila paniculata, Lilium candidum, and the showy yellow Sweet Sultan was very light and effective. Mr. J. R. Chard won the first prize for a dinner table dressed for dessert. Sweet Sultan, yellow Aquilegias, Maidenhair Fern, Asparagus, and variegated Honeysuckle were well and tastefully employed here. Very pretty tables also came from Mr. W. L. Buster, St. Mary Cray, Kent, and Messrs. F. & O. Osler, 100, Oxford Street, W., second prizes being given in both cases. Floral stands, epergnes, bouquets, &c., were present in almost unlimited profusion, some of them being exceedingly elaborate and well executed. A stand suitable for a sideboard was contributed by Messrs. Perkins & Sons. Coventry, in which Cattleyas, Oncidiums, Cypripediums, and Tuberoses were lavishly employed, the first award it received being well merited. From the same firm came a magnificent bridal bouquet, in which Odontoglossums, Lilies of the Valley, and Jasminum pubescens figured conspicuously. Also a ballroom bouquet, which was a marvel of beauty. First prizes were deservedly given in both these instances. Very pretty was a bouquet of unusual form sent by Miss Alice Perkins, Warwick Road, Coventry. Considerable originality was displayed in its elaboration, and the first prize it received was only a just tribute to its beauty. Messrs. Perkins & Sons followed up their previous successes by winning a Silver Medal for a number of very fine sprays suitable for personal adornment. Messrs. B. S. Williams and Son, 169, Piccadilly, W., exhibited a table of bouquets, wreaths, &c , in first-class style, some very imposing combinations being on view.

Obituary.

With deep regret we have to announce the death, on the 9th inst., after a long illness, of Mr. John Wills, of the firm of Messrs. Wills & Segar, Onslow Crescent, South Kensington, aged 64 years, and our regret we are sure will be shared by all who intimately knew him. Mr. Wills was born at Cricket St. Thomas, near Chard, Somersetshire, and gained his first gardening experience in the Vicarage garden at that place. When a young man he came to London and found employment in the old nursery of Messrs. Arthur Henderson & Son, at Pine Apple Place, and subsequently assisted in the laying out of the grounds at the Crystal Palace under Sir Joseph Paxton, and afterwards under Mr. Eyles helped to make the Royal Horticultural Society's Garden, at South Kensington, years afterwards to be the scene of his many triumphs as a floral decorator. He subsequently became gardener to Sir Philip Egerton, Bart., at Oulton Park, Cheshire, and then at Huntroyde Park, near Burnley, Lancashire. While at both places he made his name known in horticultural circles throughout the land as a voluminous writer on popular gardening topics, and as a raiser of a large number of popular bedding Pelargoniums of the bicolor and tricolor sections, which were sent out by Mr. Ball. He gave us also the first hybrid Ivy-leaved Pelargoniums, Willsi and Willsi rosea, and the famous Viola cornuta, which brought Pansies and Violas to the front for spring gardening, and led to the introduction of the many grand things in this family which have been introduced of late years.

Coming to London about 1867 or 1868 Mr. Wills soon set the fashion in floral decorations and in this particular line may be said to have held his own from that day to this, and, given a free hand, we know of none who could surpass him in originality of design or artistic taste. Vast are the sums that have passed through his hands for the floral decorations he had carried out. What John Wills did for the market plant growers in the metropolitan district alone no man can realise; suffice it to say that it was his style of decoration that brought about the enormous development of the taste for floral decorations of all kinds that has been witnessed during the last quarter of a century, and from which the plant growing trade has been so greatly benefited. Indeed, it is not too much to say that if there is one man more than another deserving of a lasting memorial from the market trade growers, that man assuredly is John Wills. Besides being in a sense a great destroyer of plants of other people's growth, he was a large raiser and grower of plants himself, and gave to the world some dozens of splendid new Dracaenas, Ferns, Gloxinias, and other subjects, raised by his old foreman at Anerley, Mr. Bause, all of which have been of great value as decorative subjects. He exhibited largely at Foreign Exhibitions such as Paris, Brussels, and Ghent, and planted the famous Winter Garden at Laaken for the King of the Belgians. For his fine displays in France he was decorated with the Legion of Honour. A warm-hearted, generous-handed man, Mr. Wills' memory will long be cherished by his friends. He had his share of tribulation, trials, and troubles—indeed, as many think, more than his share, but his courage and enthusiasm in his calling never failed him, and he lived through difficulties under which a less plucky, resourceful, and energetic man would have hopelessly succumbed. For his widow we are sure his many friends will have the deepest sympathy in her bereavement.

He was buried at West Brompton last Saturday afternoon, many old friends and members of the trade being present. He was likewise a generous friend of the Royal Gardeners' Orphan Fund, and a member of the Committee.

QUESTIONS AND ANSWERS

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

Names of Plants.—*D.P.F.*: 1, Quercus rubra; 2, Lonicera alpigena; 3, Fagus sylvatica heterophylla.—*Peach Blossoms*: 3, Dendrobium chrysanthemum in rather abnormal form or perhaps from a plant not yet established.—*A.M.L.*: 1, Linaria pallida; 2, Orchis maculata; 3, Neillia opulifolia; 4, Listera ovata; 5, Spiraea cana; 6, Spiraea salicifolia; 7, Stachys grandiflora; 8, Deutzia crenata flore pleno; 9, Spiraea discolor ariaefolia; 10, Metrosideros floribunda; 11, Lonicera involucrata.

Tree to name.—*G. Wood*: The specimen sent was Ginkgo biloba, the Maidenhair tree. It is valuable for town planting, but is not so frequently seen as it might be. There is a monetary value attached to it, but all nurserymen who grow trees and shrubs to any extent, already possess it.

Chrysanthemums Unhealthy.—*R. H. F.*: We carefully examined the specimens sent and believe there can be little doubt that the injury is due to insect agency as well as the crippling the plants got from the ice storm. The leaves have been battered about by the latter, or they were in all probability eaten by earwigs in the early stages. The brown patches on the stems, but particularly in the axils of the leaves, must have been punctured by the larvae of froghoppers, and possibly other plant bugs, while still in the bud stage. The insects would have reached the perfect stage by this time, but may be found upon the plants. A boy might be set to catch them on dull days, when they are more sluggish. The damage is very quickly done by these creatures before they are noticed. Set traps for earwigs if any are present. Some green fly was noticeable on the specimens sent, and might be subdued by syringing and then dusting the young shoots with tobacco powder. It is still early in the season and we have seen Chrysanthemums greatly recover from attacks of this kind before the flowering period.

Aralia Sieboldii.—*Market Gardener*: Have you obtained your seed of this from a reliable source? It is our experience that seeds of this plant germinate very readily when sown in light soil in a temperature like that of a warm greenhouse. Make another sowing, and take care not to cover the seed too deeply, as this may have been the cause of your previous failures. Place a piece of glass over the seed-pan, as this assists germination. Ordinary greenhouse treatment suits the plants admirably, and for soil we should recommend a mixture of two parts loam to one of leaf soil with sand.

Toads.—*A.J.*: It would be very unwise to disturb the toads whether in the houses or in the garden. They are harmless to plants and friends to all cultivators seeing that they feed solely upon insects, grubs and other vermin of that nature. By setting up a brick or two in some moist out-of-the-way corner of your houses, they will afford convenient lodging for the toads during the day.

Begonia seedlings.—*W. A.*: These are having a bad time of it everywhere in the open ground. They lack moisture, and the best thing you can do is to mulch the beds with a thin coating of short stable manure, leaf soil, cocoanut fibre, or something of that sort which will retain the moisture, and then give them a good watering at least once a week while the dry weather continues. Even then they will not grow so quickly as they would if the atmosphere were moist. You should not depend upon seedlings for a display in case of a dry season like the present, but always have a stock of one or two year old tubers on hand, and which will flower earlier than seedlings any year. The seedlings, however, will do better later on.

Communications Received.—W. L.—A. Medhurst.—C. B. G.—Omega.—A. K.—W. B. G.—R. J.—A. L. C.—E.

LONDON SEED TRADE.

July 16th, 1895.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report larger supplies of Trifolium incarnatum which offers on easier terms. New samples Trefoil and English White Clover show useful qualities, prices not established. Mustard and Rape steady.

COVENT GARDEN MARKET.

July 17th, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel			Currants, Red... half sieve	3 0	0 0
Nova Scotia Apples per barrel	12 0	21 0	Grapes, per lb.	6	1 6
Cob Nuts and Filberts, per 100 lbs.			Pine-apples. —St. Michael's each	2 6	6 0
Cherries, half sieve	3 6	5 0	Strawberries	0 2	1 0
Currants, Black...half sieve	4 0	0 0	Peaches ..... per doz.	2 0	8 0
			Tasmanian Apples, per case	8 0	11 0

Vegetables.—Average Retail Prices

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, per bundle	1 6	4 0	Lettuces ...per dozen	2 0	
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers.....doz.	3 0	6 0	Seakale...per basket		
Celery.....per bundle	1 6	2 0	Small salad lug, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Asters .. ... per bch.	2 0	2 6	Pelargoniums, 12 bun.	6 0	9 0
Arum Lilies, 12 blms.	3 0	6 0	Primula, double, doz. sprays	0 6	0 9
Asparagus Fern, bun.	2 0	3 0	Pyrethrum doz. bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Ranunculus, doz.....	2 0	4 0
Carnations doz. blms.	2 0	3 0	Roses (indoor), doz.	0 6	1 0
Eucharis ...per doz.	3 0	4 0	" Tea, white, doz.	1 0	2 0
Gardenias ...per doz.	2 0	3 0	" Yellow, doz. ...	2 0	3 0
Geranium, scarlet, doz. bunches	4 0	6 0	" Safrano (English), doz. ...	1 0	2 0
Lilac (French) per bch.	4 6	5 0	Red Roses.....	3 0	6 0
Lilium lancifolium per doz.	3 0	4 0	Pink Roses	5 0	7 0
Lilium longiflorum per doz.	2 0	4 0	Roses (French) Moss, doz.....	1 0	1 6
Lilium candidum, per bch.	1 0	2 0	Roses (French) red, doz. blooms. ...	1 0	1 6
Marguerites, 12 bun.	1 6	3 0	Smilax, per bunch ...	4 0	5 0
Maidenhair Fern, 12 bs.	4 0	6 0	Stephanotis, doz. sprays	1 6	2 0
Orchids, doz. blooms	1 6	12 0	Tuberoses, doz. blooms	0 4	0 6
Pansies, doz. bun.....	1 0	2 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0	Fuchsia, per doz.....	6 0	9 0
Aspidistra, doz.....	18 0	36 0	Heliotrope, per doz.	6 0	8 0
" specimen plants	5 0	10 6	Hydrangea, per doz.	9 0	18 0
Cacalaria, per doz.	4 0	8 0	Ivy Geraniums, per doz.	4 0	8 0
Dracaena, various, per doz.	12 0	30 0	Lobelia, per doz.....	4 0	6 0
Dracaena viridis, doz.	9 0	18 0	Lycopodiums, doz.	3 0	4 0
Euonymus, var. doz.	6 0	18 0	Mignonette, per doz.	4 0	6 0
Evergreens, luvar. doz	6 0	24 0	Marguerite Daisy doz.	6 0	12 0
Ferns, invar., per doz.	4 0	18 0	Myrtles, doz.	6 0	9 0
Ferns, small, per 100	4 0	6 0	Palms in variety, each	1 0	15 0
Ficus elastica, each	1 0	5 0	Palms, Specimen ...	21 0	63 0
Foliage Plants, var., each	2 0	10 0	Pelargoniums, per doz.	9 0	15 0
			Rhodanth, per doz.	4 0	6 0
			Scarlets, per doz.....	3 0	9 0
			Stocks, per doz.	4 0	6 0

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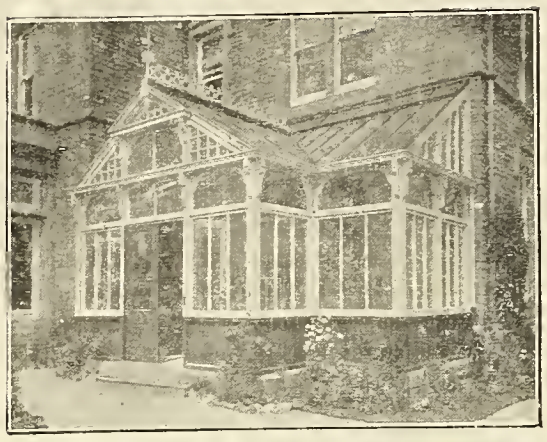

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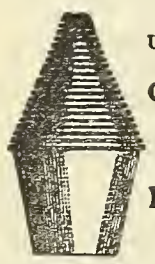

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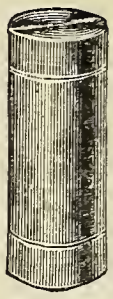

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FLOWER SHOW FIXTURES, 1895.

JULY.
23.—R.H.S. Drill Hall Meeting.
23.—Tibshelf Flower Show.
24.—Beckenham Summer Show
24.—National Carnation and Picotee Society's Show at the Crystal Palace.
24.—Chesterfield Rose Show.
24, 25, 26.—Newcastle-on-Tyne Summer Show.
25.—Trentham Rose Show.
26.—Wellingborough Flower Show.
31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).
31.—Woking Flower Show (2 days).

AUGUST.
1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
3, 5.—Liverpool Rose Show.
5, 6.—Northampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
8.—Ramsey Flower Show.
8.—Great Grimsby Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Salisbury Flower Show.
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15—Goole and District Flower Show.
15.—Martock Horticultural Show.
23, 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
21, 22.—Shrewsbury Floral Fete.
21.—Kingswood St. George Flower Show.
27.—R.H.S. Drill Hall Meeting.
28, 29.— Bath Autumn Show.

SEPTEMBER.
5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.
8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days)

NOVEMBER.
1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show.
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.

NOVEMBER.
16.—Bacup Chrysanthemum Show
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22, 23,—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
26.—R.H.S. Drill Hall Meeting.
29, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

DECEMBER.
3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10—R.H.S. Drill Hall Meeting.

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For Index to Contents see page 765.

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The Gardening World.

Edited by J. FRASER, F.L.S.

SATURDAY, JULY 27th, 1895.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, July 31st.—Midland Carnation and Picotee Show at Birmingham. Burton-on-Trent and Woking Flower Shows.

THURSDAY, August 1st.—Aberdare Flower Shows. Continuation of Birmingham, Burton-on-Trent, and Woking Shows.

SATURDAY, August 3rd.—Opening day of Liverpool Rose and Southampton Summer Shows.

CULTURAL AND OTHER EXPERIMENTS AT ROTHAMSTED.—On Monday last, the Technical Instruction Committee of the Essex County Council, accompanied by a large party of Essex farmers, paid a visit to the far-famed experimental grounds of Sir John Lawes, Bart., at Rothamsted, Harpenden, Herts. On arrival at the Laboratory, the party was met by Sir Henry Gilbert and Mr. J. J. Willis, who has been his assistant for a long period of years. In connection with this station it may be stated that from the commencement of the field experiments in 1843 to the present time, it has been maintained entirely at the cost of Sir John Lawes, and was and is entirely disconnected with any external organisation. Sir John has also set apart a sum of £100,000, the Laboratory, and certain areas of land for the continuance of the investigations after his death. Sir Henry Gilbert at once led the party through the extensive Laboratory and explained the nature of some of the experiments being conducted there. In one case there were as many as 400 samples of soil taken from one field and bottled up for analysis to determine the composition and ascertain where faults and deficiencies may exist. Sir Henry said that experiments on the fixation of free nitrogen were commenced nearly 40 years ago before anything was known about microbes in the soil. Gramineous seeds were sown in sterilised soil and the media enclosed to prevent access of matter from without, and beyond the nitrogen contained in the seeds sown, there was no gain. Leguminous plants were treated in the same way and the results were similar. Considering the importance (if confirmed), of the results promulgated by Professors Hellriegel and Wilfarth, another series of experiments was commenced in 1888 and continued to the present year. In the case of cereals it was proved that there was no gain of nitrogen beyond that supplied. On the other hand, when the soil in which leguminous crops were growing, was inoculated with a suitable microbe-infection, there was an abundance of the so-called leguminous nodules on the roots of the plants and there was coincidentally a very considerable fixation of free nitrogen. The evidence points to the conclusion that the free nitrogen is fixed in the course of the development of the organisms within the nodules, and that the resulting nitrogenous compounds are absorbed and utilised by the higher plant. Experiments were made with annual leguminous plants such as Peas, Beans, Yellow Lupins, etc., and after infecting the soil with microbes there was a gain of ten-fold in the Peas, thirty-fold in the Vetches, and forty-fold in the Lupins. In the case of perennial species like Red and White Clover and Sainfoin, the gain was greater in proportion to the duration of the plant, as the nodules and nitrogen continue to accumulate to the end.

Space forbids us to enter into details with regard to experiments with Turnips, but the results went to show that this particular crop is dependent upon the amount of manure applied to the land and that which is not taken away by the removal of the crop. If a wet winter succeeds a fallow a great quantity of the soil nitrogen is washed away in the drainage, while there is a larger residue of nitric acid in the soil after a dry winter. Concerning the application of nitrogenous manures, if made in autumn there was a loss equivalent to 388 pounds of nitrate of soda, but only 178 pounds if the application of this particular manure was made in spring. Statistics by the hundred were represented on diagrams hung round the walls of the laboratory, as well as illustrations of plants resulting from various cultures. Here also was a case fitted up in compartments and filled with the dried grasses that grew on the old pasture, partly unmanured and other portions manured with various ingredients, in order to determine their influence upon the various nature-sown subjects found there; but we shall refer to them below.

Sir Henry then conducted the party through the experiment fields, and showed the crops of Wheat and Barley grown upon land that had been under those crops and others of a four-course rotation for the last forty-eight years. The worst crop of Barley was that obtained after a root crop supplied with mineral manures only; more Barley was obtained from land that had not been manured at all. The Wheat after fallow was thin owing to the excessive rain of last winter making the soil water-logged. A field of Sugar Beet, laid out in differently treated plots, created a considerable amount of interest. One plot, treated with a complete or general manure, bore a splendid crop, and though the leaves of the plants were relatively of a light green, it showed that there was less nitrogen but a greater assimilation of carbon by the leaves. The foliage of the crop manured with superphosphates alone was very dwarf, with short but intensely dark green leaves. In previous experiments with Beet an application of mineral manures alone gave a return of 950 pounds of sugar per acre in the produce; potash and ammonia salts gave 2,487 pounds; nitrate of soda gave 2,470 pounds; Rape cake and potash gave 2,873 pounds; and a full manure gave 3,312 pounds. There was a corresponding

weight in tons of roots per acre. The maximum weight ever produced was forty tons per acre; but Sir Henry naively remarked that to a Scotchman that would be nothing. About half that weight or slightly more would be a general maximum. An increase of luxuriance goes with the nitrogen, but potash is necessary for the production of sugar.

The rain-gauges were next inspected, but most interest centred in that which had a collecting area equivalent to the one-thousandth of an acre. Here the rainfall is measured and analysed to ascertain the amount of combined nitrogen from the atmosphere brought down by the rain. The average is about five pounds per acre. Three drain-gauges, with depths of 20 in., 40 in., and 60 ins., respectively, of the natural soil, excited considerable attention. The experiments with these were commenced in 1870, and carried on to the present time, during which period the soil in its natural state of consolidation has been unmanured and uncropped. The water collected in the drainage shows what is lost from the land by this means alone. Analysis of the drainage water for a year shows that there is a loss of nitrogen, reckoned as such, equivalent to 35·44, 30·75, and 33·88 pounds per acre per annum from the three gauges in the above respective order. The results would be rather high for the natural soil not exposed to the action of the air beneath as well as above, as is the case with the soil in the drain-gauges.

At this point of the circuit of inspection Sir Henry Gilbert had to leave the party, but not before he was warmly thanked for his services, generous and elucidatory explanations. His assistant, Mr. Willis, kindly took Sir Henry's place as guide, philosopher, and friend. He immediately conducted the party over the estate of Sir John Lawes to the old pasture field above mentioned. So far as is known, no seeds have been sown here for the past 150 to 200 years, and on the unmanured plot about 50 different species of grasses and other plants are growing harmoniously together. On that manured with 275 pounds of nitrate of soda per acre there was a good crop, with much leafy matter; but where potash and phosphates were used there were fewer weeds and more maturity evidenced in the crop. Another plot was treated with 500 pounds of nitrate of soda per acre, but after a time this was stopped and mineral manures applied instead, the result being more Clover. An application of 500 pounds of nitrate of soda with minerals gave 57 cwts. of hay, consisting of 29 species of plants, but the hay was coarse and included several bad weeds. Phosphates and ammonium salts gave a very poor herbage with no Clover. Ammonium salts alone tend to soil exhaustion with very poor herbage. Another plot, originally a duplicate of the last, treated with mineral manures latterly gave 20 per cent. of leguminous plants, the change commencing the second year. Many other plots were shown, the results amply demonstrating that the quality and character of the herbage of a pasture can be determined by the application of certain manures, and the number of species reduced from 50 to 15 or less, the latter by heavy applications of ammonium salts, which thin out the plants to the coarse growing kinds, thus spoiling the pasture and indirectly the cheese and other products of the dairy. Applications of kainit and basic slag are best for pastures. Kainit and all mineral manures are applied in the first week in January, and ammonium salts in February.

After this the party partook of luncheon kindly provided for his guests by Sir John Lawes. In a post-prandial speech the Mayor of Maldon—himself a farmer—and another, proposed and seconded a vote of thanks to Sir John Lawes, Sir Henry Gilbert and Mr. Willis for their esteemed services to the party. Professor King, of the Agricultural Experiment Station, Wisconsin, United States of America, then gave a lucid description of the work being carried on in the way of experiment by our cousins on the other side of the Atlantic. The march was again resumed and a field was visited in which the experiments were even more numerous and of a highly interesting character. Here were crops of Wheat, Barley, and a large number of luguminous crops and Potatos. The interest in these trials was not only sustained, but roused to keenness, when unfortunately, a heavy downpour of rain following in the wake of a thunderstorm made it impossible for the audience to hear the explanations of the guide, independently of the great inconvenience otherwise caused. After a little delay for shelter the Potato trials were examined. The ground here has been continuously cropped with Potatos for the last twenty years. One plot has received no manure whatever, and as might be expected the Potatos are very stunted and the return poor owing to soil exhaustion. Mineral manures give a return of over two tons per acre. Fourteen tons of farmyard manure alone gives 4 tons 14 cwts. of Potatos. Ammonium salts and mineral manures gives the best crop (about 6 tons 5 cwts. year after year). This plot certainly looks the best at present. The potash applied fosters the production of starch and renders the Potatos mealy when boiled. Nitrogen enables them to appropriate the carbon dioxide of the atmosphere and encourages growth generally, but tends to make the Potatos, when boiled, soapy and watery. This recalls the case of Beet and the production of sugar.

Interest was again greatly aroused when a plot of ground previously cropped with Wheat, but allowed to lie waste since 1882, was shown. Here wild nature has been allowed to assert herself, and the gradually degenerating Wheat was finally ousted by native vegetation after a period of five years, thus proving that it was an exotic and unable to hold its own in this country. There are now on this plot about seventy species of native plants of which we determined the names of thirty-six during a hasty investigation; but must defer details concerning them till a more convenient time. The farmers and others with some reluctance left this field and returned to London on the homeward journey after warmly thanking Mr. Willis for his services and information so freely tendered.

Mr. J. C. Moore, late of the Royal Gardens, Kew, has been sent from that establishment to take the post of curator of the Botanic Gardens, at St. Lucia, West Indies.

Another Nurseryman as Magistrate.—Mr. John Watkins, the well-known proprietor of the Pomona Farm Nurseries, at Withington, near Hereford, was appointed a Justice of the Peace for the County of Hereford by the late Lord Chancellor.

A Bouquet for the Queen.—Lord Edward Pelham Clinton, Master of the Household, is desired by the Queen to convey Her Majesty's thanks to Messrs. Eckford for the beautiful bouquet of Sweet Peas sent by them from the flower show held at Windsor on June 29th.

The Victoria regia has been in fine condition and flowering well for some time past at Kew. The tank is well filled with large leaves very much turned up at the edges, and in robust health. The bright sunshine that has prevailed for many weeks past has been favourable to the development of the royal Water Lily.

The Lark is the only bird that sings while flying, and the nightingale is the only one that sings by night.

Red Clover and bees.—The tongue of the native Australian bee is too short to reach the nectar in the Red Clover of Europe, and when the latter was introduced to Australia it never produced seeds until its old friend the humble bee was taken there and let loose.

Parks at Tokio, Japan.—Tokio is more like a large group of villages than a city. Between the several portions are beautiful wooded parks, some of them as wild as nature left them while others have been laid out in the quaint Japanese manner.

The general yield of wheat on the Continent will be as large this year as last though the acreage sown is less.

A Strawberry Picker in the neighbourhood of Chatham said she had to be off at two in the morning to get to work in the Strawberry garden by three, getting off to breakfast at eight, nearly all the picking being done in the morning.

A Red Marechal Niel Rose has been produced in Germany by Dr. Mueller, who crossed Marechal Niel with General Jacqueminot. The habit of the plant is that of the seed parent, but the flowers are red. A short time ago we recorded a white Marechal Niel Rose.

Rainfall.—In London and the neighbourhood last Sunday there was a rainfall of 1¼ in. in the course of twenty-four hours. Nothing like it has occurred since last October. Two thunderstorms passed over the city during the day, and in the southern suburbs hail of the size of Peas covered the ground. The thunderstorm with rain was repeated on Monday, so that to all appearance the great drought is at an end.

The Fruit Crop in Perthshire.—The early Strawberry crop is now almost over. A few late ones have been pulled, but gathering will not be general until this week. In consequence of the drought and late frosts there are in some fields scarcely any fruit. The gathering of Raspberries will be in full swing this week. In low-lying parts of the Muir o' Blair the crop is severely frosted. Prices for Strawberries are quoted at from £10 to £16 per ton, and Raspberries at from £28 to £29 on rail.

Royal Horticultural Society, Aberdeen. — The acting directors of this Society met in the secretary's office on Saturday afternoon, ex-Baillie Lyon in the chair. It was agreed to engage the Artillery Engineer, and Rifle bands to play at the fête, and to ask the services of the Oakbank boy pipers. Messrs. Brock and Co., London, were appointed to carry out the illuminations, decorations, and fireworks. Messrs. Shirras and Sons' offer to light the marquees was accepted. The question of entertainments was then discussed, and the directors agreed to meet at the park on an early day to mature the arrangements. A number of special prizes were intimated.

National Chrysanthemum Society.—The members of this Society and their friends to the number of 140, had their annual outing on the 22nd inst. They arrived at Boxhill Station at twelve noon, and had a stroll over the beautiful hill, after which they went to the Burford Bridge Hotel, where they partook of an excellent and well-served luncheon. They then paid a visit to the far-famed Orchid houses of Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, with which they were highly interested and delighted. The party afterwards partook of tea at Burford Lodge, as the guests of Sir Trevor and Lady Lawrence. After tea there was some speech-making and Mr. R. Ballantine, the late chairman of the Society was presented with a Silver Ink-stand as a mark of appreciation for his services from the National Chrysanthemum Society. The members then had another ramble upon Boxhill, and afterwards returned to London by the 8.23 and 8.37 p.m. trains, after having spent a very enjoyable day, in fact, one of the best outings the Society has had.

Shirley Gardeners' and Amateurs' Association.—At the monthly meeting held on the 15th inst., Mr. R. D. Spencer gave an interesting lecture on "British Herbs and their Uses." There was a fair attendance of the members, and at the close of the lecture a cordial vote of thanks was accorded to Mr. Spencer. On the 17th inst. a large number of the members

and a few friends had what is hoped may prove to be the first of a series of annual outings, and which was on this occasion to the Royal Gardens, Kew. A most enjoyable and instructive day was spent in examining the large number of plants, &c., and by the kindness of the president, Mr. W. T. G. Spranyer (who accompanied the party), and a few friends, luncheon and tea were provided for the members at the pavilion inside the grounds. The party, which numbered ninety-two, returned to Southampton by a late train, thus enabling those desiring to do so to pay a flying visit to Battersea Park and other places of interest.

Bristol Amateur Horticultural Society.—The monthly meeting of this society was held at Colston Hall on the 10th inst., the president, Councillor Walls, F.R.H.S., in the chair. An interesting and instructive lecture was given by Mr. H. J. Smith on the subject of "Tuberous Begonias." He traced the history of the plant from its progenitor (boliviensis) in 1864, and pointed out that improvement had been more rapid than in any other subject in the floral world, and urged the members to give the Begonia a more extensive trial for bedding and window-box purposes. Many useful hints and cultural details were given, and at the conclusion questions were asked and replied to, and the lecturer was awarded a hearty vote of thanks. The competition for a garden frame, given by Messrs. J. Crispin & Sons, F.R.H.S., for a Pelargonium (any species), was won by Mr. T. H. Sams, with a fine single flowered plant. The chairman announced that the schedules for the annual show in November (in connection with the Bristol Chrysanthemum Society) were complete.

Use of the Scent of Flowers.—Its primary use no doubt is to attract insects, which will carry the pollen from flower to flower, thus insuring cross fertilisation. Secondly, the scent acts, it is believed, in the same way as the glass roof of a hothouse. Professor Tyndall found that the luminous radiation from the sun can pass readily through an atmosphere impregnated with essential oils, but when it strikes the gronnd and is converted into dark heat (heat unaccompanied by light) it can no longer traverse this atmosphere, the scent thus acting as a trap for the solar radiation. The absorbing power of these oils varies between that of otto of Roses, which is thirty-seven times that of pure, dry air, to that of Aniseed, which is 372 times.

St. Ann's Rose Show.—The second day of the St. Ann's and Nottingham Rose Show was rendered additionally attractive by a fresh set of competitions, for which special prizes were offered. Out of the twenty-four exhibits of four varieties none was equal to that of Mr. T. Hallam, who showed specimens of E. Y. Teas, W. J. Long, Louis Van Houtte, and Merveille de Lyon. Mr. T. Barton gained second prize with similar varieties, other prizes going to Messrs. W. Francis, J. Stoneystreet, and F. Cox. Mr. J. Stoneystreet's group of three, which was awarded first prize, included a Marie Baumann, beautifully chased in colour. Other prizes were won by Messrs. G. Wray, J. Foulgham, and T. Hallam. The same bands as on Friday were in attendance, and the Roses, which had been replenished where fading was noticeable, presented an appearance but little less delightful than was the case on the first day. The show has been influentially attended. During the evening Mr. E. Bond, the Conservative candidate for the Eastern Division, distributed the prizes. In the course of a short address he said that it gave him very great pleasure indeed to be there that night to distribute the prizes. He was told, however, that he was not actually to hand the prizes to the successful competitors, but only to read over the names of some of the winners. He had been around some of the allotment gardens, and was surprised and pleased to see how well they were cultivated, and it had occurred to him that those possessing the gardens combined the delights of the town and country. A man who had got a garden of that kind had made a good investment, and he believed that he could make it pay as well. Anyway, he believed the experiment had been a successful one in Nottingham. He thought that the Corporation had done a good thing in letting the ground out for allotment gardens, and he heard that many other towns were following the example. He hoped that that would not be the last time he would have the pleasure of addressing them upon a similar occasion. After reading out the names of the most successful competitors in the show, Mr. Bond said that he thought that show had tended to extend the allotment garden movement and increased the delight of the cultivators. He had spent a very enjoyable quarter of an hour there and hoped that it would not be the last.

New York Botanical Garden.—Under the Act of incorporation, the citizens forming the society known as the "New York Botanical Garden" have subscribed 250,000 dollars as an endowment fund, and the Department of Public Parks is authorized to set apart a portion of Bronx Park, not to exceed 250 acres, for the purposes of the botanical garden. The city will also appropriate 500,000 dollars for the construction and equipment of buildings. Bronx Park is about two miles in length and half a mile in width, and contains 653 acres; it extends along both sides of the Bronx River, in the northern part of the city. In the botanical museum will be collected specimens of the products of plants. This building will contain laboratories, lecture rooms and an herbarium, which, it is hoped, will ultimately contain specimens of all known plants. There will be a large number of greenhouses of various sizes, which will contain a great variety of growing plants from tropical countries. In the outdoor department will be as large a variety of plants as will grow in this climate; also an arboretum, in which all the trees that can endure the climate will be grown.

Fruit in British Columbia.—It is difficult to find anywhere such large fruit, and of such good quality as is grown in British Columbia. Plums the size of eggs and Apples the size of Turnips are not unusual in that country, some Apples weighing as much as twenty-one ounces. General Booth, of the Salvation Army, visited the country recently, and, it is stated, he was so favourably impressed that he intends sending a colony there. Lord Aberdeen, Governor-General of the Dominion, has purchased a large tract of land in that province, and 100 acres of it have already been planted in fruit trees, and are giving, we understand, great satisfaction.

Horticultural Lecture.—On the 29th ult. Dr. Clark, of Leeds, delivered a lecture to a good number of people in Mr. Calvert's garden, Wenthorpe. The lecturer first of all went through the garden and spoke about each crop as it arrested his attention. In speaking of Apples, he recommended summer pinching when trees were making plenty of new wood. When trees bore a very heavy crop they drew upon the substance of the branch and weakened it. That was indicated by the curled appearance of the leaves. If a bad season followed, no fruit would be got. In order to prevent the tree becoming exhausted give sulphate of ammonia, one ounce to one square yard, when the fruit is the size of a Hazel Nut, because that quickens the flow of the sap. Gooseberry trees that bear leaves only at the end of the branch are either (1) exposed to strong winds or (2) have root rot. To form large fruit there was nothing like a summer pinch. To get Raspberries all along the branch the top of the branch would have to be cut off and the cane bent back. The surface roots should never be disturbed. If the soil was exposed to the sun mulch with manure. Cabbages should be grown as quickly as possible, and the soil for the hot bed should be prepared two or three minutes before required, and for every barrow load of soil add a six-inch pot of mineral super-phosphate. In the growing of Celery it was advisable to look for leaves turning yellow after the plants had been out for a week. If the yellow leaves remained give sulphate of ammonia, one ounce to the yard. If in case the leaves became thin at the end and curled back, dress with one ounce of nitrate of soda to the yard, and four days after with one ounce to the yard of mineral superphosphate. When Strawberries were healthy the leaf stalk could not be squeezed between the finger and thumb. Every strong healthy leaf should manufacture sufficient material for five good berries. It was advisable to use two ounces to the yard of dissolved bone every autumn after a good crop. In taking runners, the lecturer said, take those from one to two good joints, because those were good, the third joint being a doubtful bloomer. Beyond this the plants would be barren, and runners from them would be barren also. A vote of thanks brought the lecture to a close.

What about the big Strawberry?—Is the big Strawberry going to take the place in periodical fiction of the big Gooseberry? We ask without in the least expecting a reply, but merely to call attention to the case of one Joseph Lyons, who plies his trade as a costermonger in that always overcrowded thoroughfare in London known as Liverpool Street. Lyons was summoned for obstructing the highway. We should have thought, by the bye, that it was not a little difficult to single out any one person or object in that street and say he or it obstructed. The general impression to any eye but that of a London policemen is that every person, cab, bus, barrow, and other vehicle is trying to run into or over every other person, cab, bus, &c. But to return to our Strawberries. Lyons had Strawberries of such enormous proportions on his barrow that they really constituted the obstruction, so he said. And he indicated the size of the fruit so as to convey the idea that the smallest were rather larger than an ordinary breakfast cup. They attracted a big crowd of watery-mouthed lads "callin' of 'emselves clerks," scornfully explained the fruit dealer, and the clerks in turn attracted a big policeman. The magistrate was obviously much touched by the coster's tale of woe and Strawberries. He gently suggested a wider street or smaller Strawberries in future, and sent Lyons off without any reduction of his profits.

GARDENIAS.

W. P. R. enquiries on page 729 in THE GARDENING WORLD, if Gardenias can be grown successfully in loam alone. I have always found them do just as well in loam as peat. I have grown them in pots and planted out, and they have always done well.

They are likewise very easy things to propagate; if a branch is pegged on to a pot full of soil, it will soon strike root into it, or, if a little moss is bound round the stem or rather a branch and kept moist it will root in less time than a Dracaena; all they require is heat and moisture.—*T. Cockerill, Wirksworth.*

THE ALLAMANDA.

WHAT a wonder it is that this beautiful plant is seldom seen doing well. It is without doubt, one of the easiest stove plants there is to grow, but well repays any little extra attention that may be given to it. Last year I struck three cuttings in a three-inch pot in April; they were moved into an eight-inch pot as soon as rooted; they started to bloom in July, and from then to Christmas I cut 180 blooms. The first week in the New Year it was put under the stage of a cool greenhouse, where the frost was just kept out, and it remained there for three months without any water. The first week in April it was returned into the stove pruned and potted; it started to bloom three weeks ago. I have cut six and seven blooms a day, and the plant is covered with buds. I have likewise some cuttings that were struck in June, and I cut my first bloom of them yesterday, July 16th. Last year I noticed when going round the gardens at Gilkin House, Wirksworth, in the stove, some Allamandas blooming in three-inch pots. Of course the blooms were only small, but they looked very nice dotted about amongst the Ferns.—*T. Cockerill, Wirksworth.*

CANNAS AT CHISWICK.

As greenhouse flowering plants of first-class merit, as well as sub-tropical bedding subjects of no mean order, Cannas have of late years monopolised a considerable share of the attention of far-seeing horticulturists, who perceived in them qualifications that would in time place them in the front rank of decorative plants. Nor have the expectations of these lynx-eyed gardeners been disappointed; for, as the fruits of their continuous and painstaking labours, we have now a race of plants second to none in intrinsic beauty, and in decorative effectiveness. With the introduction of C. indica from the West Indies in 1570, their cultivation may be said to have commenced, but it is during comparatively recent years that the greatest improvements have been effected, and the numerous fine varieties now forthcoming brought so prominently into notice.

A splendid batch of pot plants are at the present time making a brave show in the Royal Horticul-

tural Society's Gardens at Chiswick: the cultural conditions accorded them there evidently suiting them down to the ground, to judge from the extreme healthiness of the foliage, and the large size and strength of the flower trusses. Indeed, the whole house is a blaze of colour, which, however, is well and suitably relieved by the rich dark green foliage. The collection boasts of a considerable number of the best varieties now on the market, the plants themselves in most cases being of dwarf and sturdy habit—in itself a no mean qualification for a Canna to possess. Among the large number of varieties to be seen the following seemed to us to be specially noteworthy, as evidencing the highest degree of excellence that we have yet reached in the improvement of the Canna, and its modification to suit general horticultural requirements.

Bacchus is of exceedingly dwarf habit, whilst the flowers are of a fiery crimson hue, the segments also being broad, and of good substance. A really fine variety this. Phoebus is rather distinct on account of the peculiarity it exhibits of producing a flower truss, which, instead of being erect and boldly standing up above the foliage, droops downward. The blooms in this case are of a bright orange shade, the light green leaves being prettily margained with silver. Amphion is another very fine sort growing to about 2 ft. 6 in. in height with a very heavy spike, which exhibits the marked peculiarity of having the lower blooms of a bright crimson scarlet, the upper ones displaying a decided orange flush. Between L. E. Balet and Antoine Barton, but little if any difference is observable, even although we closely compared the flowers of the two varieties. In habit and style of growth the same marked similarity was apparent. Both have very large flowers, produced upon a long compact truss of bright yellow hue, heavily spotted, and mottled dull red. The blooms of Geoffrey St. Hillier are of a pretty crushed-strawberry tint. Somewhat like it in colour of bloom, but very distinct on account of the dark purple foliage, is Henri L. De Vilmorin. Other sorts boasting of this dark purple foliage, a few of which appear to great advantage when growing amidst a number of the green-leaved varieties are Paul Bert, which, although an old and well-known variety, must yet be included in any representative list, and President Carnot, which has rich crimson-scarlet blooms, and grows to a height of about four feet. Very fine is Madame Crozy, the blooms of which are of a clear orange-vermilion hue, and the segments very prettily margined with gold. Konigen Charlotte well sustains its reputation as one of the very best Cannas in existence, and well justifies the glowing reports that have been circulated concerning its beauty. Of vigorous and yet dwarf habit the spike is large and heavy, and the effect produced by the bright orange-scarlet flowers deeply banded with gold is very brilliant.

For a yellow-flowered variety Quassimodo is well worth growing, although the segments are not nearly so wide or of such good substance as those of the sorts previously mentioned. Still it has a most graceful appearance, and lacks a good deal of the heaviness characterising the larger flowers. Progression has yellow blooms, heavily mottled brownish-red. Very distinct is Amiral Courbet, the leaves being long and acuminate, and charmingly margined with silver. It grows to a height of about three feet, and is of exceedingly graceful habit. The flower spike is long, and the blooms, which are loosely arranged thereon, are of a rich yellow hue, spotted crimson. Very large and fine are the blooms of Ulrich Brunner. Bright crimson-scarlet in hue, they appear to great advantage with the rich dark green foliage as background. Alphonse Bouvier bears remarkably large and well shaped flowers of a deep rich crimson shade, and is withal of free and vigorous habit. This variety is one of the very best of its kind and deserves extensive recognition. A good crimson flower is that of Comte Horace de Choisine, the segments being noteworthy for their width and good substance, whilst the habit of the plant is everything that could be desired, both for dwarfness and vigour. Somewhat like the last named in style of growth is Star of 91, but the flowers are of a rich orange-scarlet colour, occasionally banded with gold. It would also be impossible to pass by Paul Sigrist, with its large, rather loose spike of deep crimson-scarlet flowers, that are a marvel of richness and beauty. Comte de Germiny produces a close compact truss. The blooms are of a delicate crushed strawberry tint, flushed slightly with orange, and the margins intermittently edged with gold. Another standard variety is Paul Marquart, which has fine bright green foliage and flowers of a deep salmon shade, passing with age to rose tinted carmine. Very showy is Admiral Gervais, the bright scarlet segments being bordered and occasionally blotched with gold. This variety also boasts of a very dwarf habit.

Indeed, both time and space would fail us to adequately describe the whole of the marvellously beautiful varieties, which afford so marked a testimony to the value attaching to the members of this showy genus, and which constitute an unmistakeable tribute to the labours of the florists, who, by the skilful manipulation of known species, have given to the horticultural public a race of plants which bid fair to become general favourites, if indeed they have not already attained to this enviable position.

ORCHID NOTES AND GLEANINGS.

By John Fraser, F.L.S., Kew.

The undermentioned Orchids received Certificates from the Royal Horticultural Society on the 9th inst.:—

Laelio-Cattleya D. S. Brown, *Nov. hyb. bigen.*—The seed parent of this bigeneric hybrid was Cattleya Trianaei, while the pollen bearer was Laelia elegans. The sepals are of a dark rosy-purple, and the elliptic petals are several shades darker. The orbicular, plicate lamina is rich purple, with an orange throat, shaded crimson, and the tube externally is paler purple. The habit of the plant is that of the seed bearer, and the flowers are showy. Award of Merit. Messrs. F. Sander & Co., St. Albans.

Brassia verrucosa.—The sepals of this good old subject are 3 in. to 5 in. long, the petals about 2½ in., and all are light yellowish-green, spotted with brown at the base. The lip is even more showy and white, warted with green. A huge and well-grown plant, carrying some fifteen spikes of bloom, was exhibited by De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. Award of Merit.

Miltonia vexillaria Constance Wigan, *Nov. var.*—There is a charm about this variety inasmuch as the sepals and petals are white, overlaid with delicate pink. The lip is of great size, and white with a yellow base, from the centre of which three red streaks radiate. Award of Merit. Sir F. Wigan (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

Vanda tricolor planilabris.—The sepals and petals of this grand variety are rich yellow, heavily blotched all over with a glossy brown. The lip is nearly flat and rosy, with a yellow base. It is one from the rich collection of R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. Award of Merit.

Masdevallia coriacea.—The campanulate tube of this species is fleshy and white, spotted with purple on both surfaces. The free portion of the sepals is short and ovate, ending in a tail ¼ in. to ½ in. long. Botanical Certificate. R. I. Measures, Esq.

Dendrobium speciosissimum.—The lanceolate sepals and elliptic petals of this species are white. The lip is similar in colour, with a yellow ridge along the centre, passing into red and thence into scarlet at the very base. Botanical Certificate. Exhibited by Messrs. F. Sander & Co.

Dendrobium bractiosum.—The stems of this uncommon looking species are terete, about 18 in. long, and bear the flowers in dense lateral clusters, furnished with numerous rosy bracts, to which the specific name refers. The small sepals and petals are also rose-coloured, but curiously enough the lip is orange. Botanical Certificate. Messrs. F. Sander & Co.

Lycaste Dyerianus, *Nov. sp.*—The pseudobulbs of this Peruvian species bear two leathery leaves at the apex, and give rise to several flowers at the base. The sepals are oblong, the petals small and lanceolate, and all are pale green. The lip is somewhat paler, and shallowly fringed along the edges. Botanical Certificate. Messrs. F. Sander & Co.

Sarcanthus teretifolius.—The leaves of this species are 6 in. to 10 in. long, and terete, as the names implies. The flowers are borne in racemes, and have brown sepals and smaller petals of the same hue. The lip is white with yellow tips to the lateral lobes. Botanical Certificate. A. W. Witt, Esq., Maida Vale, W.

Eria Clarkii.—Two or three leathery leaves are borne at the apex of the ovoid, dark brown pseudobulbs of this species. The small but pretty flowers are borne in a dense, arching raceme, and have straw-coloured sepals and petals. The three-lobed lip, on the contrary, is clear yellow. Botanical Certificate. Messrs. W. L. Lewis & Co., Southgate.

Masdevallia guttulata.—The pale, creamy-white sepals of this Masdevallia are finely spotted with crimson on the face, and terminate in tails ¼ in. to ½ in. long. Botanical Certificate. Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking.

Trichocentrum hymenanthum.—The lanceolate sepals of this little species are of a transparent white, and the petals are broader, but otherwise similar. The lip is oblong and concave, with two depressions at the base, and is marbled with light purple. Botanical Certificate. Sir Trevor Lawrence, Bart.

Luddemannia Pescatorei var.—The dense racemes of bloom in this case are protruded from the bottom of the basket in which the plant is grown, in a similar manner to those of Acineta and Stanhopea. The flowers are half closed, and have yellow sepals tinted with salmon, while the petals and lip are golden-yellow. Botanical Certificate. Sir Trevor Lawrence, Bart.

Oncidium olivaceum Lawrenceanum, *Nov. var.*—The flowers of this Orchid are borne in a simple or slightly branching raceme on a scape about 18 in. long. The sepals and petals are of a rich dark olive-purple, while the lip is clear purple, spotted with crimson, and has a large yellow crest. Botanical Certificate. Sir Trevor Lawrence, Bart., and Lord Rothschild (gardener, Mr. Ed. Hill), Tring Park, Tring.

Polycycnis muscifera.—The flowers of this species are small but exceedingly curious, and borne in racemes. The reflexed sepals are deep yellow, spotted and barred with crimson, and the petals are similar but narrower. The lip is yellow and hairy, while the terminal lobe is fixed in a curious way beneath the middle portion. The slender, clubbed, and green column is arched like a swan's neck. Botanical Certificate. Lord Rothschild.

Promenea stapelioides.—The leaves of this tiny species are dark green, but only 2 in. long. The flowers are solitary, and their greenish-white sepals are transversely barred and streaked with purple. The petals are darker. The lip is of a blackish velvety hue, barred at the apices of all the three lobes, which are paler. Botanical Certificate Lord Rothschild.

THE KITCHEN GARDEN.

Turnips.—After the recent heavy rains that have been experienced all over the country the ground is in excellent condition for seed sowing, and no time should be lost in taking full advantage of this consideration. A large sowing of Turnips should now be made. Ground that has been cleared of Potatos, Cabbages, or any other early crop may be used for this purpose. Dig it well, and if wood ashes can be had the crop will receive much assistance by giving the ground a good sprinkling with the addition of a little soot before sowing. The lines may be drawn 18 in. apart, the seed sown thinly and well trodden in, finishing off neatly with the rake. For sowing at this season, Dobbie's Golden Ball is without doubt one of the best yellow varieties, and for flavour it is preferable in the opinion of many to the white sorts, of which Snowball and Dobbie's Model White are the best, but many cooks, however, object to the colour, and prefer the white sorts, even at the expense of flavour. The present season has been one of the worst for obtaining tender and juicy Turnips during my experience, and here in the south no doubt the parched condition of the soil, which in this locality is rather light, accounts for this, but much of the difficulty has been overcome by lifting the crop as soon as the roots were full size, and burying them in a cool, moist place to be used as required.

PARSLEY.—The latest sowing of this crop should now be made, and if space can be afforded it will be well to sow in different positions, as very often in one aspect the frost may injure the whole sowing, when in another the plants may pass through the winter comparatively safely. As a general rule, any scarcity in this department throughout the winter is a source of much trouble and annoyance.

BROCCOLI.—In many gardens the planting of Broccoli does not receive the strict attention it requires if the plants are to stand the winter. It is next to useless to attempt planting them in very rich and loose ground, as the growth becomes so succulent that nothing short of an extremely mild winter will save them. Where the Strawberry crop is finished, and it is intended to do away with the plants, this is, perhaps, one of the best places to plant Broccoli. Simply skim off the old Strawberries and plant the crop on the solid ground. They will then grow away slowly and sturdily, and will withstand the severity of most winters.

FRENCH BEANS.—Continue the sowing of French Beans; but it may be well to give them a somewhat sheltered position facing south at this date, sowing Ne Plus Ultra or Canadian Wonder.

PEAS.—Where Peas have borne a crop and have still some vitality left in them, it may be as well not to pull them up for a time, as the recent heavy rains seem to have given them a new lease of life and have started them growing vigorously again. This of course was noticeable earlier in the season to some extent, but here it seems quite general since the change in the weather.

TOMATOS.—These may now be finally stopped where grown outside, and all laterals pinched out. Thin out all deformed fruit and tie up the trusses to expose them as much as possible to the light. Many people at this date thin out the foliage, but much caution is necessary in doing this, as much better it is to tie back the leaves, a method of treatment not so unnatural to the plants as stripping them of their leaves.

It will now be necessary to go over all crops and stir up the soil well with the hoe where possible, as a means not only of keeping down the weeds and ensuring cleanliness, but as tending to the prevention of the undue escape of moisture which is easier retained when the surface is loose.—*James Gibson, Devonhurst, Chiswick.*

HARDY FRUIT GARDEN.

SMALL FRUITS.—The month of July is often a trying one to fruit growers, for by some unfortunate misunderstanding St. Swithin's Day was fixed to come about the middle of the month, when fruit picking is at its height, and many of the country people, who implicitly believe in the truthfulness of the proverb attaching to it, are wont to regard it as an evil omen should the Saint allow the rain to fall on the particular day devoted to his memory. This year rain did *not* fall on St. Swithin's Day, and we have had a most favourable season for the picking of small fruits, a blessing for the bestowal of which St. Swithin may be credited in some quarters.

CURRANTS ON NORTH WALLS, both red and white, which it is desired to save for use later on must be netted securely without delay, if this precaution has not been already taken, for now that the standard bushes are in a great measure stripped of their fruit the birds will turn their attention to them more particularly, and usually with decided results.

STRAWBERRIES.—As the layers become rooted they may severed from the parent plant by means of a sharp knife, and the layers, if desired, removed and stood in batches together in positions most convenient for watering, until they have filled their pots with roots, when, of course, they will be ready for potting up for forcing purposes. Where there has not been enough time to layer into pots in sufficient quantities plants other than those wanted for forcing purposes, by leaving the trimming up of the stock plants for a week or two, time will be given for the runners to establish themselves. This they very quickly do in wet weather, and thus the recent rains have just come at the right moment for them.

NEW PLANTATIONS.—Where fine large fruit is required, too much stress cannot be laid upon the importance of having plenty of young plants to depend upon, and thus it is advisable to renew at least a part of the plantations each year, for after the third year's cropping the fruit deteriorates greatly, both in size and appearance, and is in fact only fit for preserving purposes. The finest and best crops of fruit are always picked from plants in their second year of growth. Preparations must be made, therefore, without any further delay for getting the plots of ground that are to be devoted to Strawberries in readiness for planting, say at the beginning of August, which allows the plants time to get a good hold of the soil before winter. The soil best adapted to the requirements of the Strawberry is a deep strong loam, not clayey be it observed, as such soil is so liable to cracking during dry weather. If the situation is rather moist so much the better, for it stands the plants in good stead in the event of a season like 1895 has been. It often happens that at this season of the year it is inconvenient to spend much time upon the future plantation, but in all cases a deep digging or trenching should be given with liberal dressing of well-rotted stable manure.

EARLY BEDS.—It is exceedingly convenient and in some cases necessary to plant a few runners in warm sheltered positions to produce fruit to come in just after that obtained from the latest forced plants and before that borne by the other plantations. It often happens that on positions from which early Potatos or Cauliflowers have been taken, a little levelling of the soil is all that is required. As early sorts for planting in this way Laxton's Noble and Number One will be found to be thoroughly reliable, whilst that grand variety, Royal Sovereign, has established a name for itself as a very early sort, and one well worthy of increased attention and cultivation.

FRUIT UNDER GLASS.

WASPS IN VINERIES.—As the summer advances and these mischievous little insects increase they cause a deal of trouble among the ripe fruit in the Vineries. Despite all precautions that may be taken of spreading fine netting over top and bottom ventilators they will get in and do their utmost to spoil the shape of the bunches. Traps may therefore be set by placing jars or glass vessels here and there containing a mixture of sugar and water, or vinegar and water, a good many being caught by this means. But it is outdoors that the real work must be done by waging a ruthless war against all nests that are discovered not only in the immediate vicinity but anywhere, for these insects will fly for miles in search for food. Cyanide of potassium is the best of all specifics to use, a single teaspoonful poured into the mouth of the nest meaning certain death to its inmates. It may be necessary, however, to repeat the warning that has been sounded often enough before—viz., to keep the cyanide in a safe place, out of the way of children, otherwise its deadly poisonous qualities may be demonstrated in an unfortunate and unlooked-for manner.

Continue to stop laterals by pinching with finger and thumb on all Vines that are in full growth as occasion requires, and keep a bright look-out for mealy bug which must be kept from getting into the bunches at all hazards; for once they effect a lodgment there it is very difficult to dislodge them. Ventilate freely and well; for as previously stated a good circulation of air is necessary to keep the foliage healthy. Water also must be applied with no illiberal hand.

FIGS.—Continue to ply the syringe regularly among these until the second crop commences to ripen off. As the Fig is such a gross growing subject it must not be allowed to suffer from lack of water. As the first ripe fruits are usually gathered long before many of the rest are near maturity the water supply must not be curtailed in any way. For a change a dressing of Thompson's may be given the borders, forking it slightly into the soil by carefully loosening and breaking up the surface, afterwards giving a good watering with clear water.

CUCUMBERS IN FRAMES.—After plants have borne a goodly number of fruits during the previous few months, and the foliage has become shabby, they may be started into growth again, and given a fresh lease of life, if it is not desired to put in young plants, by cutting away a large portion of the weak and useless growths and shabby leaves. A top dressing of light rich soil may then be given, and the shoots that are left evenly distributed over the surface of the frame, and pegged down in their respective places. A good lining of fresh fermenting material should then be placed around the sides of the frame, which must be kept rather closer than usual for a while. Aided by the use of the syringe the old plants will soon start into fresh growth, and will produce good Cucumbers in a surprisingly short space of time, always supposing that they are healthy in the first instance. Much time that would be lost by rooting them out and putting in young plants is thus saved by this means, while the quality of the fruit produced by these old plants is quite equal to that borne by the young ones.

MELONS.—In houses where the fruit is ripening more air may be given whilst less moisture both at the root and in the atmosphere will be necessary. Attend to the giving of support to plants whose fruit has reached the size of cricket balls. This may be afforded as previously stated either by means of flat pieces of broad or of pieces of strong netting about six inches square suspended at the four corners; keep the syringe well employed morning and afternoon right up to the time the fruit commences to ripen.

THE FLOWER GARDEN.

WHERE the showers have been sufficiently heavy to set the grass growing once more after the long period of comparative inactivity the mowing machine will need to be employed somewhat oftener than it has been during the last two months or so. It will be important to observe, however, that the cutting blades are not set down too low, or the roots of the grass, enfeebled as they already are, will receive damage.

ROSES.—The exceptionally hot, bright sun has shortened the lives of most of the blooms, and their ruin has been completed by the heavy storms of rain that have lately visited us, and thus for a season the garden will be deprived of their bright beauty. The bushes may now be gone over and the remnants of the departed blooms cut off with scissors or a sharp knife. The garden engine should also be kept well at work among them now, as with comparatively few exceptions there will not be many flowers to trouble about. A good top dressing of manure may be given and good soakings of water at intervals as required. Proceed with the budding of stocks with all speed, taking care that all the buds inserted are procured from healthy well-matured shoots.

HARDY FERNERY.—This part of the garden should now be looking at its best. Every establishment should boast of a corner, even though it be a very small one, devoted exclusively to Ferns; for among our hardy kinds are many really fine ones that for delicacy of cutting, and real and intrinsic beauty, will vie very favourably with their more favoured relatives from warmer climes. Plenty of water at the root is a necessity. A rose should therefore be affixed to the hose and the whole given a thoroughly good watering overhead, starting operations about five o'clock in the afternoon if the day is a bright one.

PERENNIAL ASTERS.—There can be no question as to the importance of the position that these hold among the ranks of autumn-flowering plants. As they are gross feeders they soon exhaust the natural supply of water in their immediate vicinity, and if they are to make really good plants this deficiency must be made up. Staking as soon the growths have become heavy enough to endanger themselves must be looked after, as it is much easier to do it now before the plants have begun to lop about all over the place than it is to wait until the mischief has been done. Some of the early dwarf ones, such as A. glaucus and A. sibiricus, are usually strong enough to stand without artificial support, as they rarely exceed a foot or so in height.—*A. S. G.*

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HINTS FOR AMATEURS.

INSECT PESTS IN THE GREENHOUSE.

While it is quite true that in very many instances the amateur gardener lags some distance behind the professional, and while the latter, with very few exceptions, fails entirely to understand the difficulties and grievances of the former, in one matter at least they are common sufferers, and are called upon to contend with the same enemies in the shape of the numerous insect pests that attack the plants under their charge. If anything, perhaps, the amateur is the greatest sufferer in this respect, from the fact that his plants, not being quite so well looked after as those of the more experienced man, and hence not in such vigorous health, are more likely to suffer from insect attacks. Another fact that probably exercises not a little effect upon the cleanliness of the plants is that in the comparatively small houses of the amateur is to be seen a heterogeneous collection of subjects, often stood much closer together than they ought to be, with the result that, as it is impossible to manage the house in such a way as to suit them all, many of them suffer in general health, insects of one or more kinds effect a lodgment and still further impair their constitution and appearance. A few hints, therefore, as to the treatment of plants infested by some of the various kinds of insects which prey upon our favourite flowers may be of service to those who are sorely plagued in this way.

It may be stated at the outset that the old motto of prevention being better than cure applies here with singular force. By taking every care to keep the plants in good health the danger of their being badly attacked by insects is reduced to a minimum. Cleanliness in the house itself is likewise a most important point, and one about which we may say a few words with advantage. No matter what the kind of house is, whether span, hip-roofed, or lean-to, whether big or little, it is sure to contain a greater or less number of nooks and crannies which afford excellent harbour for insects. Several times a year, therefore, a thorough clearing should be given, the house cleared entirely, and the glass and woodwork well washed. By means of a small brush the corners should then be anointed with neat petroleum. If the house is a lean-to the back wall should be whitewashed at least once a year. This gives the advantage of a fair start, and if ordinary care is taken not to bring in dirty plants half the battle is won. By keeping a bright look-out subsequently and taking remedial measures before the little pests have obtained a footing everything may be kept clean and tidy with but comparatively little trouble.

MEALY BUG.

Although one of the commonest of insects this is certainly not nearly so destructive as many of the rest. True, its appearance does not in any way enhance the beauty of the plants, especially when seen hanging, as it sometimes is, in delicate festoons from leaf and branch. It is in the warmer houses that it usually makes itself apparent in such large numbers, the tropical heat appearing to suit its particular proclivities to a nicety. In the greenhouse, however, it does not multiply with anything like the freedom it does in the stove, neither does it usually infest the smaller plants to any serious extent. It often does take up its abode among the larger plants, climbers especially, and Tacsonias, Passifloras, and Lapagerias need to be gone over now and again and cleaned. With the two former subjects the thick growths made, constitute a fair refuge for them, particularly as it is not possible to disturb them much yet. The weaker growths in the case of Tacsonias may, however, be cut out and the remainder syringed with a mixture of petroleum and warm water in the proportions of a wine-glassful of the former to a couple of gallons of soft water. The mixture must be kept constantly stirred all the time it is being applied, otherwise the petroleum, which never mixes readily with the water, will separate out and float upon the top. It is a good plan for two syringes to be kept at work, the one being used for applying the mixture to the infected subjects, and the other to keep it constantly stirred meanwhile.

SNOWY FLY.

This, a very common fly among all kinds of plants, may be readily distinguished by its being of a silvery whiteness. It is very partial indeed to Tomatos, and is usually present upon them in greater or less numbers. Spreading from thence on to Ferns and other plants that may be beneath them it quickly multiplies and is exceedingly difficult to get rid of. Indeed, so tenacious is it of life that a painstaking amateur, who, finding his house overrun with it, and having made several ineffectual attempts to rid his plants of it, applied to a neighbouring expert for advice and assistance, received the very discouraging reply that he was to fumigate his house morning and night every day for six weeks, and perhaps half of it would be dead then. About the best method of dealing with it that we have practised is to dissolve a piece of soft soap about the size of a Walnut with a little petroleum in warm water, thereby making a nice washing mixture. Wring the sponge until it is nicely damp, when on applying it to the leaves the flies will stick thereto, and may be drowned in the washing solution.

RED SPIDER.

There can be no doubt that if once allowed to gain a foothold, Red Spider is one of the most mischievous of insects, for once it does effect a lodgement goodbye to the hopes of obtaining good plants unless it is speedily ejected. The insects themselves are very minute and not easily discernible; not so, however, their effects. Leaves turn first yellow, and then brown, as if blighted by the breath of some noxious gas, and finally drop off, leaving the plants in a crippled condition. In a dry hot summer like the present, Red Spider is almost sure to make its appearance somewhere unless special care is taken. On no account must the plants be allowed to get dry at the roots or a parched and arid atmosphere to obtain, for these conditions are almost invariably followed by bad attacks of this harmful spider. By using the syringe frequently and well it may easily be kept in check; whilst even after it has made its appearance, clear water forcibly applied is the best way to get rid of it again.

THRIPS.

These are very commonly met with both in warm and cool houses, and their presence is invariably attended by disastrous consequences to the health of the plants, the leaves of which present a spotted and mottled appearance very unsightly to behold. Among Ferns, particularly, they play a great deal of havoc during the summer months, and as they multiply so rapidly are very much to be dreaded. The best way of dealing with them is by fumigation with tobacco paper or rag. In fumigation, a good deal of care is necessary or the remedy will prove worse than the disease. The atmosphere of the house must be kept as dry as possible, no water being allowed to stand upon the foliage. It must be conducted, moreover, before the sun has acquired very much power in the morning, and when done in the evening it should have sunk pretty low; for, if not, its rays beating down upon the closed up house will raise the temperature to a height that cannot fail to be injurious to the occupants. If the house possesses blinds these may be lowered when the fumigator is set alight, for a great deal of the smoke is thus prevented from escaping. Another point that must receive attention is that the fumigator is not allowed to stand directly beneath any tall plants or overhanging baskets or the hot fumes will be sure to harm the delicate foliage. Above all, watch the burning tobacco very closely to prevent it from flaring, and on no account fill the house too full of smoke. It is far better to smoke three or four times lightly in quick succession than it is to fumigate once very heavily; for by the former method the insects are far more likely to be destroyed, and the plants themselves stand in much less danger of sustaining injury.

SCALE.

With this the list of the commonest insect pests is complete, and although Scale is by no means a desirable adjunct to plant life it is not nearly so much to be dreaded as Thrips or Red Spider. A washing mixture composed of a weak solution of lemon oil may be used. A gentle pressure with the thumb nail will be necessary to remove the Scale which usually adheres very closely, the place it covered being afterwards washed with the insecticide.—*Rex.*

Fruit trees by the highways.—On the Continent the practice of planting fruit trees and nut trees along the sides of the highways, instead of trees that merely afford shade, has been largely adopted.

THE EFFECT OF DARKNESS ON THE FORM OF PLANTS.

AT the meeting of the Royal Horticultural Society on 9th July, Mr. Francis Darwin gave a very interesting and instructive lecture upon the effect of darkness upon the form of plants, Dr. Masters presiding and a goodly number of listeners being present. The lecturer prefaced his remarks by saying that the precise effect that long continued darkness exercised upon the appearance of plants was so far very much a matter of conjecture as physiologists stood very much in need of more facts upon which to work, and his principal reason for bringing the subject thus prominently before their notice was that he might excite the interests of practical horticulturists in it and induce them to make experiments, which they of all others were the best qualified to do and which might result in the throwing of a lot of light upon a hitherto little known because little studied branch of research.

Mr. Darwin then went on to say that everybody knew what the appearance of plants which had been grown in a dark place was like, especially with regard to the difference of colour; how the white stems and sickly yellow leaves indicated that something was wrong. But it was of the change of shape in the body of the plants that he wished more particularly to deal. One of the commonest forms of deformity caused by the absence of light during the growth of any plant was that illustrated by the growth of a Potato in a dark cellar, viz. greatly elongated stems and marked dwarfness or suppression of the leaves.

Another equally common form was that exemplified by the sprouting of cereals in a dark room. Here an extreme lengthening of the leaves was manifest. Stephen Hales, who might be regarded as the father of English physiologists, was of opinion that light acted as a direct food to the plant so important was its presence to its welfare. Here the lecturer said he was reminded of the philosopher in "Gulliver's Travels" who possessed a government grant for manufacturing Cucumbers out of sunshine; a state of affairs which though it sounded laughable enough, was yet perhaps not so very much awry. Professor Vines had pointed out that to keep a plant in darkness was not the only way of starving it, for this could as easily be done by keeping it in an atmosphere deprived of carbon dioxide. Experiments have been made with seedlings grown in darkness and exposed for a very short time each day to the light, but not long enough to enable them to develop chlorophyll. Even this short exposure was sufficient however to prevent deformity. The idea that etiolation was simply a pathological state of things was now given but little credence to, except by Professor Sachs who still held this view. Following in the footsteps of other eminent botanists Mr. Darwin was of opinion that it was simply an adaptation on the part of the plant to changed surroundings, a response to a stimulus, an attempt to get out of the difficulties which the change of environment had placed it in. As an illustration of what he meant he might quote the case of rickets in young children, where the outward evidences of the disease, the crooked spine and protuberances on wrists and ribs did not put the child in the best condition for grappling with it and finally overcoming it. In examining the elongated stem and the dwarf stunted leaves of a Potato growing in darkness it would on the contrary be found that these conditions did put the plant in the best way of overcoming its difficulties. The plant, knowing that its existence would be greatly endangered unless it could reach the light and there throw out its leaves, devotes all its energy to the work of producing an elongated stem or stems which shall penetrate into the influence of the all-important light. Take another instance, that of a seedling Bean growing in a dark room; in a normal state when germinating in the open air the plumule forms a hook as it were, which enables it to push through the soil without fear of the delicate leaves at the tip being injured. When growing in a dark room without encountering the resistance of the soil that it has to contend with in the open air we should naturally expect that it would straighten itself, but this it does not do, for it is waiting for a signal—the signal of light to which alone it will respond.

The flower of the Crocus is also extremely sensitive, for upon a slight change of temperature, caused perhaps by a cloud obscuring the sun, a slight movement is to be observed in the petals, which

make as if they would close in order to shield their pollen from the rain which their sensitiveness warns them is impending. The plant thus gets a weather forecast from one part of its environment and acts accordingly. A well known fungus (Coprinus) under normal conditions, has a short stem and a well-developed cap. Grown in the dark, however, it produces a stalk one or two feet in length, and the cap is often not developed at all. This is all the more inexplicable as a fungus has no chlorophyll, but we may take it that it is waiting for the signal of light. Again, a Narcissus growing in the dark produces long flower scapes, which action is only a desperate attempt on the part of the plant to reach the light where alone its flowers can be developed.

With regard to what in the beginning of the lecture Mr. Darwin had termed the second form of etiolation, viz., extreme elongation of leaves as exhibited in the cases of many Monocotyledons, the same rule would hold good. It was simply adaptation on the part of the plant to abnormal environment and could not be accounted for on any purely pathological grounds. The lengthened petioles and leaves common to an etiolated plant putting on this form, on the advent of the stimulus of light began to broaden, whilst the elongation ceased. Cactuses also when grown in darkness, failed to produce those wing-like expansions of the stem which serve as leaves as far as function is concerned. The lecturer then went on to say that some climbing plants were exceptions to this rule. Sachs in his paper on etiolation in 1863, said that in the case of Hops forced to produce shoots in darkness we do not get shoots very, different to those produced under normal conditions but which yet bear a great resemblance to the elongated growths of other plants growing in a dark place. This led the great physiologist to describe the Hop as a case of natural etiolation. Now, Mr. Darwin went on to say, this is by no means a happy term if we consider it as a pathological condition, but on looking at it from the point of its being a natural adaptation on the part of the plant to its environment it is a most suitable one. Marchantias and their peculiar mode of reproduction were also referred to, and the lecturer stated that the minute tubers or masses of cells absolutely refuse to germinate if kept without light. Having regard to the lowly habit of the plant, it is evident that it would stand but little chance of outgrowing such unfavourable conditions as complete darkness, and hence with a desire to save itself it awaits the signal of light before commencing to grow. In conclusion, Mr. Darwin pointed out the need for more facts in connection with the subject, for said he facts are the food of hypothesis, and it is only by their means that the latter can be dwarfed into insignificance or nourished into a natural law.

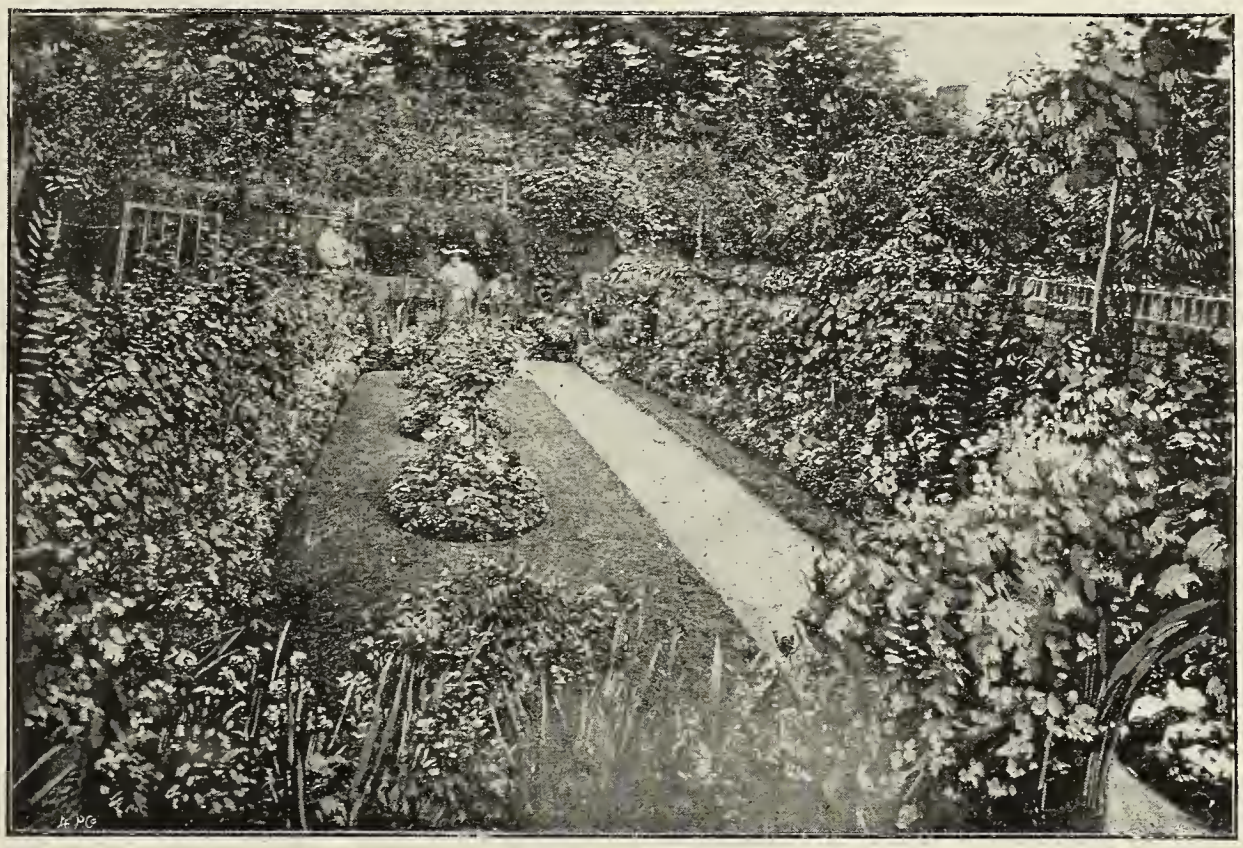
A FIRST-PRIZE COTTAGE FLOWER GARDEN.

The Acton Horticultural Society has for over twenty years offered prizes for the best kept cottage flower gardens and allotments, with a view to promote gardening among the poorer classes; and for the last two years in succession the coveted prize has been awarded to Mr. James Cleaver, a slaughterman in the employ of Mr. Richardson, butcher, High Street, Acton. But this year, in addition to the society's prize, an extra special prize was offered by Mr. Blick, a well-known local man, for competition between the first prize winners in Ealing and Acton, which, we are pleased to add, has also fallen to Mr. Cleaver's share. As the competition in these classes is usually very keen, it follows that Mr. Cleaver's success has not been attained without a good deal of exertion and taste The position of the cottage and its fore-court is not without its disadvantages, while the approach thereto is of the roughest description; but, notwithstanding these drawbacks, the owner and his "better half" have contrived to transform a rubbish yard into a little paradise.

The accompanying illustration is the result of a photograph taken by Mr. Upjohn, High Street, Acton; and which will enable the reader to form a better conception of its character than a mere detailed description. Some general remarks, however, may not be out of place, inasmuch as this little floral retreat is only about forty-five feet long by fifteen feet wide. As to the style and contents, the photograph will also show that while the garden is not overcrowded there is a sufficient number of plants to produce an effective display. In the centre beds these plants consist mostly of Petunias, Calceolarias, zonal Pelargoniums ("Geraniums"), Coleus, &c., the oval beds having each a half standard Rose, and edged with Lobelia and Golden Feather, while the diamond-shaped ones are fringed with seedling Pansies, which have been pinched back to keep them dwarf. In the borders on either side, the edging and several of the plants above-mentioned have been repeated; while Carnations, Clove Pinks, seedling Verbenas, &c., with others of an annual character like Sutton's Champion Stocks (which are very fine), tall Nasturtiums, Canary Creepers, and such-like subjects, cover the wall and fence, thus rendering ugly places gay and beautiful.

The picture is taken from the window of the cottage, which is also prettily decorated, while the cottage itself is covered with a Black Hamburgh Vine. At the bottom of the garden is a bit of rock-work and some vases, which are appropriately planted. Behind these is an arbour or "restful bower," before which Mr. and Mrs. Cleaver may be observed surveying with satisfaction the scene of their success.

The Irish terrier which Mr. Cleaver is nursing is a regular cat scarer, and is valued accordingly, because, but for the services of "Pat," his labours might be entirely wasted. The trees in the background, although they belong to other proprietors, still act as a foil, and serve to increase the effect, which is surely that of a miniature, nobleman's garden. The proprietor himself, however, can hardly be designate a "miniature" nobleman, seeing that he stands over "six-foot two" in his gardening boots. The professional judges were Mr. White, of the Boys' Training Home, Hampstead; Mr. Edwards, of The Elms, Castlebar, Ealing; and Mr. Simpson, of The Beeches, East Acton.—*C. B. G.*



A First-prize Cottage Garden.

LAYERING CARNATIONS.

To keep up a healthy, vigorous stock of Carnations, a constant supply of young plants is a necessity. These should annually be raised by layering the blooming plants, and the best time for carrying out the process is when they are in full bloom. Should the weather be hot and dry at the time give the plants a thorough soaking of water a few days before starting operations, as this renders the shoots more pliable. Immediately before commencing stir the earth about the plants, break it up well and finely, and add some leaf mould or rotten manure. This must be sifted fine, and all the coarser parts rejected. On some soils a better plan is to surround the plants with 2 in. of finely sifted soil, old potting-bench refuse sifted being generally suitable material. Select for layering the strongest of the growths which do not show for flower, too many of which should not be layered from one plant, because if overdone both the parent and the layers will be weakened. Two or three layers from each is ample, and this number can be taken safely.

In layering use a thin-bladed, very sharp knife. It is well to have two at hand, the one to be used for the necessary trimming, and the other reserved for the layering. Have a sufficiency of pegs at hand.

These may be made from the twigs of half-worn Birch brooms, or if desired zinc pegs can be bought from most nurserymen, and are the best for the purpose. Hairpins are sometimes used. Strip the shoots selected for layers of all leaves below the third or fourth joint from the tip of the shoot, and clear all trimmings away before laying them down. Then take the shoot in one hand and make a cut in a slanting direction on the under side of the shoot, commencing half way between the two joints cleared of leaves which are nearest to the untrimmed point. Cut half way through, bending the knife gradually, and then cut on towards the point of the shoot through the joint and about half an inch above it. Next holding the layer firmly in one hand and a peg in the other thrust the peg into the soil, catching the layer as it descends, and bringing the point slightly upwards. This allows some of the fine particles of the soil to get into the incision and keep it open. When all the layers from one plant have been made and are in position, place the fine soil firmly about them, taking care not to break any of them, bringing them into as nearly an upright position as can be done without breaking them. The part between the layer and the parent plant should be left exposed. Leave them for one day without watering, as this enables the wounds made in the process to heal somewhat, but afterwards water freely whenever required to keep them in a healthy, vigorous condition. About the middle of September examine them by gently removing the soil from a few of them to see if they are well rooted. If they are, strong roots will be found growing from the ends of the split joints; then cut them closely behind the layering peg and lift them with all the soil to which the roots are attached. They may either be potted up into large 60 pots and kept in cold frames, or an unheated greenhouse, through the winter. All late layered or unrooted ones must have this treatment; early rooted plants may be at once planted out in their permanent quarters on light, well drained soil.—*W. B. G.*

DAY LILIES.

In my small domain I can boast of at least three species of Hemerocallis. The beautiful H. flava with clear yellow sweet-scented flowers, has, however, given place to H. fulva, a stronger growing, tawny-coloured flower, equally as *beautiful* and *ephemeral* as the generic name implies, but quite scentless. Then there is H. Kwanso variegata, which, if not a species, is sufficiently distinct for present purposes, to take specific rank. Moreover, the flowers are double and of a bronzy orange-coloured tint, and the plant is one I can strongly recommend for pot culture in a cool house. Out-of-doors it is also very effective; and planted on rock-work, for instance, it retains its variegation better and is always interesting in or out of flower.

Although the Day Lilies are so fugacious in character, they are worth growing for the intrinsic beauty of their flowers, which, though ephemeral individually, are produced in succession over a fairly long period. If one be examined it will be found to consist of six fleshy segments—three large and three small—united at the base with a tube. The larger of the divisions have a distinct yellow band running down their centres, while on either side the rich dark veins run in complemental and parallel lines. The prevailing colour in H. fulva is a dull brick-red, which, at the base becomes orange-yellow. The usual six prominent Liliaceous filaments are there capped with golden anthers. These may be said to represent the "gentlemen"; while the pistil which answers to the "lady," completes the perfect flower. If the floral organs then are so frail, the same cannot be said of the plant itself, for it is particularly vigorous and easily accommodated, as it will grow either in the open border or under the shade of trees.

But who knows what may not yet be done even in respect to the fugacity of the flowers, for science is running riot just now over the micro-organisms, which seem to be in evidence wherever the microscope is powerful enough to reveal them. In fact we have it on the *ipse dixit* of Dr. Parker, of New York, that the "microbe of death" has actually been discovered! Moreover, as the "Japanese Day Lily" was the plant he experimented on, it will doubtless interest some of your readers to learn how this remarkable result was brought about.

The Doctor—as far as I can gather—noticed, like a good horticulturist, that the blooms of the Day Lily were born in the morning and died at night. He set to work, therefore, to discover the cause, and was at last rewarded—for the Doctor is a painstaking microscopist—by a sight that would render any ordinary person incapable of articulation; for there, imbedded in the root, was a curious, uncanny, hairlike spiral, which kept continually rolling and unrolling, and gyrating about in a fearful and marvellous manner! It was quite different to any of those rod-like bacteria with which he was acquainted—it must therefore be the "microbe of death"!

To determine the question he took a flower in full bloom, and, by the aid of a delicate scalpel, "extracted the squirming object" from the root. Having thus got rid of so much malific matter, he put the bloom upon the shelf and carefully guarded it. Next day he found it in full vigour and "giving no signs whatever of dissolution." To cut a long story short, the flower shows no inclination to fade, and this "state of floral immortality has continued for months!" What a boon and a blessing to those who love flowers—"Day" Lilies blooming all the year round!—*C.B.G, Acton, W.*

IS GARDENING HARD WORK?

This interesting and important subject has during the last few weeks received considerable ventilation through the medium of the columns of the Gardening World. The general reply to the question would seem to be a ready and absolute affirmative, and taking all things fairly into consideration every one will, we think, confess that this "yes" is rightfully given. True, it may be urged that there are many trades and professions wherein those who follow them have to perform much more laborious and wearisome tasks. Take for instance, dissentient voices will say, the agricultural labourer who has to follow the plough from early morn to dewy eve, or the blacksmith toiling at his forge through the long hours of a hot summer's day. Surely a gardener's life is easiness itself when compared with theirs. Or, they will continue, look at our toiling professional men, who, in spite of aching head or wearied brain, are working at high pressure to fulfil their allotted tasks. Granted that a gardener has a certain amount of brain work to perform, it sinks into insignificance besides the labours of such hard brain workers as these. The clerk too, in a murky London office, poring over a dusty ledger, and wrestling with columns of figures as long as himself; surely his must be accounted harder work than that of the man who has the advantage of being able to allow the fresh, pure air of heaven to play upon his brow, and is able to hold commune with nature in her best moods. Thus argue those who know least about it, with what amount of truth only those who really know what present-day gardening is, from practical experience, can adequately gauge.

Sooth to say, amongst the generality of people, a halo of fairy-like brightness is thrown around the head of the gardener. He is spoken of as working amongst the lovely colours and not less charming fragrance of the flowers whose wants it is to him a labour of love to supply and attend to. He is regarded as a specially favoured individual for whom the most delicious fruits hang temptingly within reach, and about whose footsteps the fair goddess Flora weaves her most delightful garlands. True the goddess Flora is fair, but like many other things of the female persuasion she is captious likewise. The beautiful children that pay her homage are, moreover, captious too, and many and various are the struggles of the gardener in his attempts to grow lovely, but delicately constitutioned plants to the perfection required of him by his employer. The hard-working mechanics have, it is true, to undergo great bodily exertion, but they have not at the same time to draw so heavily upon their stores of brain power. They work, moreover, by certain set rules, which are seldom modified or altered to any appreciable extent. Last, but by no means least, when the leaving-off bell has sounded they are able to jump out of their working clothes and their working associations at the same time, and to wend their way homewards with the peaceful assurance that the day's labour is over, and that they are free for a few hours. Not so the gardener. His work is never done, or at least the worry attaching to it is not.

With regard to the hard-worked professional men, it is very rare indeed that they have to combine great mental with great physical exertion, but this the gardener has to do. Any profession, trade, or calling, let it be called what it will, in which those who follow it have to use both hands and head for a practically unlimited time cannot fail to be hard work in the most absolute sense. Mr. J. G. Pettinger in his recent article has pointed out the numerous qualifications of which a modern gardener must be possessed if he is to make his mark in the world as a practical and successful man. It is necessary here to point out that, unlike the skilled mechanic who has rules laid down for his guidance, that are subject to very little, if any modification, the gardener has to use his own judgment in the majority of instances as to how he shall treat the subjects under his charge. True, in theory there are certain rules that are of great service to him, but in putting these into practice the operator is obliged to alter and modify them to suit existing circumstances, and the special environments of the particular plant he is dealing with if he would reach that goal of success towards the attainment of which he is striving. Not only is the mental strain upon an efficient gardener very great, but in very many cases he has to perform work of a very heavy and laborious character. This of course does not refer to the heads of large establishments where plenty of men can be procured, but is applicable to the smaller undermanned places which outnumber the larger ones in the proportion of at least three to one. In places of this kind the head gardener has to work with his own hands and often very much harder than the men he has under him. Constant popping in and out of warm, damp houses when the outside temperature is cold and raw, sometimes with a coat on, but more often with it off—for the gardener as a rule is careless enough in matters of this kind—cannot fail to be extremely injurious to the toughest constitutions, and leave room for little wonder that very many gardeners are a prey to rheumatism and its attendant evils. Of course, we would not for a moment contend that gardening has not its redeeming features, for to do so would be take up an untenable position, but, having regard to the number and variety of qualifications it is expected that the gardener should possess, it would also be futile to argue that gardening can be anything else than hard work, and that the men who follow it are not well deserving of more recognition in the way of increased pay.—*G.*

THE ERYNGO.

At the time of writing the Eryngiums or Eryngos are in perfect beauty in the nurseries of Messrs. Barr & Sons, at Long Ditton. Judging by the noble effect of these plants they seem to enjoy the continued drought and heat, and are flowering and flourishing in the very best condition. They may well be termed "hot weather plants," as their appearance and sturdy growth fully confirms the term. Single specimens of any of the following, planted in nooks, and here and there amongst shrubs, or in the centre of beds, or planted on a lawn, would give colour and tone to a garden, as their silvery-gray and caerulean-blue bracts are very effective, no matter where planted, and form a picture not soon forgotten. The Alpine species, E. alpinum, is a gem, on account of its glistening, large, blue, cone-like flower-heads and blue stems, with heart-shaped leaves, much toothed, and of a bright sea-green colour. Another very showy sort is E. Oliverianum superbum, with large heads of glistening blue flowers, with branching habit; as is also the variety E. O. caeruleum, which is a lighter blue with silvery-gray bracts.

The Ivory Thistle, E. giganteum, is perhaps the most showy and attractive of the whole genus, for its ivory-like heads, and reticulated white leaves on a sea-green is most beautiful, while the stem is also white. This should take a prominent position in all herbaceous collections, as it is most telling. E. Amethystinum has very large and beautiful heads of amethystine-blue flowers, with long, showy bracts of the same colour, and finely cut spiny foliage. E. hybridum is a seedling of exceeding merit, very beautiful and distinct, and a tall, stately thistle, with numerous flower-heads of bright blue flowers very much branched, with blue stems and large, bright, toothed, green leaves; it is a novelty. E. Bourgati is a dwarf plant, with finely

cut variegated foliage, and pale blue bracts; very pretty on the rockery. E. maritimum (the Sea Holly) is a conspicuous plant on the rockery, with silvery-gray foliage. This latter is often seen growing along the sea-shore, where it sends its roots deep into the sand.

It is well known that these commonly called "Sea Hollies" are exceedingly useful, and much prized when cut for vases and for winter decoration, as a single specimen taken from an established clump will make quite a show in itself. They are of easy culture, and thrive in any ordinary garden soil, but a sandy, well drained soil is best, and a sunny position is always necessary, in order to attain well coloured bracts. They grow from 1 ft. to 3 ft. in height, and are propagated by division of roots and from seed.—*W. L.*

WHAT'S IN A NAME?

This question is probably capable of a variety of interpretations, although our immortal bard has tersely put it that "A Rose by any other name would smell as sweet." But this is hardly applicable nowadays, as all Roses are not sweet. At Kew, however, I must admit that the authorities are not adverse to change, especially change of names; for what think you? The other day I noted in the Gardening World (p. 699) a fine form of Seakale, to wit, Crambe cordifolia, but which I thought at the time would have been more appropriately termed C. "pinnatifida," *if* the foliage were to be the criterion. Judge, then, of my surprise when a few days later I observed a brand new metallic label setting forth the plant's name as C. orientalis! If the object in naming plants be the one propounded by a father to his son, "So that you may know 'em," then I think the boy's reply was in this case more than *apropos* when he complained, "but I don't know 'em, father"; for it is certainly a shock to one's nervous system to get involved like this.

Let it not, however, be understood that I wish to impeach the Kew authorities, for I know the difficulties of nomenclature; but I would respectfully suggest that no name be appended to a plant until that plant has been identified.—*Le Vert.*

TECHNICAL INSTRUCTION IN HORTICULTURE.

Under the Shropshire County Council, Mr. Robert Smith gave a demonstration in fruit culture and cottage gardening, in the gardens at The Vineyard, Wellington, Shropshire, on May 25th. There was a large attendance, consisting of gardeners, amateur gardeners, and cottage gardeners. The lecturer took for his first subject the outdoor Grape Vine, and standing near one growing upon the south front of the house, explained the culture necessary to be observed to obtain annual crops of Grapes, and said if similar attention was paid to the outdoor Grape Vine as is usually paid to the in door Vine, crops of fruit would be oftener got than at present. But, often the outdoor Grape Vine was left uncared for, thereby allowing it to exhaust itself in producing ten times as much wood, and sometimes ten times as much fruit as it can bring to maturity. When this fact is considered in connection with another, namely, that the wood which bears fruit one year, never bears any afterwards, it will be easily seen to what a surprising extent pruning must be resorted to, to get rid of the superabundant wood the Grape Vine annually produces. The lecturer then showed his audience how, at this season of the year, dis-budding might be done by doing a portion of the Vine near him, saying that few persons ever possess the courage to attempt it. Herein, he says, lies the error in the common method of managing the Vine on open walls. Grapes could, he said, be as easily grown now on open walls as in the olden times. It was proved in Shropshire in the year 1893, when the fruit of the Vine was ripened upon south walls. The cultivation was carried out under the lecturer's instructions, and was similar to what he then was recommending. The Rose maggot and caterpillar pest came to notice next. There was a fine wall tree of Gloire de Dijon in a forward state of growth, being on a south wall. The wood of last year had become well ripened, and this, fastened close to the wall, had, the lecturer stated, saved it from destruction by the late great frost, which was a useful object lesson to all those present. He then took a shoot from the tree for the purpose of showing his audience the damage done to the bud by the maggot pest, and unfolding the leaves was enabled to show the maggot at its work destroying the bud. More than half the crop of blossom buds upon the tree was damaged by the pest. The lecturer gave some useful remedies to be used against that and other pests that the Rose is subject to during the summer months. The summer management of Peach and Plum trees upon walls came next under review. The lecturer showed how to disbud these by doing a part of each tree himself for the benefit of his audience of seeing how the work should be done. and explaining its objects and its benefits from such culture, and pointed out the waste of allowing sucker growths at the roots of fruit or other trees. The espalier trained Apple tree came next to notice. The lecturer said the one near him was badly affected with American blight, and three others in the garden were in a similar state, and recommended cutting them down, and to have them burnt forthwith. How to manage Strawberry beds, etc., came next, the lecturer giving some excellent advice concerning the work to be done during the ensuing month, and, in answer to a question, said that thinning the blossoms was not practised much upon outdoor-grown plants, but if extra large fruit were required for a particular purpose, it might be done to get increased size of fruit. The summer management of the Cherry and the Apricot trees were the closing subjects, at the close of which questions were invited, one asking the cause of branches dying off in the Apricot tree occasionally. The answer given was that canker was the cause. The Apricot was much subject to that disease, and had been for generations; probably it was transmitted from bud to stock in propagation.

GARDENING MISCELLANY.

THE PELICAN PLANT.

In the beginning of the week there was something like five fully-expanded flowers and numerous buds in various stages of development upon one plant of Aristolochia gigas Sturtevantii in the Victoria House of the Royal Gardens, Kew. Some of the visitors fancied that the fully developed but unexpanded flower most resembled its namesake the pelican. The long tail would correspond with that of the bird, while the tube below the bend bears a fanciful resemblance to the neck and head of the same. The expanded lamina is beautifully and attractively netted with a light purple on a creamy ground, though the open throat of the flower is black, weird-looking, and repulsive. To the insect world, however, it doubtlessly possesses great attractions, and the (to human kind) offensive odour may lure the winged guests as to a veritable El Dorado. Such is the difference of taste, and while we do not envy the insects for their share of the spoils, we can admire the gigantic proportions and attractions of the flowers from a safe distance.

DEUTZIA CRENATA PRIDE OF ROCHESTER.

Some few years ago this Deutzia was a good deal talked about, but I fail to see any difference between it and the variety of Deutzia crenata known as candidissima. In any case, however, it stands out (especially just now) as one of the most beautiful flowering shrubs that we have in our gardens, for the blossoms, like little white rosettes, are borne in the greatest profusion. It will take care of itself under anything like favourable conditions, and flower freely, but even then a little attention is well repaid, as there is a tendency for the bush to become choked with weak and exhausted wood, and if this is removed the more vigorous flowering shoots have a better opportunity to develop. A second double-flowered variety has the exterior of the blossoms suffused with red, and a pinkish tinge often overspreads the rest of the flower. This is sometimes known as D. crenata fl.-pleno, and D. crenata rosea-plena. The white and the pinkish form are so distinct from each other that a place could be found for both of them in most gardens. Of other Deutzias the well-known D. gracilis, though grown in large quantities for forcing, does not get its merits sufficiently recognised as a flowering shrub in the open ground, while the newer D. parviflora bids fair to be a valuable shrub. —*T., in "The Field."*

CORDON GOOSEBERRIES.

To those who desire to obtain extra fine examples of this popular fruit we would recommend the system of training the bushes so extensively and successfully adopted by Messrs. J. Veitch & Sons, at their nurseries near Slough. The bushes are grown as cordons, either single or with five or six shoots instead of one, spurring them back each year. Those with the greater number of growths are admirably suited for training to wires, by which not only is especially well-flavoured fruit obtained, but anyone is able to gather them easily enough without running the risk of getting their hands seamed with scratches, an unpleasant proceeding that, to say the least of it, decidedly discounts the value of the fruit. Where bushes of this kind are grown, the owner of the garden is able to pluck the fruit from the tree himself without troubling the gardener or any of his assistants. Of course, this system of training would not answer unless protection can be afforded the trees from budding birds in spring, but that it is a highly satisfactory way of growing them when this precaution can be taken is amply demonstrated by the heavy crops of fine fruit which Messrs. Veitch's bushes are carrying. All the best varieties may be treated in this way with exceedlingly good results.

HOW TO PRODUCE GREEN PANSIES.

Pearson's Weekly says that if ordinary Pansies be immersed for a few seconds in a dilute solution of etherealised ammonia, the violet part gradually changes to a vivid metallic green, the shading of colour exactly corresponding to that of the original violet. When a pencil of white light falls on an object certain of its rays are absorbed while others are reflected. The latter, on reaching the eye, give an impression known as "colour." What rays are absorbed depends on the chemical constitution of the substance. In the common or garden Pansy, the violet rays are, for the main part, alone reflected; but the ammonia, acting chemically upon its texture, sets free also the yellow rays, and these, blending with the blue, convey the impression known as "green." It will be observed that the yellow point which exists in the centre of these flowers remains unaffected by the ammonia. If the solution used be dilute, the Pansy will not wither any more quickly than under ordinary circumstances.

FLORAL EMBLEMS.

The Floral Emblem Society, organised at the World's Fair for the spread of the pleasant and instructive custom of choosing floral emblems for the individual states and the nation, is quietly but effectively pushing its work. Through its influence Maine has selected the Pine cone and tassel; Vermont, red Clover; Minnesota, the Ladies' Slipper; Montana, the Bittersweet; California, the yellow Poppy, and Nebraska, the Golden-rod. Each of these states has legislated upon the emblems, which are now legalised. The campaign is now opening in Massachusetts. The Society does not choose the emblem, but stimulates the people to do it. *American Gardening* says that the custom is worthy general imitation.

FREAKS OF BEGONIAS.

From time to time we come across various departures from the normal form of flower that are more or less interesting. Rarely, however, is it that we see one more curious than that which came under our notice the other day in Messrs. Peed's nursery at Roupell Park. In a fine scarlet variety one of the male flowers had a petal of deep scarlet hue rising out from amidst the central mass of stamens, where, as may be supposed, it presented a very peculiar appearance. None of the other flowers open upon the plant at the time, exhibited this curious feature, which could scarcely fail to attract the attention of even a casual observer.

A PRETTY NURSERY ENTRANCE.

Very rarely, indeed, is it that we see the front entrance to a nursery evidencing so strongly the bestowal of so much taste and skill in its decoration as that of Messrs. John Peed & Sons' establishment, at Roupell Park. Facing the road and next to it is a wide border filled with bright little specimens of dwarf hardy shrubs. Next to this a well-kept piece of lawn, in which a number of beds

of various sizes are cut. The two round ones in the centre are planted with tuberous Begonias, a little group of Cannas occupying the middle and admirably serving to break the flatness. In the beds surrounding these are accommodated such Pelargoniums as Crystal Palace Gem, Henry Jacoby, Flower of Spring, and Golden Harry Hiover. A very neat rockery at one end has lately been erected, and once the plants in it get well established it should prove an exceedingly pretty feature, and one which cannot fail to add considerably to the attractiveness of a charming front entrance.

LILIUM PARDALINUM.

The leopard-spotted Lily, as it is familiarly called, is at once one of the handsomest and the most extensively cultivated members of the genus. The flowers vary considerably in colour, according to the position in which they are grown, but are usually of a bright orange-red hue, with a lighter orange centre, and a profusion of large, dark purple spots or blotches, from the curious appearance of which the specific name of pardalinum has been applied. These markings, however, vary considerably in number and size. The segments, moreover, are considerably reflexed. The leaves are produced in three or four whorls along the stem of from nine to fifteen leaves each, their size depending in a great measure upon the strength and vigour of the bulb. Some fine plants of it bearing rather large, finely-coloured and marked flowers have been very conspicuous lately in one of the small shrubberies close to the Broad Walk in Kew Gardens. L. pardalinum was brought in the first place from California.

LILIUM PARRYI.

A very distinct and pretty Lily is this, and one that is not nearly so often seen as it deserves to be. In height it usually runs from 3 ft. to 4 ft., although occasionally it gets somewhat taller. The flowers are of a lovely yellow hue, spotted more or less profusely with dark chocolate-red. A delicious fragrance is also another important characteristic, although persons with very delicate olfactory nerves the perfume may be rather too powerful. Messrs. Wallace & Co., of Colchester, exhibited it in fine style amongst other Liliums at the last meeting of the Royal Horticultural Society. L. Parryi is a native of California, having been brought thence as recently as the year 1879.

FRUIT WITHOUT SEEDS.

"Appendicitis may not be so fashionable a disease a few years hence as it is now," said Assistant Pomologist Taylor. "Gardeners are trying their best to get rid of seeds in fruits. Already we have an Orange which is nearly always seedless. Some varieties of Apples have been produced that have almost no seeds. They are abnormalities. Sometimes they are called 'bloomless,' because the blossoms have no petals, and in some cases lack stamens. The core is very small, and commonly there is a hollow at the end opposite the stem. These seedless Apples are generally poor in flavour, being grown merely as curiosities. Raisin producers in California are trying to obtain seedless Grapes for raisins. The object in view is to get size and seedlessness in the same fruit.

"You are familiar with the seedless Grapes in Corinth, which are commonly known as 'currants.' The Sultana raisins of south-eastern Europe are likewise seedless Grapes. Both of these varieties are now cultivated in California, but they are small. A prominent grower in Fresno County is working in this direction with the Muscat of Alexandria, which is a leading raisin Grape in California. He selects cuttings from these Vines which produce less than the normal number of seeds. Continuing this process from year to year, he hopes to reduce the Grapes to absolute seedlessness eventually. It is believed that the seedlessness of the Corinth and Sultana Grapes was obtained by simple means.

"The Banana is seedless, and has been so for centuries, though nobody knows why. It is propagated by suckers, and possibly it had no seeds when it was first found in the wild state. The Banana is a modified berry. Cutting the fruit down through the middle, you will sometimes see a few little brown spots, which are rudimentary seeds. Occasionally the Banana does actually produce seeds. The Pineapple is nearly seedless, being propagated likewise from suckers and from slips. The Egg-plant, which is a fruit, botanically speaking, is occasionally seedless. This plant is able to produce developed fruit, whether the blossoms are fertilised or not.

Horticulturists are endeavouring at the same time to rid fruit plants of thorns. Some Oranges and Lemons are very thorny—for example, the high-priced King Orange, which is the best of the Mandarins. It is rarely seen in this market. The first trees were brought to the United States from Cochin China. In Florida its thorniness has been diminished by selecting buds from branches with the fewest thorns. Thorns are objectionable, because they puncture the Oranges and Lemons when the branches are blown about by the wind. Efforts are being made to get rid of the thorns on Raspberry and Blackberry plants, simply for convenience in picking the fruit. The thorns are intended by nature to protect the plants from animals. Cultivators select those plants which by chance happen to be thornless, or comparatively so."—*The Washington Star.*

SOCIETIES.

West of Scotland Rosarians', *July 11th.*—The twenty-first annual Rose show, under the auspices of this Society, was held in the Victoria Hall, Helensburgh. The entries were the highest on record, and the quality of the exhibits in all the sections was exceptionally good. Mr. Hugh Dickson, Royal Nurseries, Belfast, carried off the Society's Gold Medal for sixty blooms of Roses with a very fine collection, including choice specimens of Bruce, Findlay, Captain Hayward, Charles Gater, Mrs. Paul, and the new Roses Mrs. R. G. Sharman-Crawford and Mrs. Harkness. This firm also got the prizes for both the best single hybrid and Tea or Noisette blooms in the hall. The exhibit of the other Irish competitors, Messrs. Alex. Dickson & Sons, Royal Nurseries, Newtownards, comprised some notable new seedlings, amongst them being Mavourneen, a bloom of delicate, silvery flesh white, shaded rose at base of petals; Countess of Caledon, deep pink; Muriel Graham, ivory white; Mrs. R. G. Sharman-Crawford, pink; and G. H. M., deep red. Fine exhibits were shown by Messrs. James Cocker & Sons, Rose growers, Aberdeen; D. & W. Croll, Dundee; Thomas Smith & Sons, Stranraer; and Mr. Alex Lister, Rothesay. Messrs. J. & R. Thyne, Glasgow, had a very fine stand of beehives and appliances. Amongst local exhibits an outstanding one was that from the Mossend Nurseries, Helensburgh. It consisted of posy bouquets of Corn Blue Bottle, Sweet Peas, flower baskets, &c., the general display being exquisite, and reflecting the greatest credit on the Misses Robertson. The judges specially commended this exhibit. Another noteworthy display was that of Mr. James Bryson, Parkend Nursery. In the unavoidable absence of Sir James Colquhoun, Provost White conducted the opening ceremony at one o'clock in presence of a large gathering. The band and bell-ringers of the C.T.S. Empress, under Mr. H. H. Smith, carried through a fine programme of music. The judges, officials, and friends dined together in the Queen's Hotel during the afternoon. The arrangements for the show were very complete, and reflected credit on the energetic secretary, Mr. Spalding.

Royal Horticultural, *July 23rd.*—The meeting on Tuesday last was rather quiet, but the exhibits were fairly numerous and extensive considering the period of the year. Carnations, Lilies, Gloxinias, Sweet Peas, Achimenes and other subjects were amongst the leading features of the meeting. Orchids held their own, though not so numerous as previously. Hardy fruit, but particularly Gooseberries, were plentiful and good. A rich and varied group of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans. Noteworthy were Sobralia xantholeuca, Cypripedium Kimballianum, Dendrobium speciosissimum, Gramatophyllum Measuresianum, several fine Miltonias, Stanhopeas and Dendrobium Phalaenopsis Schroderianum. The great variety of colours made an attractive group, and dotted through the larger flowered kinds were smaller but interesting subjects. On the opposite side of the table was a group of Orchids staged by Messrs. Hugh Low & Co., Clapton. The specimens of Cattleya Leopoldii were numerous and in several instances unusually rich in colour. Notable also were Cattleya Rex, C. granulata, C. Eldorado, Laelia elegans, L. e. ampliata, Oncidium Lanceanum and Dendrobium speciosissimum, a finer variety being staged than has hitherto been brought before the public. Some fine Cannas, to wit, Souvenir de President Carnot with large scarlet flowers, served to enhance the appearance of the group. Two huge flowers of an unusually dark crimson-sepaled variety of Stanhopea tigrina were shown by Mr. Geo. Stevens, St. John's Nursery, Putney. A fine group of Disa grandiflora, showing a great amount of variation in colour, was shown by Messrs. T. Cripps & Son, The Nurseries, Tunbridge Wells. The upper and hooded sepal was the most varied in colour of the several segments of the flower. The plants had been well grown. Messrs. J. Veitch & Sons, Chelsea, exhibited Cypripedium Carnusianum, Dendrobium glomeratum in fine condition, also D. porphyrogastrum, Miltonia vexillaria superba, a richly coloured variety, and a new hybrid Phalaenopsis named P. Ludde-violacea, which really explains its parentage. The hybrid is an acquisition to the group to which it belongs. A plant of Cattleya Rex was shown by J. Gabriel, Esq. (gardener, Mr. E. Ranson), Palace Road, Streatham Hill. Habenaria rhodocheila with a cinnabar lip and Epidendrum alatum were exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking. Maxillaria ochroleuca and Bulbophyllum Sanderianum were staged by R. I. Measures, Esq. (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell. Miltonia vexillaria superba and M. v. rubella in grand condition and size were shown by Fred Hardy, Esq. (gardener, Mr. T. Stafford), Ashton-on-Mersey. Fine flowers of Cattleya Warscewiczii were shown by W. C. Parkes, Esq., Lower Tooting. J. Foster Alcock, Esq., Exhins, Northchurch, Herts, staged Laelio-Cattleya Schilleriana. Walter C. Walker, Esq. (gardener, Mr. Geo. Cragg), Percy Lodge, Winchmore Hill, exhibited Cypripedium Godefroyae and Brassavola Digbyana.

Messrs. R. Wallace & Co., Colchester, contributed a bright little group of cut Liliums and Calochorti in considerable variety, amongst which L. chalcedonicum, L. japonicum odorum, L. auratum, and L. longiflorum giganteum were in especially fine form. Very pretty also were Calochortus luteus, C. l. concolor, C. Plummerae, C. venustus purpurascens, and C. Weedii (Silver Banksian Medal). A group of exceedingly well-grown Achimenes, tastefully staged with Adiantums and Selaginellas, was sent by Mr. Geo. Cragg, gardener to W. C. Walker, Esq., Percy Lodge, Winchmore Hill, N. The varieties known as Margaretta, fine white, Grandiflora, rich purple, longiflora alba and l. major were really good (Bronze Banksian Medal). Messrs. James Veitch & Son made a very meritorious exhibit of hybrid Rhododendrons of the Javanico-jasminiflorum section, amongst which some fine yellow, rose and salmon coloured varieties were to be seen. The plants also were dwarf and shapely. A Bronze Flora Medal was awarded to Mr. W. E. Tidy, Brockhampton Nurseries, Havant, Hants, for his display of cut flowers of named Sweet Peas, amongst which Firefly, Lady Penzance, Waverley, and Countess of Radnor appeared to advantage. Messrs. Dobbie & Co, Orpington, Kent, also staged a small but very praiseworthy group of cut Sweet Peas. Numerous fine varieties were here to be seen, Ignea, Mrs. Eckford, Emily Henderson, Blanche Burpee, Duke of Clarence, Dorothy Tennant, Mrs. J. Chamberlain, Cardinal, and Primrose being particularly noticeable (Bronze Flora Medal). Mr. Bain, gardener to Sir Trevor Lawrence, exhibited a very gay and pretty group of different varieties of Penstemons, also several nice bunches of the showy Salpiglossis that for beauty of marking and vividness of colouring left but little to be desired. Some grand examples of Cockscomb Cutbush's Giant, were sent by Messrs. Wm. Cutbush & Son, Highgate Nurseries, N., the combs being of extra large size and rich deep colour. Messrs. Webb and Brand, Saffron Walden, had good spikes of double Hollyhocks in excellent condition.

A large group of miscellaneous hardy cut flowers that came from Mr. Pritchard, nurseryman, Christchurch, Hants, received a Silver Banksian Medal. Several varieties of herbaceous Phloxes were very good, and such well-known subjects as Gypsophila paniculata, Genista tinctoria elata, Montbretia

crocosmiaeflora, Statice latifolia and S. speciosa, Coreopsis lanceolata, Physostegia virginiana, and Helianthus rigidus were in excellent order. A collection of similar material, for which Messrs. Paul & Sons, The Old Nurseries, Cheshunt, were responsible, also received a Silver Banksian Medal. Conspicuous in this exhibit were Asclepias cornuta, Physostegia virginiana alba, Polygonum molle, Bocconia cordata, and Centaurea macrocephala, together with herbaceous Phloxes, Campanulas, single Chrysanthemums, &c., in variety. Messrs. H. Cannell & Sons, Swanley, Kent, staged a quantity of Carnations and Picotees in first-class style. The examples of Raby Castle, Miss Mary Dyke, Alice Ayres, Cannell's Scarlet, Gloire de Nancy, Figaro, and of Picotees Little Phil, Mrs. Burnett, Alliance, and Mrs. C. J. M. Shaw were specially praiseworthy. Excellent trusses of Canna Queen Charlotte were also sent from Swanley, a Silver Banksian Medal being awarded for the whole. A small group of double-flowered Begonias and Caladiums was contributed by Messrs. John Laing & Sons, Forest Hill, S.E.

Exceedingly gay was the group of seedling Gloxinias sent by Messrs. John Peed and Sons, Roupell Park Nurseries, Norwood Road, S.E., the plants being of medium size and wonderfully well flowered. The blooms, moreover, were large and of fine form (Bronze Flora Medal). One of the special features of the show was the extensive exhibit of cut Sweet Peas made by Mr. Henry Eckford, Wem, Shropshire. Amongst other good varieties, Blanche Burpee, Mars, Ovid, Lady Grisel Hamilton, Countess of Radnor, Venus, Captain of the Blues, and Mr. Gladstone were well represented (Silver Flora Medal). Some excellent examples of bedding Violas were contributed by Mr. W. Baxter, Woking. Mutisia decurrens was exhibited by Messrs. T. Cripps and Son, Tunbridge Wells. Mr. J. T. Bennett-Poë, Holmewood, Cheshunt, was again very much in evidence with fine plants of Streptosolen Jamesoni, grown in the open ground, but nevertheless exceptionally full of flower.

Small fruits, especially Gooseberries, made a brave display. Messrs. James Veitch and Sons staged upwards of eighty dishes of the latter, representing as many sorts in first-class order. The fruits were of medium size and fine colouring, and were well ripened. Apples, Early Red Margaret, White Juneating, and Mr. Gladstone, and Pears Doyennè d'Eté, Mdlle. Solange, Jargonelle, and Citron des Carmes, together with a collection of Red, White and Black Currants also came from the same firm, a Silver-gilt Knightian Medal being deservedly awarded this grand exhibit. Mr. J. Walker, Thame, Oxon, showed upwards of forty dishes of Gooseberries in as many sorts, together with his fine Magnum Bonum Red Currant (Silver Banksian Medal). Twenty-four varieties of Gooseberries were exhibited by Mr. H. P. Sturgis, Givons Grove, Maidenhead (gardener, Mr. Peters) (Silver Banksian Medal). A fine basketful of examples of Madresfield Court Grape came from Messrs. W. E. Wells, Tottenhurst, Hounslow (Silver Banksian Medal). Several Seedling Melons were exhibited, but they lacked flavour.

A meritorious display of Duke of York Tomato was made by Mr. E. Ryder, Orpington, Kent. Twelve dishes of various-sized fruits were shown, and the excellence and value of the variety amply demonstrated both as to form, size, and weight. A noteworthy exhibit was that of Messrs. W. W. Johnson and Son, Boston, Lincolnshire, of a considerable number of Peas and Broad Beans in excellent condition and for which a Silver Banksian Medal was awarded.

Obituary.

It is with much regret that we learn of the death, on the 22nd inst., of the well-known and much-esteemed Cambridge botanist, Charles Cardale Babington, M.A., F.R.S., F.S.A., F.L.S., of St. John's College, and better known as Professor Babington. He was a Fellow of the College, and took his degree in 1830, and was elected Professor of Botany in 1861. He will be familiar to many gardeners and students, independently of a wide circle of botanists, from their knowledge of Babington's "Manual of the British Flora." He did a considerable amount of other botanical and scientific work, but he will long be remembered for his monograph "On the British Rubi," of which he made about forty-five species, though modern monographists will doubtless increase the number of so-called species to twice that figure or more. Till quite recently, at least, Professor Babington continued to find much pleasure in examining the living specimens of Raspberries and Brambles, of which there was a large collection in the Cambridge Botanic Garden. He passed away in the fulness of ripe old age after having accomplished his mission in the matter of work, for he was 86 years of age when he died on Monday last.

Questions and Answers

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

Cutting Bracken.—*Omega*: The best time to cut bracken for storing for covering purposes during winter, is at the beginning of the autumn, when the fronds have attained their maximum growth and are just beginning to colour, say any time towards the latter end of September. It must in all cases be well exposed to sun and wind, and thoroughly dried before being stacked.

Turnips for Winter Use.—*Omega*: The main sowings of Turnips for pulling in winter must be made without delay. The beginning of July is the best time, although in favourable seasons good results may be obtained by sowing any time before the second week in August.

Ficus elastica.—*Market Gardener*: Cuttings of this fine decorative plant may be put in whenever they can be obtained. In the case of old plants which have become leggy the top may be removed and inserted as a cutting. After a while if kept regularly syringed breaks are made at the nodes along the whole length of the remaining stem. These young growths may taken off with a heel and utilised as cuttings. Use small pots, drain them well and fill with light sandy soil. Insert the cuttings singly in these and plunge in a bottom heat of from 65° to 70° Fahr., syringing gently overhead as required.

Lettuce for Winter Use.—*Omega*: Commencing about the middle of August for the first sowing, successional sowings should be made up to the middle of October to supply Lettuces for winter and early spring use. During August and September the seed may be sown on beds or borders in the open air, but for October sowings a cold frame is necessary, otherwise the young seedlings will be crippled by frosts before they have reached any size.

Hardy Annuals.—*Omega*: To obtain strong plants of these, including Forget-me-Nots for blooming in early spring, seed must be sown some time from the beginning to the middle of August, according to whether the locality be early or late. A warm, sheltered border should be chosen, the soil carefully levelled with a rake, and the seed sown in the usual way. This will allow the seedlings time to grow into strong plants before winter sets in.

Injured Chrysanthemums.—*R. F. H.*: The insects which have caused the injury to your Chrysanthemums and of which you send us specimens are Black Fly (Aphis artemisiae) a mischievous pest, and one most difficult to eradicate. Dusting the infected shoots with tobacco powder is the surest remedy, but care must be taken to wash this off by clear water applied through the syringe within two or three hours of its application.

Red Currant.—*Mr. James Cameron*: Red Cherry is the name of the variety you sent us. It is noted for the extra large size of the berries, is one of the best sorts in cultivation, and is extensively grown. It may often be met with under other names, a few of which are Chenonceaux, Fay's Prolific, De Caucase, Defiance, Fertile D'Angers, Fertile de Pallau, Hative de Bertia, and Rouge de Boulogne.

Vines Worn Out.—*Old Subscriber*: We should by all means advise you to wait until autumn before attempting to put in new Vines, as you would gain nothing by planting now. In cases of this kind, unless the border has been renovated very recently with a view to giving the old Vines a fresh lease of life, it will need a thorough overhauling in the usual way, viz., the old soil taken out, the drainage put in thorough working order, and then the compost put in. This latter should consist of good fibrous loam roughly chopped up with the spade, a liberal addition of old lime rubbish, the quantity varying with the nature of the loam, and a good sprinkling of half-inch bones. This should therefore form part of next autumn's programme.

Names of Plants.—*James Cameron*: Brassia verrucosa.—*Stuart*: 1, Erigeron speciosus; 2, Lythrum Salicaria; 3, Achillea Ptarmica flore pleno; 4, Antennaria margaritacea; 5, Campanula pumila alba; 6, Anthemis tinctoria, pale var.; 7, Sedum stoloniferum splendens; 8, Anthemis tinctoria; 9, Sedum Rhodiola.—*Bartonia*: The blue flower is Pleroma macrantha floribunda; the scarlet one is Erythrina crista-galli.—*J. W. G.*: 1, Pleroma macrantha floribunda; 2, Symphoricarpus racemosus; 3, Armeria vulgaris; 4, Carex brunnea; 5, Pyrus Aria. *Joseph Field*: The Pea appears to be Marvel.

Communications Received. — W. Dyke.—Letellier & Fils. W. B. G.—Joseph Field.—W.—J. W., G.—Bartonia.

Trade Catalogues Received.

W. B. Hartland, Seedsman, Cork.—Daffodils and Rare Single Tulips.

Herd Bros., 47, King Street, Penrith, Wales.—Bulbous Roots, &c.

John Peed & Sons, Roupell Park Nurseries, West Norwood, London.—Bulb Catalogue, 1895.

Wm. Cutbush & Sons, Highgate, London.—Catalogue of Hyacinths, Tulips, and other Bulbous Roots for 1895.

London Seed Trade.

July 23rd, 1895.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slower demand for Trifolium incarnatum. Mustard and Rape at unchanged rates. New Trefoil offers freely without finding buyers. New English Italian Ryegrass opens at reasonable prices.

Covent Garden Market.

July 24th, 1895.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bnshel			Currants, Red... half sieve	3 6	0 0
Nova Scotia Apples per barrel			Grapes, per lb.	6	1 6
Cob Nuts and Filberts, per 100 lbs.			Pine-apples. —St. Michael's each	2 6	6 0
Cherries, half s'eve	3 6	5 0	Strawberries	0 2	1 0
Currants, Black...half sieve	5 0	0 0	Peaches ..... per doz.	2 0	8 0
			Tasmanian Apples, per case		

Vegetables.—Average Retail Prices

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bnndle	2 0	4 0
Asparagus,per bundle			Lemnces ...per dozen	2 0	
Beans, French, perlb.	0 4		Mnshrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bnnch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bnnch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Caulflowers.....doz.	3 0	6 0	Seakale...per basket		
Celery.....per bundle	1 6	2 0	Smallsalading,pnnnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Tnrnips ..... per bnn.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d		s. d	s. d.
Asters .. ... per bch.	1 0	1 6	Pelargonlums,12 bun.	4 0	8 0
Arnm Lilies, 12 blms.	2 0	4 0	Primula, donble, doz. sprays	0 6	0 9
Asparagus Fern, bun.	2 0	3 0	Pyrethrum doz. bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Roses (Indoor), doz.	0 6	1 0
Carnations doz.blms.	2 0	3 0	,, Tea,white, doz.	1 0	2 0
Eucharis ...per doz.	1 6	2 6	,, Yellow, doz. ...	2 0	3 0
Gardenias ...per doz.	2 0	3 0	,, Safrano (English), doz. ...	1 0	2 0
Geranium, scarlet, doz. bunches	4 0	6 0	Red Roses.....	1 0	1 6
Lilac (French) per bch.	4 6	5 0	Pink Roses	1 6	2 6
Lilium lancifolium per doz.	3 0	4 0	Roses Moss, doz.....	1 0	1 6
Lilium longiflorum per doz.	2 0	4 0	Roses,mixed,doz.bhs.	3 0	6 0
Marguerites, 12 bun.	1 6	3 0	Smilax, per bunch ...	4 0	5 0
MaidenhairFern,12bs.	4 0	6 0	Stephanotis, doz. sprays	1 6	2 0
Orchids, doz. blooms	1 6	12 0	Tuberoses, doz. blooms	0 4	0 6
Pansies, doz. bun.....	1 0	2 0			

Plants in Pots.—Average Wholesale Prices

	s. d.	s. d.		s. d.	s. d
Arbor Vitae (golden) per doz.	6 0	12 0	Fuchsia, per doz.....	4 0	8 0
Aspidistra, doz.....	18 0	36 0	Heliotrope, per doz.	4 0	6 0
,, specimen plants	5 0	10 6	Hydrangea, per doz.	9 0	18 0
Calceolaria, per doz.	4 0	6 0	Ivy Geraniums, per doz.	4 0	6 0
Dracaena, various, per doz.	12 0	30 0	Lobelia, per doz.....	3 0	4 0
Dracaena viridis,doz.	9 0	18 0	Lycopodiums, doz.	3 0	4 0
Euonymus, var. doz.	6 0	18 0	Mignonette, per doz.	4 0	6 0
Evergreens,invar.doz	6 0	24 0	Marguerite Daisy doz	6 0	12 0
Ferns, invar.,per doz.	4 0	18 0	Myrtles, doz.	6 0	9 0
Ferns, small, per 100	4 0	6 0	Palms in variety,each	1 0	15 0
Ficus elastica, each	1 0	5 0	Palms, Specimen ...	21 0	63 0
Foliage Plants, var., each	2 0	10 0	Pelargonlums,perdoz.	9 0	12 0
			Rhodanth, per doz.	4 0	6 0
			Scarlets, per doz.....	3 0	4 0

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Insects on Plants and Fruit Trees cheaply cleared by Calvert's Carbolic Soft Soap, if used as directed on label. The best preparation. Highly recommended by users. 1 and 2 lb. jars, 1s. and 2s. each; 4 and 7 lb. tins, 3s. and 5s. each. At chemists, &c., or tins post free for value.—F. C. CALVERT & CO., Manchester.

FLOWER SHOW FIXTURES, 1895.

JULY.

31.—Midland Carnation and Picotee Show, Birmingham (2 days).
31.—Burton-on-Trent Flower Show (2 days).
31.—Woking Flower Show (2 days).

AUGUST.

1.—St. Ives (Hunts) Flower Show.
1.—Aberdare Flower Show.
3, 5.—Southampton Summer Show.
3, 5.—Liverpool Rose Show.
5, 6.—Northampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
8.—Ramsey Flower Show.
8.—Great Grimsby Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Salisbury Flower Show.
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
14, 15.—Weston-super-Mare Flower Show.
15—Goole and District Flower Show.
15.—Martock Horticultural Show.
21.—Kingswood, St. George and West Gloucestershire Flower Show.
21,22.—Shrewsbury Floral Fete.
23, 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
27.—R.H.S. Drill Hall Meeting.
28, 29.— Bath Autumn Show.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29—R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30.—Teignmouth Chrysanthemum Show.
30,31.—Royal Jersey Chrysanthemum Show.
1.—Highgate Chrysanthemum Show (2 days)

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER F.L.S.

SATURDAY, AUGUST 3rd, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, August 5th.—Continuation of Liverpool Rose, and Southampton Summer Shows. Opening day of Northampton Summer Show.

TUESDAY, August 6th.—Leicester Flower Show in the Abbey Park. Second day of Northampton Summer Show.

THURSDAY, August 8th.—Flower Shows at Ramsey and Great Grimsby.

FRIDAY, August 9th,—Sale of Orchids at Messrs. Protheroe & Morris' rooms.

CARNATIONS THEN AND NOW.—Though the Carnation (Dianthus Caryophyllus) has been cultivated in Europe from time immemorial, it does not seem to have been known to the ancients in a state of cultivation, for it is neither mentioned by Pliny, nor sung by any of the old Roman poets. Dodoens describes both the single and double form as early as 1578, probably from cultivated Continental forms. Under the names of Carnations, and double Cloave Gillofers, he figures and describes a double variety which might well pass for the Old Clove, judging both from its foliage, habit and flowers. Even then there were many varieties of Clove Carnations varying from white to bright red, dark red, and speckled. All were notable for their Clove-like and aromatic fragrance.. Gerard obtained the Carnation from Polland in 1597, and in subsequent times it is supposed to have been more or less largely imported from Germany or Italy where it has enjoyed a large measure of popularity for centuries, on account of its stately beauty and spicy odour. It is much to be regretted that this latter quality has almost lost its significance in many of the showiest and most popular varieties of modern improvements.

A cultivator of the name of Tuggy who resided at Westminster was the most celebrated grower of this popular flower in 1629, and Parkinson speaking about that date states that he himself had something like forty-nine sorts. In 1702, the number had mounted up to360 in Rea's collection. As it is not our intention to give anything like an exhaustive history of the Carnation, from its infancy in this country, we pass on to review its status in more recent times. Mr. Hogg the famous London florist published a treatise on the Carnation, in 1820, and stated that double forms only were held in esteem. He catalogued nearly 360 sorts, all of which were in his possession at this date. The tree Carnation was already in existence and could be grown to a height of five feet or six feet in as many years by training it against a wall, a trellis or stakes. How many of the modern tree Carnations may be grown to this height? By way of digression, it may here be stated that Souvenir de la Malmaison is regarded as the type of the tree Carnation in France and Belgium. Mr. Hogg said that "of all the flowers that adorn the garden, whether they charm the eye by their beauty, or regale the sense of smelling by their fragrance, the Carnation may be said to hold the first rank." In 1833 he added that the Carnation and Picotee still continued to adorn the gardens of the nobility and gentry, because when the attractions of the metropolis had ceased, and those people had retired to their country residences, these flowers were ready to greet the ladies with their most inviting fragrance during July and August. Yet in another breath, he affirms that professional gardeners were not good cultivators of Carnations, but bad propagators whose Carnations would very soon perish. They were likewise great bunglers at layering, and altogether unfit to be trusted to perform the operation, though he (Mr. Hogg) could implicitly trust to any amateur, cobbler, tailor, weaver or barber who had been accustomed layering their own Carnations.

The florist in the restricted sense, is still the principal cultivator of the more specialised forms of the Carnation; but, thanks to the endeavours of those who favour or encourage the production and cultivation of intrinsically beautiful, though less highly specialised varieties, the popularity of Carnations has materially increased within the last few years. Even many of the florists themselves recognise this fact, and are doing their utmost to raise attractive varieties, consisting largely of selfs of beautiful and distinct colours, as well as plants of greater hardiness that may readily be grown in the beds and borders of the amateur and the less experienced. Flake and bizarre Carnations seem to have been as perfect in Mr. Hogg's day as they are at present; but within the last thirty years, the Picotee, which might then be striped, pounced, pricked or spotted with one or more colours on a white ground, has been converted into a white flower, edged with a broad, medium or narrow band of some darker colour, entirely confined to the circumference. A considerable amount of latitude is again being allowed in the production of flowers permitted to pass muster, even under the florists' standards, rules and regulations. We have recently noted some very fine, broad edged Picotees in winning stands, and which often exhibited the stripes or lines that formed the edging, running down the petals towards the centre, in a manner that would scarcely have been tolerated a few years ago. This shows a tendency on the part of the broad edged flowers to revert to the original type of Picotee. Whether the florists regard this as permissable, or explain it as a defect due to the peculiar nature of the season, they evidently ignore or wink at it. The flowers in question are, nevertheless, undeniably beautiful, and enlist the admiration of a large section of the British public.

On the other hand the sections of Carnations have been increased in number since Mr. Hogg's time, and independently of the defects (from the florist's standard) just

mentioned, every succeeding year witnesses the influx of new varieties characterised by numerous lines and markings, distributed more or less thickly all over the petals. This is of most frequent occurrence, perhaps, amongst the yellow ground sorts termed fancies. Varieties, striped and shaded in several ways with red, orange, terra-cotta, and heliotrope, and which a florist of the old school, some years ago, would have termed fancy Carnations gone mad, are now looked upon with increasing favour, judging from their frequency upon the exhibition table. We are tempted to ask whether florists wilfully break or negligently allow their own rules and standards of perfection to be broken? Or, on the other hand, is it a bid for greater popularity amongst the flower-loving public, or a craving after novelty in colour combinations? We presume that both the latter hypotheses are mainly responsible for this state of matters, and are the more convinced of their correctness, judging from the fact that the judges at a recent exhibition were "instructed to award the prizes in the yellow ground classes, to the most effective flowers, whether the markings be longitudinal, curvilinear, or of a mixed character."

The improvements that are being effected amongst the selfs, usually spoken of as border Carnations are truly wonderful, whether we regard them according to breadth of petal, general refinement, purity or intensity of colour, or freedom from splitting of the calyx. We would fain hope that constitution is not being overlooked; and could wish that more efforts be made to breed fine varieties from clove-scented types.

Mr. Alexander Findlay, from the Gardens, Dupplin Castle, Perth, has been appointed head gardener to Harvey Pichell, Esq., at Maresfield Park, Sussex.

Death of Mrs Anthony Waterer.—We regret to record the death on the 23rd ult. at the Knap Hill Nurseries, Woking, of Ann, wife of Mr. Anthony Waterer, aged seventy-four years.

Lady Finger Radish is handsome, tender, and grows quickly.

Roses should not be planted in proximity to large trees, but in fairly heavy, well enriched soil, mulched, watered, and well fed.

Preparations are already being made for a monster floral carnival at San Jose, California, next spring. It is proposed to spend 50,000 dollars on the affair.

The great Hamburgh Grape vine in Germany, which was planted in the year 1771, and is now 60 inches in circumference, is the largest in the world.

Peas are not progressing in France as could be desired; the early sorts are drying up prematurely, and the later sorts are not making a healthy growth.

The drying and curing of Roman Hyancinths and other French bulbs has been much retarded.

Dutch Hyacinths, first size bulbs, will be scarce again this season, and while a large surplus of Tulips is inevitable, a very large percentage will be under forcing size. Von Sion Narcissus will be somewhat smaller than usual, but the bulbs are likely to be sound and fully matured.

Seed Promise in France.—The state of affairs in the south of France just now is gloomy in the extreme. After the hot weather has fairly set in, an occasionally shower is all that is needed, as a plentiful supply of water is obtained by irrigation. For some time past the heavy rains, combined with heat, have been almost continuous, and the maladies peculiar to this district have appeared in the most aggravated form. White flower seeds are the crops principally affected. Carrots, Onions, and Leeks are in an equally deplorable condition. In flower seeds, Phox, Petunia, Scabiosa, Salpiglossis, Stock, Pansy, and Zinnia are suffering most of all.

Mulching keeps the soil in a loose and porous condition, also moist in severe drought, keeps down weeds, if at all heavily laid on, and in decaying adds greatly to the fertility of the garden.

The more you cut Sweet Peas the longer they will continue flowering profusely. Allowing the seed to mature early impairs the vigour of the plant and shortens to a certain extent the period of flowering.

Lychnis Flos-cuculi semperflorens flore pleno has an attractive appearance, nothwithstanding the unattractiveness of its name. It is good for cutting, beautiful in colour, and if planted in quantity makes a fine display with its beautiful rosy flowers.

Scottish Horticultural Association.—At a meeting of this body, held on the 2nd ult, a paper on the "Gardens of Antiquity" was read by Mr. Chapman, The Gardens, Easter Dudingston Lodge, Joppa, Edinburgh. He treated of the gardens of Babylon, Egypt, Persia, Greece, and dealt with horticultural progress in modern times.

Proposed Park for Hampstead.—A movement has been started by a number of influential residents in Hampstead to secure the estate of the late General Fraser as a park and recreation ground. The proposed park is situated by Finchley Road and West-end Lane, and has an area of 13 acres. The grounds are finely laid out and abound with flower beds and winding paths,

Apples in Devon.—A correspondent states that in Devonshire, the promise of a heavy crop, held forth by the abundance of Apple blossom in May, is not likely to be fulfilled, owing to the severe and long-continued drought. The advent of frequent heavy rains will, however, save the rest of the crop, and cause the fruits to swell up in such a way as to compensate largely for the deficiency in number.

Mushrooms.—Judging from the great heat of June and July, it is considered probable that the crop of Mushrooms from the fields this season, will be heavy. The idea is that the heat has favoured the development of the spawn; but evidently the all important and necessary moisture has been overlooked.

Tenacity of Life.—Last winter the frost had access to the roots of an India Rubber plant in a pot and killed the roots. The stem gradually died and dried up from the base upwards, the leaves following suit and falling off in succession. Even now about 3 in. of the apex of the stem is alive, and the hud had sufficient vitality to burst its stipular covering, and still looks as if it meant to grow.

Sweet Pea Exhibition at San Francisco.—At the exhibition of Sweet Peas by the California State Floral Society, June 14th, an interesting feature was the able paper by the Rev. W. T. Hutchins, Indian Orchard, Mass., the well-known specialist. The essayist asked members of the society not to rely on cheaply grown seed, as in such cases they would very likely receive an inferior article not up to the types of Mr. Eckford's selections. To produce well grown seed and maintain the standard, requires the services of high-priced labour. He also gave descriptions of some of the newer varieties.

Local Protection of Birds.—Mr. Asquith, before leaving the Home Office, on the application of the Hunts County Council, ordered that the Act of 1880 should apply to the linnet, the nuthatch, and the swallow as if those species were included in the schedule to the Act. The taking or destroying of the eggs of the kingfisher, the nightingale, the nuthatch, the owl, the wild duck, and the woodpecker is prohibited within the county.

Roof Gardens.—Several New York hotels have flower gardens on the roof, reached by means of lifts. There are also shady arbours in which refreshments may be consumed.

Swans and Pond Weeds.—At Burghley, the seat of the late Marquis of Exeter, there is a piece of ornamental water that used to be so choked up with weeds, that three men had to be employed during the summer months to keep them down. Two pairs of swans now do the work more effectually.

The Orange was introduced to Portugal from China in the early part of the 16th century, and found its way to England after that date.

Pelargoniums grow in the form of great bushes, 5 ft. to 6 ft. in diameter, and are covered with a profusion of pink and scarlet blossom, as well as of other hues, according to the species, in South Africa.

The Duke of Devonshire has presented a valuable site of about six acres to the Buxton Town Council for the purpose of forming a public park.

Cherries.—It is stated that over 500 tons of Cherries were sent from Sittingbourne to London on the 25th ult.

The Journal of the Kew Guild—the publication of which has been unavoidably delayed this year in consequence of the family bereavement of the Editor, Mr. Watson, whose wife died on April 6th last—is now to hand we are pleased to say, and hope to be able to refer to it again shortly.

Forty-eight distinguished members of the Royal Scottish Arboricultural Society are on a visit to Germany, in order to inspect the German forests, and to make themselves acquainted with the management of forests there. They will stay in Germany until the 6th of August.

Mr. F. M. Coldwells, formerly M.P. for North Lambeth, who was one of the directors charged with fraud in connection with the Balfour group of companies, died suddenly on Monday evening at his house at Bournemouth. At the inquest, held yesterday, it was stated that he had frequently declared that his financial worries and the criminal action againxt him were killing him. Medical evidence that death was due to syncope was adduced, and the jury returned a verdict accordingly. Mr. Coldwells commenced life as a gardener in a very humble way.

Gardeners' Royal Benevolent Institution.—We are pleased to hear that the energetic secretary of the Gardeners' Royal Benevolent Institution has succeeded in getting a donation of ten guineas from the Worshipful Company of Fruiterers. H.R.H. Pincess Louise (Duchess of Fife) and the Duke of Fife have graciously signified their interest in the work of the Gardeners' Royal Benevolent Istitution by adding their names to its list of vice-presidents.

Importation of Cut Flowers.—In a recent issue we stated that an association had been formed in America to discountenance the importation of the cut flowers of Lilium Harrisii from the Bermudas into the United States. Recently an association has been formed in Holland to endeavour to stop the exportation of cut flowers from that country, and which is calculated to injure the trade of cut flowers and bulbs in this country. The leading English growers have also come to the conclusion that this traffic must be stopped. A meeting convened to consider that subject was held in the Hummun's Hotel, Covent Garden, on the 26th ult. The secretary *pro tem* is C. H. M. A. Alderson.

Royal Gardeners' Orphan Fund.—At a meeting of the executive committee held on the 26th ult., Mr. W. Marshall presiding, the death of Mr. John Wills, a valued member of the committee having been reported, the Secretary was instructed to convey to Mrs. Wills the deep sympathy of the committee in her bereavement, and their profound regret at the loss of so generous a supporter of the fund, and of such a sincere and valued friend. The special receipts since the previous meeting included five guineas from the Wimbledon Horticultural Society, the result of a sale of flowers; £7 realised at a Rose Fair at the Croydon Show, per Mr. G. W. Cummins; and box collections by Mr. W. A. Miller, Nuderly Hall Gardens, Kirkby Lonsdale, £1 11s. 8d.; and Mr. C. Herrin, Dropmore, 17s. 6d.

The Rose Fete at Eastbourne.—The day opened at Eastbourne on the 26th ult. with a heavy thunderstorm, but brilliant sunshine favoured the grand procession in the afternoon. Many of the houses on the Grand Parade were decorated with very great artistic skill. The first prize, consisting of a handsome clock, was awarded to Araluen; the second, a set of silver salt-cellars, to Mrs. Theodore Drew, of Claremont. Immense crowds of people flocked into the town, and the utmost enthusiasm prevailed.

Although the decorated carriages were not so numerous as on the occasion of the Battle of Flowers in April, there were some very beautiful designs among them, the first prize being carried off by Mr. Chapman, for a coach drawn by six horses, the body and wheels of the coach being hidden by masses of flowers.

Richmond Allotments Show.—The annual exhibition of the flourishing Corporation Allotment Holders' Association of this famous Surrey town took place in the large Drill Hall on Saturday last, and, in spite of the long drought, it was a large and capital one. The allotment holders receive admirable encouragement from the Corporation, as that body subscribes prizes largely, whilst the Surrey County Council still further assists them by sending free of cost, judges for the allotments, for which there is great competition, and also for the Show. Vegetables were of course in strongest force, the Potatos, Peas, Beans, Cabbages, Onions, Carrots, &c., being first rate. Bush fruits, too, were good, especially Currants and Gooseberries, and there were numerous lots of beautiful flowers, all grown on the plots. There are of these some 200 now, everyone well cultivated. There is, perhaps, few better cultivated Municipal groups of allotments in the kingdom. The holders are men in all sorts of vocations, and most of them are capital gardeners.

Forestry Lecturer Gets £1,400.—In the Court of Session last week the Lord President and a jury began the trial of an action in which Lieutenant-Colonel Bailey, 7 Drummond Place, Edinburgh, lecturer on forestry in the Edinburgh University, sued the Highland Railway Company for £5,000 damages in respect to personal injuries received by him on 2nd August 1894. On that day the pursuer was travelling from Edinburgh to the north. At Newtonmore Station the train ran past the signals into the loop line, where it collided with a goods train. The pursuer was thrown against the partition of the carriage, and was injured in the head and neck, and received a severe nervous shock. The defenders admitted that the pursuer was injured, but they said that he was now entirely restored to health, and they maintained that the damages claimed were excessive. At the conclusion of the pursuer's proof the parties held a consultation, and an arrangement was come to in accordance with which the case was taken out of court. The pursuer, it is understood, has received £1,400.—*North British Agriculturist.*

Bournemouth Gardeners' Mutual Improvement Association.—At a meeting of this society, held on Tuesday, the 9th ult. (Mr. C. W. H. Greaves in the chair), an instructive paper on "Rose Culture" was read by Mr. H. Prosser, The Knoll Gardens, Wimborne, who also exhibited two large boxes of Roses (cut blooms) containing bright and fresh examples of choice varieties, which added much to the interest of the meeting. Mr. Prosser, in dealing with his subject, referred particularly to those sorts best suited for garden decoration and pot culture, giving some practical hints on planting, pruning, and propagating Roses and other matters of interest to those present. A discussion followed, and numerous questions were asked. At the close, a very hearty vote of thanks was accorded Mr. Prosser

Waterford Horticultural Society.—The annual summer show of the above society was held under the patronage of the Marquis and Marchioness of Waterford in the Courthouse grounds, Waterford, on the 17th ult. The number of exhibits was large, and filled a marquee 150 by 50 feet. Competition, especially in the professional classes, was very keen, the quality of exhibits being of a high standard. Collections of cut flowers from Messrs. W. B. Hartland & Son, nurserymen, Cork, and a collection of foliage and flowering plants; also cut flowers from Messrs. R. Fennessy & Son, Waterford Nurseries, were awarded special certificates. A collection of beautiful Orchids, sent in by W. G. D. Goff, Esq., J.P., Glenville, Waterford, was also awarded a special certificate, and contributed largely to the success of the show. The show, under the new arrangement, was allowed to remain open until 10 p.m., and was well patronised by the citizens. This show promises to be one of the best in Ireland, and we anticipate great things for it in the future.

Brighton Horticulturists.—The usual monthly meeting of the Brighton and Sussex Horticultural Society was held on the 18th ult. at the Imperial Hotel. Mr. J. S. Johnson presided. The programme for the evening included competitions in cut Roses and herbaceous flowers, the latter for amateurs only, and an address on herbaceous plants by Mr. J. Cheal. The prizes for Roses were awarded to Mr. T. Fair, Mr. F. Rapley, and Mr. J. Hill in the order named. For herbaceous plants one prize only was awarded to Mr. G. F. Bunney. The chairman then introduced Mr. Cheal, who, in the course of a most interesting and instructive address, remarked that the subject was really too large for one evening's discourse, and he feared that the main part of what he had to say would be a long catalogue of names. He would divide herbaceous plants into groups under the following headings, namely, the order of flowering, the best for shady places, the best for dry borders, the best for marshes, foliage plants, trailing plants, bedding plants, for the shrubbery and for cutting. To deal with the order of flowering, in January they had the Hellebore or winter Rose; February, Hepatica and Anemone; March, Primula Myosotis, Gentian, &c.; April, Adonis, Dianthus, Oriental Poppy, Pansy and Viola; May, Pulsatilla, Aquilegia, (Columbine, a vastly improved plant), Campanula, Geranium, Paeony, Pyrethrum, Ranunculus, and others; June, Achillea, Aconitum, Carnation, Coreopsis, (a splendid flower for cutting), Dielytra, Gaillardia, &c.; July, Delphinium, Helianthus, Echinops, Hollyhock (so beautiful in cottage gardens), and many others; August, Aster and Michaelmas Daisy, Chelone, &c. After August this class of flowers became fewer, but a few would be seen until October. Mr. Cheal also indicated the plants most suitable for different situations, illustrating his lecture with a beautiful collection of herbaceous flowers. Mr. Cheal having then to leave, after the receipt of a hearty vote of thanks, Mr. Edwards continued the address on artificial manures, which he delivered a few weeks ago.

THE FRUIT CROPS.

I HAVE not heard the slightest complaint respecting the conditions of the fruit crops in this district this year. In our case, and it is fairly representative, the Strawberry crop was one of the best, and the fruit has been secured without much loss from wet and slugs, though it has rained most days since the 2nd of this month, the very day we commenced to pick. This week will end the Strawberry season. Raspberries are the finest crop I have ever seen, and growers for sale have done well by them, the price per quart being 6d. at first, but it has this week come down to 4½d. (wholesale), at which price they will still pay. I took notice the other day how long it took us to pick a quart, and the first three were got in less than three-quarters of an hour; then the rain came and stopped us. I picked my first in thirteen minutes, so you will conclude I did not move my feet much.

Cherries were a most satisfactory crop; one tree on a south wall had more on than I have ever had before. Pears are not likely to prove such a glut as last year; still there is a nice crop on most trees, and I have only to complain of trees on a west wall, and two or three that were so overloaded last year that they looked thoroughly exhausted and have made no growth.

Apples are plentiful, also Plums, especially Damsons. I have the heaviest crops of Gooseberries this season that I have ever seen, and they are now ripening fast. I noticed on Friday last that many of ours had cracked, and the wasps were very busy amongst them. Red and White Currants are not so good a crop as I have seen, but the Black ones were abundant. All kinds of vegetable crops are looking remarkably well; so on the whole we have a season that we can really be thankful for.—*W. P. R., Preston, July 29th*, 1895.

WOOD LILIES.

THIS is a popular name for a genus of plants comprising one at least of the most beautiful ornaments of our herbaceous borders. Trillum grandiflorum, during April, May, and June, when placed under favourable conditions, is at once both interesting and beautiful. A peaty soil and moist situation with partial shade, are essential for the full development of its beautiful white flowers. At the same time those who have only an ordinary mixed border and common soil will be amply rewarded should they take it in hand. We noticed it at the recent Temple Show where it attracted the attention of many unacquainted with it, but owing possibly to the dryness of the weather, the flowers were rather small and poor. There are a dozen or more species to be found in botanic gardens, but only a few are generally cultivated, including T. erectum, with larger leaves and purple-brown flowers, and T. sessile, another purple flowered variety resembling to some extent an Iris. The sepals are spreading and the petals upright.—*W. B. G.*

MESSRS. SALTMARSH'S NURSERIES.

THOUGH situated on the outskirts of the ancient town of Chelmsford, the nurseries of Messrs. Saltmarsh and Son are within easy distance of the railway station, on the main line to Colchester. This old established nursery firm is most in evidence at the London and suburban shows when the Dahlias and fruit are in season; Roses also form an important item of the business. Calling there one day recently in company with the students attending the Summer School of Horticulture, at Chelmsford, we were conducted over the nurseries by the courteous manager, Mr. E. Sheerman, and found that small fruits were then being gathered. Gooseberries are well grown, and the stock in hand numbers some 79 varieties, which should be sufficient for the various purposes for which this wholesome fruit is utilised. Red Currants are also fairly numerous in sorts, but we were particularly taken with Long Grape, a sort bearing racemes of fruit, often 3½ in. to 4 in. in length. White Versailles, on the contrary, is notable for the great size of its transparent, white berries, which have an attractive appearance, especially when seen in quantity. White Dutch, though very old, is still considered one of the heaviest fruiting kinds cultivated. Black Currants are also well represented. The long continued drought had told upon the vigour of the Raspberries, but the recent rains will, no doubt, prolong the season of growth. The favourite variety is Carter's Prolific, which is grown without staking.

The standard Apple and Pear trees are heavily laden, and though the drought has caused many of the fruits to fall there will yet be an abundance for the trees to bring to maturity. Speaking of Apples, it seemed to us a strange coincidence that the grandson of the raiser of The Queen variety should form one of the party of students aspiring to a knowledge of horticulture. The grandfather of this would-be gardener was attracted by the fine appearance of an apple on a fruit stall, and gave a penny for it. He saved and sowed the pips, and the grand sort known as The Queen, and now widely cultivated and highly esteemed by most cultivators, was one of the seedlings raised, and which we need hardly remind our readers, was put into commerce by Messrs. Saltmarsh and Son, who have been instrumental in bringing several fine varieties (including Chelmsford Wonder) before the public in recent years. Besides the standard trees, Apples are also grown as pyramids on the Paradise stock, for the purpose of dwarfing the trees, and getting them to come into bearing at an earlier date, as well as to produce finer fruits. The plantations of these trees are pretty extensive.

Pears are grown upon the free or Pear stock, where intended for training as espaliers upon walls, or on wires. The reason for so doing is that the trees cover the walls much sooner when grown upon this stock, than they would upon the Quince. Pears are grown rather extensively, however, upon the latter stock, and in the form of pyramids. Large numbers of the trees had been transplanted last season, and the drought setting in before they were established, very little growth has been made in many cases, but the short spurs are forming blossom buds in great abundance, and the trees generally look clean and healthy. In some cases where the scion does not take kindly to the Quince, about 1½ in. of a variety of Pear is worked upon it, and then the scion intended as the bearer is worked upon the intermediate one. When this is done there is much less disparity in the rate of growth

between strong growing Pears and the foster parent or Quince. Pears are also grown as oblique cordons upon or for walls.

When making an examination of the Peaches and the stocks on which they are worked, a curious instance was pointed out to us in the shape of a tree, the hide bound stem of which had split longitudinally, almost throughout its length, thus indicating that it would be advantageous to slit the bark artificially in cases where the stock is swelling too slowly. Morrello Cherries upon walls were bearing heavily, as they are doing in most gardens this year. Here also a large quantity of Mulberry trees, grown as standards, may be seen in robust growth. It was a biological fact of great interest to note reversion from the cordate to the lobed form of leaf in Morus nigra, both upon strong growing branches of the head of young trees, and upon shoots arising from the stem towards the base. The lobed form of leaf must be the ancestral one in Morus nigra as in M. alba. Ornamental trees, including Tilia vulgaris, T. petiolaris, Acer dasycarpum (the Silver Maple), and the variegated Box Elder (Negundo aceroides variegatum) are grown in considerable numbers. The last named is in very fine condition and of good size. Briers intended for standard Roses were being budded extensively, and the bark seemed to rise well notwithstanding the then dry nature of the weather. Dahlias looked sturdy and healthy, but had not reached the flowering stage, though showing well for it.

In a stove is a collection of Caladiums displaying a great variety of colours and markings. Rondeletia speciosa, Bougainvillea glabra, and Euphorbia splendens are flowering freely. Close by is a fernery in which many varieties of Adiantum cuneatum and its allies are grown. Palms constitute the feature of another house, and elsewhere, large pans of Achimenes are making an attractive display. Chrysanthemums are making a vigorous growth in the open air, and will make their *debut* later on. The Begonia house created the greatest amount of surprise and interest amongst the numerous visitors, owing no doubt to the effect of such a mass of bloom in a seemingly endless variety of colours. The structure is a span-roofed one, of no great height, so that the Begonias being staged on the high side benches are brought close to the glass where they get a maximum of light—one of the most important essentials to their welfare. The rose, pink, scarlet, magenta, yellow, and white varieties were predominant, and both single and double forms are well represented. The plants are mostly if not solely raised from seeds.

ORCHID NOTES AND GLEANINGS.

By The Editor.

The following Orchids were certificated by the Royal Horticultural Society on the 23rd ult.:—

Phalaenopsis Ludde-violacea, *Nov. hyb.*—The name of this fine hybrid expresses its parentage, but we may state that P. violacea was the seed bearer, and P. Luddemanniana supplied the pollen. The leaves of the plant shown were elliptic, bright green, and in splendid condition. The flowers are intermediate between the parents, and have rich purple sepals and petals, finely barred transversely with paler purple lines. The ridged, fleshy lip is rich purple, toothed at the edges near the apex, and has purple basal lobes, with a yellow centre to the same. It is a handsome acquisition to the group to which it belongs. First-class Certificate. Messrs. J. Veitch & Sons, Chelsea.

Brassavola Digbyana.—The flowers of this singular-looking Orchid are of large size and conspicuous, with pale greenish sepals and petals. The lip is still paler, approaching white, of large size, and deeply fringed at the edges. It is named Laelia Digbyana by the botanists, and should be in every collection of Orchids of any size. First-class Certificate. Walter C. Walker, Esq. (gardener, Mr. Geo. Cragg), Percy Lodge, Winchmore Hill.

Dendrobium porphyrogastrum, *Nov. hyb.*—The seed parent of this hybrid was D. Huttoni, and the pollen bearer D. Dalhousieanum. The stems are gray and about 2½ ft. in height. The flowers are produced in short, lateral racemes of four to five, and have pale purple sepals and petals, and a large, much darker purple blotch at the base of the concave lip, as expressed in the name given to the hybrid. Should the hybrid flower at all freely, when established, it will be worthy of a higher award, for it is very pretty. Award of Merit. Messrs. J. Veitch & Sons.

Dendrobium speciosissimum, *Nov. sp.*—In addition to the description on p. 758, it may be stated that much finer forms were again brought up on the 23rd ult. The flowers were much larger, and the purple and yellow band along the middle of the lip is much better coloured. There is also a yellow blotch at the throat of the spur, and this being surrounded by a bright purple line is brought out with great prominence. The Botanical Certificate was superseded by an Award of Merit. Messrs. F. Sander & Co., St. Albans, and Messrs. Hugh Low & Co., Clapton.

Angraecum Eichlerianum, *Nov. sp.*—The stems of this distinct-looking species are compressed, and covered by the bases of the oblong or oval dark green leaves. The sepals and petals are lanceolate and pale green. The lip is of great size, suddenly pointed at the apex, and pure white, with exception of the base, which is green. The green spur is curiously bent. The plant was grown upon an upright raft inserted in a pot. The individual flowers are large, though few, upon a raceme. Award of Merit. Messrs. F. Sander & Co.

Eria latibracta, *Nov. sp.*—When in bloom this species is prettier than the majority of them belonging to this large genus. The pseudo-bulbs are about 2 in. long, and produce numerous flowers in dense racemes, clothed with large, round or oval, greenish-yellow bracts. The sepals and petals are straw-coloured, and the lip is much tinted with purple-red on the lower portion. Botanical Certificate. Messrs. F. Sander & Co.

Habenaria rhodocheila. — This terrestrial Orchid is a native of China, and has leafy stems 6 in. to 8. in. high; most of the larger, dark green leaves are confined to the base of the plant. The sepals and petals are green, but the lip is much larger, four-lobed, and orange-coloured when it first expands, deepening to cinnabar as it becomes fully developed. It is certainly a neat and pretty species of Habenaria, and withal interesting. Botanical Certificate. Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking.

Mormodes pardinum.—The sepals and petals of the specimens exhibited by the Curator of the Royal Botanical Gardens, Glasnevin, were yellow and closely spotted with purple. The lip was darker yellow and closely spotted with crimson. The flowers are certainly pretty. Botanical Certificate.

Maxillaria Hubschii, *Nov. sp.*—The sepals of this species are broad and white, tipped with purple, while the petals are smaller but otherwise similar. The lip is white with a yellow tongue and tip, and brown lateral lobes. The face of the column is dark purple. The habit of the plant is typical. Botanical Certificate. The Curator, Royal Botanic Gardens, Glasnevin.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were certificated by the Floral Committee of the Royal Horticultural Society, July 23rd:—

Nymphaea Marliacea Chromatella. — The flowers of this Water Lily are large and showy, in fact handsome when fully expanded under the influence of sunshine. The sepals are tinted with purple externally and pale yellow internally. The petals become gradually of a brighter yellow from the outer ones towards the centre of the flower, but they are furnished with a rosy blotch at the base. The anthers are golden yellow. We are highly pleased to see these handsome Water Lilies being brought into more general cultivation. First-class Certificate. Messrs. J. Veitch & Sons, Chelsea.

Nymphaea Laydeckeri rosea.—The flowers in this instance are smaller but very charming, with the while sepals tinted with green on the outside. The petals, on the contrary, are rosy and finely mottled, the inner ones being the darkest, and contrasting finely with the golden stamens. The leaves are blotched with purple. Award of Merit. Messrs. J. Veitch & Sons.

Nymphaea odorata rosea.—Neither does this variety require much recommendation, for it is really very handsome. The sepals are green externally and purple internally, while the numerous petals are of a charming rosy-pink. The anthers are bright yellow and set off the centre of the flower admirably. Award of Merit. Messrs. J. Veitch & Sons.

Davallia tennuifolia Burkei.—This graceful and handsome variety is a native of New Guinea, and is admirably adapted for basket work. The fronds are about 18 in. long, drooping, and four times divided, the ultimate segments being linear spathulate or narrowly cuneate. The whole is of a delicate but bright green. First-class Certificate. Messrs. J. Veitch & Sons.

Lilium japonicum Colchesteri.—This handsome Lily was so named by Van Houtte in the *Flores des Serres*, but it has also been named L. j. odorum in the *Botanical Magazine*. The flowers are of great size, deliciously scented, and white, tinted with brown externally. First-class Certificate. Messrs. R. Wallace & Co., Colchester.

Campanula Vidalii.—This is a shrubby greenhouse species, with an upright stem, 3 in. to 12 in. high, and a branching candelabra-like head, each branch throwing up a flowering stem about 2 ft. to 3 ft. high, and having a raceme of large, drooping, white flowers, constricted in the middle, but otherwise nearly cylindrical. As grown by J. T. Bennett Poë, Esq. (gardener, Mr. Downes), Holmwood, Cheshunt, it is a handsome greenhouse or conservatory subject. Some have a difficulty in growing it, but in this case, we have never seen it better done. First-class Certificate.

Gladiolus Dutreuille Rhins.—The spikes of this variety shown by Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking, bore seventeen to eighteen flowers of a brilliant scarlet, flaked with the same hue on a lighter ground towards the edges. One or two of the lower segments have a large creamy blotch, spotted with crimson on their lower half. The variety bears evidence of affinity with G. Sanderianus. Award of Merit.

Pentstemon hybridus glandiflorus.—A collection of a grand strain of Pentstemon under the above name was exhibited by Sir Trevor Lawrence, Bart., and an Award of Merit was accorded the strain. The flowers were of great size, and crimson, or rose with a white throat, white with a pink lamina, scarlet, and in some cases blackish-purple.

Cirsium eriophorum.—It is not often that a genuine Thistle appears on the exhibition table, but in this instance Mr. C. Herrin, gardener to Lady Fortescue, Dropmore, Maidenhead, showed a fine specimen of the species named. The dark green leaves are deeply divided with spiny segments, and white ribs to each segment. The heads of bloom are of large size, and deep purple. The numerous bracts with which they are surrounded are densely covered with a white wool. The plant is useful for cut flowers in the dried state, and are most interesting even then. Award of Merit.

Sweet Pea Lady Grisel Hamilton.—The flowers of this variety are of great size, sweetly scented, and soft lavender, often more or less decidedly tinted with pale purple on the back of the large hooded standard. Award of Merit. Mr. Henry Eckford, Wem, Shropshire.

Sweet Pea Blanche Burpee.—In this instance the flowers are of great size, delicately white, and strongly fragrant. The roundly cordate standard is very fine. Award of Merit. Mr. Henry Eckford.

Sweet Pea Mars.—Here again the flowers are of great size, with fiery-crimson standards and rich carmine wings. They are very attractive, and brought out with great conspicuousness when placed alongside of more delicately tinted sorts. Award of Merit. Mr. Henry Eckford.

FRUIT AND VEGETABLE COMMITTEE.

Tomato Duke of York.—The fruits of this variety, shown by Messrs. Fellowes & Ryder, Orpington, Kent, were of good average size, deep crimson-red, perfectly smooth, and of great depth, resembling the type known as Ham Green Favourite. The flesh is of good depth and excellent flavour. Judging from the fact that Messrs. Fellowes & Ryder have seventy houses filled with the variety, it must be a good cropper, and we have little doubt that it is a heavy fruit. First-class Certificate.

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

THE PLANT HOUSES.

The Stove.

THE rather duller weather that we have had during the last week or two will have come as a welcome change from the fierce glaring sun of June and the beginning of July. The temperature, too, has in many cases fallen considerably, and thus more fire-heat will be necessary at night time to keep up a buoyant atmosphere. While a comparatively stagnant, moisture-laden atmosphere did no harm whatever in the spring, when the plants were just making young growths, it would do harm now, for it is necessary to keep up a good circulation of air in order to mature these growths. The top air may still be taken off rather early in the afternoon, however, and the syringe plied vigorously and well. The increased light admitted by this means will assist in putting colour into Crotons and Dracaenas, which never look their best if closely shaded.

ALLAMANDAS.—These, if well looked after will have been flowering for some time. Keep them well supplied with liquid manure, as the strain upon the plants at this season is exceedingly great. Where the growths have been trained up close against the glass they may be allowed a little more freedom now, otherwise the blooms will be injured by pressure against the glass, for the shoots grow strongly and invariably are to be found in close proximity to the roof.

CYCADS.—A sharp lookout must be kept on these for mealy bug throughout the summer months. Our old friend, Cycas revoluta, is a particularly gross offender, and once a large plant of it gets well colonised by bug it becomes a matter of considerable difficulty to get rid of it without a lot of trouble, as it sticks to the somewhat woolly lower surfaces of the leaves with remarkable pertinacity.

GLOXINIAS.—As these showy plants go out of flower and become shabby in appearance and straggling in habit, they must be removed to a pit or frame to complete their growth. The supply of water may be greatly curtailed, but drying off should be done gradually, for if water is entirely withheld from them the tubers will be sure to suffer, and that to a considerable extent. A light shading will also be required during the middle of very bright days, for the leaves are very liable to schorching, and this should be avoided at all costs.

Greenhouse and Conservatory.

CLIMBERS.—Continual attention is necessary in dealing with the climbers during the growing season, for when only left for a little while it is astonishing how soon the growths become matted together and well nigh inseparable.

TACSONIAS.—These, if growing in anything like congenial soil, usually make particularly rampant growths, which cast a proportionate depth of shade over the smaller plants occupying the stages beneath that cannot fail to be harmful to them. A large number may therefore be cut clean out, in order to let in a little more light upon the sorely tried subjects beneath. A selection must be made of course, leaving those that are showing for flower, or those that appear most likely to produce it; but still the thinning may be fairly severe.

TUBEROUS BEGONIAS.—As growth proceeds the shoots elongate considerably, with the result that they become more or less top-heavy, and thus, unless staking and tying is seen to, they are liable to become bent or broken, especially as in their earlier stages, if of good habit, they were well nigh self supporting. The pollenising of good flowers must be systematically carried on, so as to improve the quality of the plants grown as far as possible. To convey the pollen from the male flower to the female requires no great skill, but wherever crossing of this kind is attempted it should always be done with a definite object in view. Any improvements that can be made, either in the form and size of the flower or in dwarfness and sturdiness of habit, are always of advantage, and if only two or three good seedlings are obtained from one capsule the time spent in effecting the cross has been well occupied. In all cases pollenised blooms must be marked, so that after the petals have fallen the capsules may be easily distinguishable from the rest. Plants that exhibit an inferiority of flower or a straggling and untidy habit should also be marked, so that they may be sent to their proper destination, *i.e.*, the rubbish heap, as soon as they have become unsightly. This will prevent the wasting of a lot of valuable time and room next spring in potting up and starting these wastrels.

SEEDLINGS.—Here also it is very necessary that the bad should be weeded from the good. As soon as the young plants have produced one or two perfect flowers, and it can be seen of what quality they are made, inferior ones must be ruthlessly pulled out and thrown away; for if the first flowers do not come passably good it is very certain that subsequent ones will not. Those that are left may be very well divided up into sections according to their colours, and a label put to each, telling whether it be a crimson, yellow, pink, &c. This will prevent a good deal of vexation, for upon lifting them in the autumn, the young tubers can be sorted out into batches according to their respective colours.

CANNAS.—No conservatory could be considered well furnished during the months of July and August without it contained a few of these gorgeously marked and showy flowers. Both foliage and flowers are distinctly ornamental, and thoroughly entitle the plant to extensive consideration. Although a little heat is necessary to start them in the spring, they do admirably in a cool house now. They should be placed in a light position; for although too much direct sunlight is injurious, they need plenty of diffused light to develop to the full their bright markings and gaudy colours. Plenty of water is an absolute necessity; neither must they be stinted for liquid manure, as they love rich feeding.

CHRYSANTHEMUMS.—These will now be needing a great deal of attention, and as by this time they will have filled their pots with roots, watering will be rather a heavy item. The dry bright weather was all in their favour, as conducing to hard short-jointed growth. The giving of stimulants is one of the most important points in Chrysanthemum culture, and one that requires the exercise of both care and judgment. Solutions of cow or sheep manure, either mixed or varied with soot, are the very best stimulants that can be given, being both inexpensive and effective. With ordinary care in their application the evils resulting from over-dosing need not be feared. If any artificial manures, such as Clay's, Thomson's, or Standen's, are used the powder should be sprinkled lightly on the surface of the soil, and a good watering with clear water given directly after, for if this is not done the tender surface roots will be almost certain to suffer injury in some degree. For plants that are being grown for exhibition purposes the pinching out of side growths will need continual looking after. Neither should these laterals be allowed to wait until they are a couple of inches long before they are removed, as this is only taxing the energy of the plant to no purpose whatever.

TAKING THE BUD.—Simple as is this operation, a great deal depends upon its proper performance, for if the bud is allowed to develope too soon the flowers resulting, although, perhaps, large enough, do not exhibit such good form and substance as they must do if they are to stand a fair chance in the forthcoming competitions. On the other hand, late formed buds do not produce such large flowers as the earlier ones. Nothing but experience can help the grower in this case, as each variety has its little peculiarities that must be attended to if really fine blooms are required. Thus, for some, the terminal bud gives the finest flowers, whilst others, and we add here by far the greater majority, do best from the crown bud. As a rule, some time from the beginning of the second week in August to the second week in September is the most favourable season.

SYRINGING.—At the close of hot days a good sprinkling overhead, either from the hose, the garden engine, or the hand syringe freshens the plants up wonderfully, and serves to keep the foliage green and healthy. A few minutes in the evenings of bright days are well occupied in paying this little attention, and should therefore be a regular part of the cultural programme.

INSECT PESTS.—Earwigs are usually more or less of a nuisance and traps of Bean stems, or of small pots partly filled with hay should be set, as advised in a previous calendar examined each day and the contents destroyed. Black Fly (Aphis artemisiae) often causes trouble nibbling the young stems and tender leaves and leaving ugly brown blotches behind. A washing with tobacco water is an excellent mode of getting rid of it; or if preferred, a dusting with tobacco powder may be given. In both cases the shoots where these insicticides have been applied must be washed with clear water soon after their application.—*A. S. G.*

THE ORCHID HOUSES.

LAELIA CRISPA.—This fine summer-flowering Laeli, which with us is just opening its delicate flowers, makes a grand exhibition plant when well grown. There are several varieties, all of which are beautiful, the best perhaps being L. c. superba, the flowers of this variety being much larger than those of the type. We have grown it in shallow pans, teak baskets. and in pots of the ordinary shape. In all cases they have done well, but we think pots are the most suitable, on account of the difficulty experienced with baskets when they require a shift into a larger one. The roots cling to the rods so tightly that it is impossible to free them without damage to a great number; with pots it is different, most of the roots that are clinging to the side being easily removed with a sharp thin knife, or it may be necessary to break the pot where they have taken a firm hold inside and out.

COMPOST.—Peat alone, and that of the best, we find suits them best, mixing in some moderate-sized crocks to keep it porous. It should not be pressed in too firmly, or the water will not pass freely away. A few neat stakes can be used until the plants have again become established, to keep them from swaying about.

WATERING.—This must be carefully done after the plants have been newly potted; any excess would cause the roots to rot; but when well established they will take a good quantity, always, of course, giving them time to absorb what is given at one watering before affording them more.

TIME OF POTTING.—After flowering, we think, is the best time to do this, and as they do not last above a fortnight in flower, they will, before I write again, in most cases require attention; when done at this season they will not want so much water.

ODONTOGLOSSUM GRANDE.—This, too, is another fine summer flowering Orchid. It is best grown in pots in peat and moss, using about equal parts. When growing, as it is now, and pushing spikes with the young growths, it will take a good quantity of moisture at the roots, but after the flowering season is over and the bulbs are made up it should receive a good season of rest. Unless this is given them it is next to impossible to keep them in good health for long. Slugs are very partial to the succulent spikes, and sometimes they will attack the young growths, doing great damage. A good plan to capture them is to place a few heaps of bran or fresh lettuce leaves close to the plants, looking them over in the evening when locking up for the night.

POSITION.—The best place we find for them is at the cool end of the Cattleya house, where they make good growths and flower freely.—*C.*

Gleanings from the World of Science.

The Food of Humming Birds.—The opinion at one time prevailed amongst naturalists, but particularly amongst botanists, that the food of humming birds consisted chiefly, if not wholly, of nectar found in the flowers which they frequented; but partly through direct observation, and partly from experiments in feeding, is has been discovered and more or less directly proved that they are also carnivorous, and feed upon insects as well as nectar. In the forests of tropical America, humming birds are abroad as soon as it is daylight, and commence visiting their favourite flowers. Insects are also plentiful, and many of them pass the night in the long tubular flowers. The rising sun raises the temperature, and insects also become active, and are devoured by humming birds when they (the insects) are crawling out of the blossoms which afforded them a night's lodging. The tongue of the birds consists of two semi-cylindrical portions enclosing an extensile portion, so that it is adapted for the sipping or suction of nectar, as well as for collecting small insects.

HINTS FOR AMATEURS.

THE KITCHEN GARDEN.

WHILE in the majority of instances too much ground can scarcely be devoted to the cultivation of flowers, at least in the eyes of the female portion of the household, there are other considerations to be looked to besides those of mere adornment, and thus, beautiful as flowers are, the ornamental has, in some measure at least, to give place to the useful. Indeed, after a careful consideration of the various branches of horticulture in which amateurs dabble, with a greater or less degree of success, that of vegetable growing is the particular one in which the honours are most evenly divided between the amateur and the professional cultivator. At various shows throughout the country, may be seen from time to time vegetables contributed by amateurs that would do credit to anyone.

To those holders of small gardens who make a hobby of growing vegetables for purposes of exhibition the long continued drought that lasted through the greater part of the spring and early summer months, and has, in fact, only come to a close during the past week or two, has been a sore trial, more particularly when they are straining every effort to go one better than their neighbours at the forthcoming local show. A fiercely bright sun shiuing day after day, his exceptional radiance scarcely obscured by a single cloud and an almost total absence of rainfall, or at least only a few drops that did little more than lay the dust for an hour or two, could scarcely fail to result in dwarfed and stunted growth. The recent heavy showers have put an entirely different complexion on things, however, and it is astonishing to see the rapidity with which many subjects have recouped their energies. Growth now will be exceedingly rapid, and in the event of fairly favourable weather, things may not be so very far behind hand after all.

TOMATOS.—Whatever else may have suffered from the tropical weather these have had a right royal time when it has been possible to keep them well supplied with water at the root, and thus there should be no difficulty whatever in obtaining heavy crops of well-ripened fruit. Nowadays, the system of planting rather closely, and of taking up a single stem is generally admitted to be the best method to pursue. The practice of denuding the plants of a great portion of their leaves, under the mistaken idea that better fruit is produced by this means, is also curiously enough believed in to a very large extent. Here, however, the operator must be exceedingly cautious, or he will inevitably do harm instead of good. It may be necessary to remove a leaf here and there, that is observed to be shading the fruit, and thus accelerate the ripening process, or even to cut very gross growing leaves half way through, and in this way to partially check undue vigour of growth, but wholesale removal of the leaves is both a barbarous and an unnatural system to adopt, and one that cannot fail to have injurious effects upon the size, weight, and flavour of the fruit.

PEAS.—Although the rain came too late to save the early rows of Peas it has wonderfully improved the appearance of the later ones, which it is not unlikely will prove to be the most profitable of all. As a rule birds are the greatest enemies of late Peas, and some precautions will have to be taken to check the incursion of these feathered marauders upon the sweet pods and their not less sweet contents, or they will soon do all the Pea-picking that is required. If a few yards of netting can be spared this should be thrown over the rows, allowing it to rest upon the top of the sticks, then stretching it out and securely pegging the ends down to the ground.

CABBAGE.—A vegetable garden without Cabbages would indeed be an anomaly, for it is safe to say that next to the Potato it is the most universally favourite esculent. It is now quite time to see about the sowing of seed to supply plants for cutting from next springtime. Some cultivators make a couple of sowings, one about the third week in July, and another one towards the middle of August. For ordinary purposes, however, a single sowing should be sufficient, and the beginning of the present month for the northern counties and midlands, and a couple of weeks later for the most southern districts is the best time to see about it. We do not advise too early sowing, for this is a fruitful cause of bolting, a state of things that some growers have now and again to lament. The ground, too, after the rains, is in a splendid condition for seed sowing at the present time, and advantage may, therefore, be taken of this in districts where the earlier sowings are advisable. The seed must be sown on light soil, the surface of which has been broken up finely by means of a small-toothed iron rake. In all cases avoid sowing too thickly, for if the seed is good a multitude of weak, spindly plants is the result. It is far better to practise economy with regard to the seed, and insure better plants at the same time than it is to sprinkle enough seed to sow a quarter of an acre upon a plot of land only a few yards square. Once the seed is sown its protection from sparrows and other small birds must be the next point to receive attention. A line of forked wooden pegs, about 15 in. in length should be placed all round the outside limits of the seed bed, together with one or two in the centre, and over these a piece of netting must be stretched, fastening it securely to the ground by means of smaller pegs. This will make everything snug and safe from the visits of the too inquisitive birds. Several sorts should be grown, and among them Enfield Market, Ellam's Early Dwarf, and Wheeler's Imperial; for we have proved these to be extremely useful and reliable varieties.

WEEDS.—These up to the present time have given little or no trouble, and if proper care has been taken to destroy the larger ones in the spring before they had time to seed, a good deal of trouble will have been saved. Still, perhaps everyone has not been careful to do this, and thus the tidy gardener may be plagued by the springing up of weeds produced from seeds matured in the untidy man's garden, or upon portions of waste ground in the immediate vicinity. These, assisted by the favourable circumstances, will be making their appearance on all hands, as if to make up for the previous delay. The Dutch hoe must, therefore, be kept assiduously at work amongst all growing crops, for these latter benefit considerably by having the surface of the ground whereon they are growing frequently stirred, and that greatest of charms which a garden can possess, viz., cleanliness, may be preserved with comparatively little trouble.—*Rex.*

SUMMER SCHOOL OF HORTICULTURE.

As announced in our pages in June, the Essex County Council organised a short course of elementary instruction in horticulture to be given at the County Technical Laboratories, Chelmsford, during the first three weeks of the month which has just been completed. The course of instruction has been brought to a successful issue and the examination was held on the 20th ult. Twelve scholarships were offered by the committee for competition, but the applications were more nearly three times that number so that fifteen candidates were selected and admitted to the privileges offered. The number of applications bears witness to a growing want, which becomes all the more evident when we consider that the applicants were limited to ages ranging between 14 and 25, and to residents in the county, either engaged in gardening or seeking such employment.

As far as we are aware this is the first institution of the kind that has arranged a summer course of instruction, and the successful consumation of the same is all the more remarkable when one recalls the broiling nature of the weather that prevailed nearly the whole of the time the class was sitting, and the fact that the young men brought together from various parts of the county, were practically unaccustomed to study. Our readers may remember that the course lasted eighteen days and that the work for each day lasted from 9 a.m. to 5 p.m., which (under the circumstances), would have been a tax upon the energies of men accustomed to study. Every morning a lecture was given between the hours of 9 and 10, after which there were two hours of practical work with the microscope, simple and compound. An hour was allowed for the midday meal, after which a lecture of at least an hour's duration was delivered. This was followed by practical work and demonstrations from 2 to 5 p.m., during which the students were employed in the garden, digging, trenching, raking, hoeing, preparing seed beds, or at the potting bench, sowing seeds, transplanting and potting seedlings and other horticultural operations. Budding, grafting, layering, and the making of cuttings of various subjects occupied the time during other days.

The visiting of nurseries, seed farms and market gardens, constituted another important item of the program and on each of these occasions, the students were accompanied by the biological staff, so that demonstrations were given at each of these places both by the members of the staff and the proprietors or managers of the same. The latter would for instance explain their own methods of practice in certain cases, giving the reasons and objects aimed at in adopting such and such a course. The first visit was made to the seed farm of Mr. Thomas Cullen of Witham, on the 6th ult. to see the trial plots of that horticulturist, whose collection of Peas was very extensive and excited considerable interest amongst the students. The second visit was made to the seed farm of Mr. Seabrooke, Chelmsford, on the 11th ult. and on the afternoon of the following day, the students were taken over the Chelmsford Corporation Sewage Farm, as recorded in our pages. Again on the 18th ult. a visit was made to the nurseries of Messrs. Saltmarsh & Son, Chelmsford. The fruit trees, bushes and Roses at this place, as well as the various classes of flowers cultivated, furnished the young horticulturists with many a useful hint, seeing that they were brought into direct contact with the excellent methods of horticulture as practiced in this well known nursery. Mr. E. Sheerman, the manager, was in attendance, and courteously answered many questions put to him by the students concerning fruit trees. Some of the men in other departments, including bush fruits and Roses, also explained the methods they pursued. On the afternoon of the following day, a fifth visit was made, on this occasion to the market nursery of Messrs, Miller Bros., Coval Road Nurseries, Chelmsford, where the chief items of attraction and instruction were the Vines, Melon houses in various stages of progress, and the Tomato houses, all of which were carefully inspected. The work of packing Melons for market was also witnessed in the packing shed. The enormous crops of Melons and Tomatos on the plants in bearing, constituted a surprise to the young gardeners.

A lecture was delivered and demonstrations given on the morning of each day, during the course, by the Staff-Lecturer on "Biology" (David Houston, F.L.S.), County Technical Laboratories, Chelmsford, assisted in the demonstrations by Wilfred Mark Webb, F.L.S., also attached to the Institution. The first three afternoon lectures and demonstrations were given by T. S. Dymond, F.I.C., on "The Chemistry of the Soil, Air, Water and the Constituents of Plants." He also constitutes one of the permanent staff of the Institution. William Cole, F.E.S., gave one lecture and demonstration on "Injurious Insects." Eight afternoon lectures were delivered on "Horticultural Operations and Practices," by J. Fraser, F.L.S., editor of THE GARDENING WORLD, and accompanied by demonstrations in the garden and at the potting bench. He also conducted the various garden operations to which reference has already been made.

The accompanying illustration shows the class doing practical work with the microscope in connection with the biological lectures, delivered during the early part of the day. The afternoon lectures were delivered in the same building. It will be observed that the latter is open all along one side, and, in fact, is fully exposed to the courtyard of the establishment. It was a happy idea that induced the Staff to select this temporary lecture room for the summer class; for the Laboratory itself would have been very close and stuffy, and altogether prejudicial to the best interests and convenience of the students during the broiling and intensely hot weather which prevailed during July while the class was sitting. Our readers will notice that the back and end walls of the building are covered with a host of diagrams which were used to illustrate the various subjects dealt with during the course of lectures, demonstrations and practical work. The Government Inspector expressed satisfaction with the arrangements for the health and convenience of the students. County council secretaries from Cambridge and elsewhere also visited the class and were highly satisfied with the plan of combining science and practice as a means of "teaching the young idea how to shoot," and of enabling the horticulturists of the future to get out of the beaten track of the rule of thumb, hitherto so extensively practised in gardens all over the country. The aim of all teaching should be to get the student to observe, think and act; and by such aids we should expect

the gardener of the future not only to get a knowledge of his profession more quickly, but to turn that knowledge to the advancement of horticulture by ways and means undreamt of by the gardener of the past who may have acquired his knowledge by tradition as it were, just as his grandfather might have done before him. In any case a scientific knowledge of the plants with which he has to deal should enable him to surmount many difficulties which might otherwise seem insuperable. The following are the questions put to the students on the 20th ult. :—

WRITTEN EXAMINATION, 9 o'clock—11 a.m.

You must only attempt THREE *questions in Division A and* FOUR *in Division B.*

A.—Biological Principles.

1. What do you understand by respiration in living things. Of what advantage is respiration to plants? Why will too deeply-placed seeds fail to germinate, and why is good drainage so essential to success in pot culture?

2. During a summer's day there is a steady flow of water from soil to air through the body of any actively-growing garden plant. (1.) What organs of the plant are engaged in absorbing the water from the soil? (2.) Through what tissues of the plant does the water pass? (3.) Where, how, and in what form does the water escape into the air? (4.) Of what use to the plant is this constant flow of water?

3. In the operation of budding, what reason would you give for the removal of the splint of wood from the bud before its insertion in the stock?

4. When a branch is cut, what are the conditions that influence the most rapid healing of the wound, and what means would you adopt to assist the plant to attain that end?

5. What are the conditions that favour the formation of flower buds? Describe the structure of the flower of *one* of the following plants:—(1.) Potato; (2.) Pea; (3.) Turnip. What structures go to the formation of the fruit in (1) Turnip, (2) Medlar, (3) Mulberry?

6. Give as full a description as you can of the habits of *one* of the following creatures:—(1) Magpie or Gooseberry moth or (2) the winter moth. Compare the described form with the habits of the wireworm. State how a knowledge of their habits would suggest to the gardener methods of prevention from the attacks of the caterpillars.

B.—Horticultural Practice.

1. What particular objects would you keep in view when making choice of land for the cultivation of fruit and vegetables.

2. Name some of the special advantages gained by the trenching of garden ground.

3. Under what conditions would you use artificial manure in preference to farmyard manure in the cultivation of Potatos?

4. What are the usual methods adopted for the propagation of (*a*) ten weeks Stocks; (*b*) Chinese Primulas; (*c*) Roses; (*d*) Apple trees; (*e*) Pinks; (*f*) Carnations; (*g*) Raspberries; (*h*) Strawberries?

5. Give a short history of the cultivation of *either* the Chrysanthemum *or* the Cyclamen.

6. What stocks are used for Apple trees? Name some of the advantages gained by the use of these stocks.

7. How and when is a Vine pruned? What is meant by the term "pinching" as applied to the Vine?

8. What is the object of disbudding Peach trees? State the time or times when this is done.

PRACTICAL EXAMINATION 11 o'clock—1.

Division A.

1. Recognise, by the use of the microscope, the specimens marked A and B. Shortly describe C and refer it to its proper family.

2. Inspect the physiological experiments at work on the table—they are labelled D. E. F. G. H. I. K. Select any *three* of these and say what may be learned from the experiment in each case.

3. What are the chief points to be borne in mind in attempting to free the land from such weeds as those marked L. M. and N.

4. What stages of insect life are represented by specimens O. P. Q. R. and S.

Division B.

1. Prepare a seed bed for Onions.
2. Drain a seed pan, fill it with compost and sow Lettuce seeds.
3. Transplant a pan or box of seedlings.
4. Neatly stake and tie six plants.
5. Make some cuttings of Gooseberries and Black Currants.
6. Prepare and insert the bud of a Rose.
7. Make two kinds of grafts.
8. Prepare some Carnations for layering.
9. Pot half a dozen bulbs.
10. Pot half a dozen seedlings.
11. Make three Vine eyes and pot them.

A. J. SWINFORD, *Photo, Chelmsford.*

Summer School of Horticulture.

Thinning Tree fruits is a privilege that few possess this season in the United States of America.

Eternal tillage is the price of a good garden.

FUNGOUS DISEASES OF ORNAMENTAL PLANTS.

Dr. Byron D. Halsted, of Rutgers College, and a high authority on this subject, in a paper read at Boston on the 26th April, said in substance: If your plants are already infested with fungous diseases it will be a very hard matter, if possible, to cure them by the use of any known fungicide. To keep your plants clean you must use preventive, not curative, means; by an intelligent, free, and persistent use of fungicides before the fungous diseases attack the plants you can keep them away; but let the disease once get hold, fungicides can do little more than keep it in check. Dr. Halsted said 165 kinds of fungous diseases are said to attack the Rose; commonest among these are the black spot (Actinonema rosae), powdery mildew (Sphaerotheca pannosa), a downy mildew (Poronospora sparsa), Rose anthracnose (Gloeosporium fructigenum), and Rose leaf blight (Sphaerella rosigena). The Carnation rust (Uromyces caryophyllinus), and the old Carnation disease or leaf spot (Septoria dianthi), are the most troublesome to this plant. Violets are subject to two leaf spots (Cercospora violae and Phyllosticta violae). The discolouration at the ends of green-leaved Dracaenas is caused by a fungus) Phyllosticta maculicola). The yellow spots on Palm leaves are the work of an anthracnose fungus (Colletotrichum kentiae). The damping off of seedlings is generally caused by a fungus (Pythium De Baryianum).

The preventive means are, first, to start new plants from healthy stock; secondly, to prevent the germs of decay from entering the healthy plants; and thirdly, if such are present to check their growth as much as possible. Germs of decay enter from the soil or the air. The seed bed and cutting bench should be germ-free, and to this end all the woodwork of greenhouses should be cleaned as frequently and thoroughly as possible. A frequent change of soil is important. But after these preventive measures have been carried out it will be necessary to provide fungicides for occasional use in the greenhouse, as well as in the orchard and garden as germ destroyers. For Roses the mildew may be controlled by sulphur, either dusted upon the foliage or heated upon the greenhouse pipes. The black spot has been checked by Bordeaux mixture, and the ammoniacal solution of carbonate of copper. The formula for Bordeaux mixture is five pounds of lime and five pounds of sulphate of copper in fifty gallons

of water; each may be prepared and kept in stock to be mixed as needed for spraying. The formula for ammoniacal solution of the carbonate of copper is five ounces of carbonate of copper dissolved in three quarts of strong (4F) ammonia, to be afterward added to fifty gallons of water. These two fungicides are the chief compounds that can be recommended for fungous diseases in the greenhouse. A solution of potassic sulphide (½ oz. of sulphide to one gallon of water) has proved a successful remedy in Carnation diseases. Good results have followed the use of Bordeaux mixture for fungi on Violets, and many other plants would doubtless be benefited by its use. But the work against injurious fungi must be preventive instead of curative, and the old adage, "An ounce of prevention is worth a pound of cure," is nowhere more applicable.—*Gardening American.*

POPULAR NAMES.

Under this heading one might be carried far into the pages of floricultural works, and continue to find designated to plants the popular name "Lily." The Lilium is responsible for many popular names, probably on account of its whiteness and purity, and the chasteness of its species and varieties—the "Queen of flowers"; hence, no doubt, the term "Lily" has so liberally been given to many families without conservatism. It is not, however, my purpose to write on Liliums, but to give to lovers of flowers the names of a few plants to which the term "Lily" is applied. Before proceeding, I might say there are no poor relations. There is the Blue African Lily (Agapanthus umbellatus) essentially a noble plant, bearing on stout stems beautiful blue, Lily-like flowers in great numbers, opening in succession, and lasting in flower for a long time. The plants prefer a rich, moist, loamy soil enriched with decayed manure. The Agapanthus is most effective when seen growing in *jardinières* on balconies or in the garden, and may be wintered in the conservatory, where its evergreen foliage is not to be despised. The white variety is also very handsome.

The Scarboro' Lily (Vallota purpurea) is also a noble plant, and often well grown by amateurs and cottagers for window decoration. It is a wise plan to let the pots become full of roots, and not disturb them, as frequent shifting is often injurious to the plants, which do not flower nearly so well. They require liberal supplies of water when growing, and little during the winter months. Lily of the Field or Mount Etna Lily (Sternbergia or Amaryllis lutea) is a charming Crocus-like flower, of a deep golden-yellow, produced in autumn, and a gem for making the garden look gay during the dull autumn months. It grows about 6 in. high, with compact tufts of deep green leaves. It requires a rich, deep and rather dry soil, and to be planted from 4 in. to 6 in. deep. The Lent Lily (Narcissus Pseudo-Narcissus) is the common English Garland Lily, and one of the earliest and one of the most showy for planting to naturalise in grass banks or in the crevices of rocks, where they establish themselves and give a gorgeous annual display, as Shakespeare says:—

"Daffodils that come before the swallow dares, and take
The winds of March with beauty."

They should be planted in clumps of from twenty-five to fifty bulbs, and about 3 in. apart and 4 in. deep.

St. Bernard's and St. Bruno's Lily (Anthericum Liliago and A. Liliastrum) are delightful plants for the herbaceous borders, as is also the grass-like leaved variety A. ramosum. It bears small white flowers in branches on a flower scape about 2 ft. high. A. Liliago has much larger flowers than ramosum, and pure white. A. Liliastrum is a graceful plant, flowering in early summer, with pure white Lily-like flowers on flower scapes about 2 ft. high. They all prefer a deep, rich, well-drained soil.

The Day Lilies (Hemerocallis) constitute a beautiful genus, with Lily-like flowers, and form admirable subjects for border planting; they are most effective when planted along the margins of lakes and streams. At the present time H. fulva may be seen flowering and flourishing at Kew Gardens, bordering the pond facing the large Palm-house, where its tall and straight flower scapes tower high above its deep green graceful foliage, and produce a most beautiful effect. Its flowers are large, orange shaded with crimson. H. fulva variegata has variegated leaves of a beautiful silver and pale green, very ornamental. H. flava has smaller flowers of a clear yellow, and sweet scented. Those of H. Dumortieri are orange yellow, brown outside, and dwarf. H. Thunbergi with clear yellow, sweet-scented flowers, is a late bloomer. H. Middendorfi is orange-yellow. The H. Kwanso and H. disticha, both with very handsome orange shaded crimson double flowers, are strikingly attractive. They delight in a moist soil and shady places. A beautiful addition to this genus is the variety named H. aurantiaca, exhibited by Messrs. Wallace and Co., of Colchester, at a recent R.H.S. meeting. It has large orange-yellow flowers similar in form to those of H. disticha, but much larger, and is a real acquisition.

Few are aware of the intense value of the Plantain Lily (Funkia) for decorative purposes in the conservatory, and for effect in the garden. All the sorts possess handsome leaves, both large and small, which are developed in early spring. Their delicate flowers of white lilac and purple rise prominently above the foliage in graceful racemes, which add additional beauty to their attractiveness in the herbaceous border. The best of the green-leaved sorts are F. Fortunei, F. glaucescens, F. lanceolata, F. ovata, F. Sieboldiana major, F. subcordata grandiflora, and F. viridis. Of the variegated-leaved sorts are F. glaucescens variegata, F. ovata aurea-variegata, F. Sieboldiana marmorata, F. sinensis marmorata, F. spathulata marginata, F. undulata aurea, with golden leaves, F. undulata argentea, F. undulata maculata, F. viridis marginata, and F. viridis univittata. They do well in ordinary garden soil, and in partially-shaded places.

The Wood Lilies (Trillium) are very pretty subjects for moist, peaty, shady parts in the garden, and deserve to be extensively grown for their beautiful foliage and flowers in spring. T. grandiflorum is one of the best, for its large, snow-white flowers which pass off rosy-pink with age. T. sessile californicum has large deep green leaves prettily marked and blotched, and has flowers of a creamy-white. T. erectum is rich purple. T. erythrocarpum has white flowers with a pink eye, and very pretty.

The Mariposa Lilies (Calochortus) are the gayest of West America half-hardy bulbs. They are also known as Peacock and Californian Tulips, and most appropriately so, for they contain the most beautiful colours of white, yellow, purple, and lilac, and are, most of them, richly spotted, while C. Kennedyii is a brick-red, and very beautiful. The varieties of C. venustus are citrinus, a lemon with crimson blotch; roseus, rose with crimson blotch; vesta, white, flushed lilac; and purpureus, a soft lilac. C. pulchellus has drooping golden-yellow and very beautiful flowers. Those of C. amoenus are rose; C. splendens, purple lilac, blotched crimson; and of C. luteus, yellow, blotched purple. The culture is nearly the same as for the Ixia and Sparaxis. They like a dry, sunny situation in a sandy peat. The secret is to ripen the bulbs well for blooming the following year. To do this the bulbs must have full exposure to the sun's rays, and assisted by witholding water. The above by no means exhausts the term "Lily" as applied to plants, but will be continued another time.—*W.L.*

THE CARNATION AND PICOTEE UNION.

The 11th annual meeting of this Association was held on the 27th ult. in the garden of Mr. Arthur Medhurst, Stanley Road, Oxford. There was a grand display of all the sections of the Carnation now so popular everywhere, independently of the flowers brought together on that day. Mr. Medhurst had something like 6,000 pot plants of Carnations in his frames and houses, only two of which were covered with glass, the rest being merely covered with canvas, and that only during the flowering period. Previous to that the pots are stood round the garden, wherever there is space. The pots used are 16 and 24-size.

For twelve blooms of Flake and Bizarre Carnations, Mr. Robert Sydenham, Birmingham, led the way with fine blooms of Master Fred, Gordon Lewis, Sarah Payne, Rosamunch, Troubadour, J. S. Heddersley, Sportsman, Lord Salisbury, Mrs. Burgess, Thalia, Robert Houlgrave and Geo. Melville. He was followed by Messrs. Thomson & Co., Birmingham with smaller blooms, but in fine condition, Mr. Wm. Read, gardener to Mr. Arthur Medhurst was third; Mr. Brocklehurst was fourth; Mr. Geo. Chaundy, New Marston, Oxford, was fifth; Mr. Chas. Phillips, Bracknell, Reading, was sixth. In the class for six flakes, or Bizarres, Mr. C. F. Thurstan, took the leading award with flowers of fine form; second, Mr. A. R. Brown, Birmingham; third, Mr. W. Spencer, Jun., Barnet; fourth, Mr. Haslett, Oxford; fifth, Mr. Edmond Hill; sixth, Mr. J. T. Keen, Southampton; seventh, Mr. John Walker, Thame, Oxon; eighth, Mr. Thos. Anstiss, Brill. For twelve Picotees, dissimilar, Mr. A. W. Jones, Handsworth, Birmingham, led the way with Mrs. Burnett, Norman Carr, Thos. Williams, Brunette, Amy Robsart, Mrs. Oppenshaw, Mrs. Payne, Madeline (the premier Picotee in the show), John Smith, Mrs. Gordon, Elizabeth and Campanini. Mr. R. Sydenham was second; third, Messrs. Thomson & Co.; fourth, Mr. Geo. Chaundy; fifth, Mr. Read. For six Picotees dissimilar, the prizes were won by Mr. A. R. Brown, Mr. C. F. Thurstan; Mr. Ed. Hill, Mr. John Walker, Mr. J. T. Keen, Mr. Brocklehurst, Mr. W. Spencer, Jun., and Mr. Haslett, in the order named. In the miscellaneous class to include twelve blooms of selfs, fancies, or yellow grounds, the prizes were taken in the following order:—Mr. A. W. Jones, Mr. R. Sydenham, Messrs. Thomson & Co., Mr. J. Walker, Mr. Read, Mr. Chas Harden and Mr. Geo. Chaundy. Mr Jones' stand contained Stadrath Bail, Romulus, Janeira, Gladys, Cardinal Wolsely, Mrs. Douglas, Mrs. Andrew Campbell, Mrs. R. Sydenham, Germania, Alice Brook, Mrs. Dranfield and Geo. Cruickshank. Mr. W. Spencer, Jun. took the leading award for six in the miscellaneous class, and was followed by Mr. A. R. Brown, Mr. J. Wynne Ffoulkes, Chester, Mr. J. C. Henwood, Reading, Mr. Ed. Hill, Mr. J. T. Keen, Mr. Gilbert Pullen, and Mr. Haslett in the order named. Mr. Wm. Read led the way in the class for six dissimilar yellow ground Picotees, four of them being notable for their great size and uncommon colours. He was followed by Mr. A. W. Jones, who had the premier self in Germania, by Messrs. Thomson and Co., Mr. R. Sydenham, Mr. A. R. Brown, Mr. Harden, Mr. T. C. Henwood, and Mr. W. Spencer, Jun. in the order named.

There was great competition in the classes for single specimens, and the judging in some cases rather difficult. For scarlet bizarres, Messrs. Thomson and Co. led the way with Robert Houlgrave; they were also fourth and fifth, while Mr. R. Sydenham was second, and Mr. Brocklehurst was third. Mr. R. Sydenham had the premier crimson bizarre in T. S. Heddley. He was also second, and was followed in this section by Mr. C. F. Thurstan, Messrs. Thomson and Co., and Mr. A. R. Brown, Mr. R. Sydenham again came to the front for a purple bizarre, showing Wm. Skirving. Mr. C. F. Thurstan was second; Mr. R. Sydenham was third; Messrs. Thomson and Co. were fourth; and Mr. C. F. Thurstan was fifth. In the class for purple flakes, Mr. R. Sydenham was again successful, taking the first and second prizes; Messrs. Thomson and Co. took the third and fifth awards; and Mr. A. R. Brown was fourth. Mr. C. F. Thurstan had the best scarlet flake in Dan Godfrey; Mr. Brocklehurst was second; Messrs. Thomson and Co. were third; Mr. C. F. Thurstan was fourth; and Mr. Charles Phillips was fifth. Mr. C. F. Thurstan had the best rose flake in Crista-galli; he also had the second award; Mr. Brocklehurst was third; and the remaining two prizes were taken by Messrs. Thomson and Co. In the section for selfs, Mr. A. W. Jones had the best in Germania; Mr. J. Wynne Ffoulkes was second; and Mr. R. Sydenham was third and fourth. The premier bloom in the fancy dress was Firefly, a sport shown by Mr. C. F. Thurstan. In this class he was followed by Mr. A. R. Brown, Messrs. Thomson and Co., and Mr. Wm. Read, who was fourth and fifth. The first prize for a yellow ground Picotee was taken by Mr. W. Spencer, Jun. with Mrs. R. Sydenham, which was the premier bloom in its class. Mr. R. Sydenham was second; Mr. W. Spencer, Jun. was third; Messrs. Thomson and Co. came in fourth; and Mr. T. E. Henwood was fifth. In the class for a broad-edged Picotee, Mr. A. W. Jones was first, second, third, and fifth; Mr. R. Sydenham was fourth and sixth; and Mr. A. R. Brown was seventh. Mr. A. W Jones repeated

similar successes in the section for a medium-edged Picotee, taking the first three, and the sixth prizes; Mr. R. Sydenham was fourth and fifth; and Mr. A. R. Brown was seventh. Mr. C. F. Thurstan had the best light-edged Picotee, and was fifth and sixth; Mr. A. W. Jones took the second, third, and fourth prizes; and Mr. R. Sydenham was seventh.

As far as we know Mr. J. Walker was one of the first exhibitors of Dahlias for the season, and showed three stands of show and fancy varieties in fine condition. Mr. B. Ladhams, Shirley Nursery, Southampton, staged a collection of cut flowers of hardy herbaceous plants. Mr. Thos. Anstiss brought up two stands of Dahlias. A large number of the *élite* of Oxford, including Mr. Morell, M.P. and the Mayor patronized the show in the afternoon. The last named presided over the luncheon, which was served in a tent pitched in the garden, and made a speech, in which he expatiated on the improvements that had been made in Oxford, and hoped that the city would yet be the finest in the world.

A VISIT TO AN EDINBURGH NURSERY.

Happening to be in Edinburgh, and finding I had two or three hours to spare, I thought I could not do better than pay one of the great nurseries in the vicinity a visit. The nursery I happened to visit was that of Mr. John Downie, Beechhill, Murrayfield. It is situated in one of the prettiest suburbs of Edinburgh, namely, the southern slope of Corstorphine Hill, and commands a magnificent view of the surrounding country. On reaching the nursery, the first thing that catches the eye of the visitor is a splendid lot of golden Privet, which has stood the rigours of the past winter unharmed. All the Coniferae seem to have stood the winter well in this nursery, as they are all showing a healthy and vigorous growth. Fruit and ornamental trees are all in the same flourishing condition, Florists' flowers have always been a speciality in this nursery, and, judging from what I saw, they are still. Dahlias, Carnations, Pansies, etc. are seen at their best at this establishment. I was shown a very fine marrowfat Pea raised by the firm, and named "Downie's Amateur," which was being saved for seed purposes. It is a very free cropper, and of excellent quality.

Coming to the indoor department the first thing I noticed was a houseful of very fine, named, dwarf Cannas, which showed great variety of colour and neatness of arrangement. Stove plants seem at home in this nursery; Caladiums, Crotons, Dracaenas, etc. being perfect pictures of health and cleanliness. One house is devoted to Palms alone, a class of plants largely used for decorative purposes. Smilax and Asparagus plumosus are largely grown to supply the floral department at 144, Princes Street. As my time was limited, I had to content myself with just a look into the Begonia houses. One house was filled with doubles including both named varieties and unnamed seedlings. One white seedling was very fine indeed, and I have no doubt will be heard more of. The single Begonias were a sight I shall not easily forget, all the plants to my mind being perfect models, the flowers standing clear of the foliage, and of enormous size.

Indeed, any one having a few hours to spare when in the northern capital, would do well to pay this establishment a visit. It is easily reached either by rail or car to Murrayfield Station. After bidding the manager good-bye I left for home having spent an hour or two among my favourites, which I shall not forget for a long time to come.—*Diosma.*

THE CARNATION IN SCOTLAND.

At this particular part of the year the Carnation in all its varied forms and colours is the most important flower in the garden; for the only other subject that rivals it for popularity with the flower-loving public, viz., the Rose, is taking a rest after its first flush of beauty. The rose bushes are but heads of verdure, bearing flowers but few and far between, if, indeed, they are not conspicuous by their absence, and it is to the Carnation that we turn for comfort. Consequently everybody talks Carnations just now, and every scrap of information regarding them is eagerly devoured by amateur and professional growers alike. Mr. Brotherston's paper, dealing with the Carnation in Scotland, which was read at the last meeting of the Royal Horticultural Society, Mr. George Bunyard presiding, came just at the right moment and was welcome as setting forth the amenities of the modern representatives of the old Gilly-flower north of the Tweed. In the absence of Mr. Brotherston the essay was read by the assistant secretary.

After a few opening remarks anent the historical antiquity of the Gilly-flower the essayist proceeded to say that owing to the existing differences between the respective climates of England and Scotland some changes in the way in which certain varieties behaved was only natural. Thus, for instance, many varieties which did well in England, were comparatively worthless in Scotland. Cantab and Uriah Pike might be taken as examples of this class. Others again, such as Mrs. Muir and Germania, did far better north of the Tweed than they did south of it; but in the majority of cases little variation was experienced. The essayist then plunged into cultural considerations. The most important point of all he averred was early layering, followed by planting out as soon as possible; as a fortnight meant all the difference between success and failure. His plants, he stated, were all layered three weeks ago, and he had invariably found that these early layers rooted much more quickly and surely than later ones. For planting, the first or second week in September was quite late enough, as the young plants were thus allowed a fairly long time wherein to get established in their new quarters before winter sets in. For the more tender varieties which it was necessary to winter in frames it was needful to observe that they should be kept in a cool and airy position, and entirely without water during the winter months.

In preparing the soil for the outdoor plantations the application of raw manure was not advisable. A good dressing of leaf soil in a not too advanced state of decomposition might, however, be given with exceedingly good results. Some of the very best manures which could be used in cases where their application was necessary were soot, superphosphate of lime and sulphate of ammonia. Mr. Brotherston also inveighed very strongly against deep planting, for this, he observed, was responsible in many cases for a large amount of the ill-success that attended growers on both large and small scales. Many varieties which were regarded as delicate and extremely difficult to grow well would be found to succeed admirably when only covered lightly with soil. With regard to the thinning of buds he considered that it was generally done throughout the country to some degree at least, and it was, in his estimation, both a recommendable and indeed a necessary method of proceedure where flowers of really fine quality were desired. More, he believed that it was also advisable to thin out the grass. Personally he did this, and not infrequently lessened the number of flower stems as well, as an over crop of either was prejudicial.

Insect pests were next dealt with. Greenfly, as in England, was more or less of a nuisance, but he had found Bentley's Quassia Extract a perfectly safe and yet effective insecticide to use, and one that he could recommend with confidence to all who were plagued with this fly. Rust and eel worms also caused a good deal of trouble, and even gross growing plants fell a ready prey. Mr. Brotherston then gave a list of the most suitable varieties for cultivation in Scotland, which, as the paper is to be printed in the journal of the society, will form a valuable reference. A cordial vote of thanks to the essayist for his interesting and instructive paper terminated the proceedings.

GARDENING MISCELLANY.

HOW CAN SPECKLED ROSES BE PRODUCED.

The art of floriculture has never yet solved the problem of how Nature can be made to produce Roses having spots or speckles. But Nature having done her work in the ordinary way, says *Pearson's Weekly*, science may step in and effect by chemical means what she disdains. It was described a few weeks ago how Pansies of a vivid metallic green might be produced. A similar method is employed in the production of speckled Roses. Procure a flower nearly full-blown, and of a rich red colour; touch its petals repeatedly with a glass stirrer that has been dipped in an ethereal solution of ammonia. Wherever the stirrer deposits a spot of ammonia the petal will change to a bright blue. If a solution in water of sulphurous acid be employed, white spots will be obtained. Should the entire flower be immersed in the ammoniacal solution, the phenomenon of a blue Rose results; while if plunged into the sulphurous acid, a waxy white flower is obtained. Having produced as many speckles on the Rose as are desired, it is well to carefully wash the flower in pure water in order to remove the superfluous chemical; if this precaution be taken, it will not fade more rapidly than under ordinary circumstances. It is, of course, possible to conduct the experiment while the Rose is still on the parent tree.

TOMATO EDMONDSCOTE FAVOURITE.

As far as appearance goes, this is the finest large, yellow Tomato we have seen. It was raised from Golden Perfection, a pale yellow variety, crossed with Earliest of All, a scarlet one. In the early stages the skin is clear yellow, but as it reaches full maturity, it assumes a deep golden amber or a shining golden hue. The fruit is of good average size, somewhat flattened and slightly ribbed, but otherwise perfectly smooth. The flesh is of excellent flavour, and contains very few seeds. The skin is very thin, and can readily be peeled off; and the plant bears well. The variety has been grown in quantity, and the finest selected for the last two years by Mr. Wickenden, gardener to R. Davis, Esq., Edmondscote House, Castle Hill, Ealing. Mr. Wickenden intended to bring it before the Fruit and Vegetable Committee of the Royal Horticultural Society on the 23rd ult., but was too late in arriving to place it on the table. We shall doubtless hear more of this Tomato on another occasion.

ROSE TURNER'S CRIMSON RAMBLER.

This, among Roses suitable for training against houses and walls, stands in the first rank amongst recent introductions, being one of the fastest growers amongst Roses, and a most profuse bloomer. The colour is rich, and it bears large trusses of flowers which are loose; but for the purposes indicated, a vigorous habit of growth and a mass of showy colour quite compensate for any deficiency of form in the individual flowers.—*W. B. G.*

THE LARK AND NIGHTINGALE.

The statement (p.756) that the Lark is the only bird which sings when flying, and the Nightingale the only one that sings at night, is hardly correct. The Woodlark sings while flying; and numbers of other birds utter what is equivalent to their song during flight; for example the Cuckoo the Rook and many species of Gulls. The Woodlark also frequently, and the Thrush occasionally, sings at night. Even the Nightingale sings far more in the day than at night.—*S.*

A BLACK SPINE CUCUMBER.

Black spine Cucumbers are not so frequently grown at present as they used to be, though there seems no reason why they should not be improved. Mr. Simpson of The Beeches, East Acton, has raised a variety between the short, black spine Cucumber and Telegraph. A specimen he sent us was over a foot in length, slightly contracted in the middle, or in other words it was slightly thicker at either end; but this may not be characteristic of the variety as it was not a fair sample. The skin is of a dark green, thinly covered with green tubercles in the centre of which is a small, black, but by no means formidable spine. When cut it is remarkably tender, crisp, juicy, and of good flavour, the latter in fact closely resembling a good Cucumber of the ordinary type. There was no trace of bitterness, whatever, in the specimen sent, and which could be eaten, with or without condiments according to the taste of the eater. In short, it may be described as mild in flavour.

SOCIETIES.

The National Carnation and Picotee Society held its grand show at the Crystal Palace on Wednesday, July 24th, when the ever popular flower in all its various sections was well represented. As may be supposed, the competition in the various classes for this beautiful democratic subject was exceptionally keen, and those who were fortunate enough in

obtaining prizes thoroughly deserved them. On the whole the material forthcoming was excellent, and amply demonstrated the fact that throughout the country the Carnation finds hosts of zealous and enthusiastic admirers and cultivators. Miscellaneous exhibits of hardy cut flowers and plants in pots were also fairly numerous and of excellent quality, and added much to the brightness and attractiveness of the show, which towards the latter part of the day, particularly, was patronised by large numbers of interested visitors.

In a class for twenty-four Carnation blooms, flakes and bizarres only, comprising not less than twelve dissimilar varieties, Mr. R. Sydenham, 190, Bristol Road, Birmingham, came in first with good blooms of Sarah Payne, Geo. Melville, Othello, John Harrison, and Mrs. Burgess; second, Messrs. Thompson, Spark Hill, Birmingham; third, Mr. Charles Turner, Slough; fourth, Mr. Rowan, Clapham; fifth, Mr. Jas. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford; and sixth, Mr. F. Hooper, Vine Nursery, Widcombe Hill, Bath. Mr. A. R. Brown, Crompton Road, Handsworth, Birmingham, was adjudged to have the finest twelve blooms of flakes and bizarres. His samples of Feron, Master Fred, Thalia, and Harmony were very meritorious. Second came Mr. C. Phillips, Bracknell, Berks; third, Mr. A. Medhurst, Stanley Road, Oxford; fourth, Mr. John Walker, Thame, Oxon; fifth, Mr. D. Channdy, New Marston, Oxford; and sixth, Mr. A. J. Sanders, gardener to Viscountess Chewton, Bookham Lodge, Cobham, Surrey. Mr. W. Spencer, Junr., Sibertswold, Wadley Road, Barnet, obtained the premier award for six blooms of flakes and bizarres, dissimilar. In this class, Mr. J. J. Keen, 15, Castle Street, Bevois Town, Southampton, was second; Mr. W. L. Walker, Bulmershe Road, Reading, third; Mr. Thos. Anstiss, Brill, Bucks, fourth; Mr. A. Greenfield, 50, Oakhill Road, Surrey, fifth; and Mr. J. Gilbert, gardener to Rev. L. R. Flood, Merrow Rectory, Guildford, sixth.

A superb exhibit was that of Mr. R. Sydenham of twenty-four Picotees, comprising not less than twelve varieties, and it well merited the first place it received. Such sorts as Mrs. Beal, Mrs. Kingston, Gannymede, Favourite, Norman Carr, Little Phil, and Amelia were especially fine; second, Mr. Charles Turner, who also had remarkably good flowers; third, Messrs. Thompson, Spark Hill, Birmingham; fourth, Mr. Jas. Douglas; fifth, Mr. F. Hooper; and sixth, Mr. A. J. Sanders. In a class for twelve Picotees, dissimilar, Mr. A. R. Brown distanced all other competitors, showing praiseworthy samples of Brunette, Favourite, Pride of Leyton, and Esther. Mr. A. M. Rowan was second; Mr. C. Phillips, third; and Mr. A. Medhurst, fourth. The first prize for six Picotees also fell to a Birmingham grower, to wit, Mr. A. W. Jones, 18, Booth Street, Handsworth; Mr. W. Spencer, Jun., making a very close second; Mr. Charles Harden, Ash, Dover, and Mr. J. J. Keen taking third and fourth places, respectively. A class for twelve yellow-ground Picotees, dissimilar, brought out some splendid stuff, the premier award falling to Mr. C. Blick, gardener to Martin R. Smith, Esq., The Warren, Hayes, Kent, who had Voltaire, Gift, President Carnell, and Golden Eagle in remarkably fine condition. Mr. Charles Turner was placed second here, and Mr. James Douglas, third. For six Picotees of the same section Mr. A. R. Brown took first honours, good blooms of Harlequin, Mrs. Douglas, and Ladas being in evidence; second, Mr. W. Spencer; third, Mr. T. E. Henwood, Auricula Villa, Hamilton Road, Reading; fourth, Mr. J. J. Keen; fifth, Mr. Charles Harden; and sixth, Mr. J. Berryman, Milson Street Studio, Bath.

In the class for single specimens the competition was especially keen and well sustained. First prizes fell to the following exhibitors, Mr. James Douglas, for the crimson bizarre Robert Houlgrave; Mr. R. Sydenham, for the scarlet bizarre Lord Salisbury, and for the pink bizarre William Skirving; Mr. Rowan, for the purple flake Gordon Lewis, and for the rose flake Buxton; and Mr. Charles Phillips, for scarlet flake Sportsman. In the single class for white-ground Picotees the undernamed competitors also carried off first honours:—Mr. A. W. Jones, for the heavy crimson-edged Brunette, and for the light crimson-edged Thomas William; Mr. Robert Sydenham, for the heavy-edged purple Mrs. Oppenshaw, for the heavy-edged rose Little Phil, and for the light-edged rose Rorie Sydenham; Mr. James Douglas, for the light-edged purple Nymph; Mr. Charles Turner, for the heavy-edged scarlet Norman Carr. Of single specimens of yellow-ground Picotees some splendid examples were on view; Mr. W. Spencer, Jun., coming in first with Mrs. R. Sydenham—a grand flower.

In the classes not so strictly confined to blooms of one section, both selfs and fancies being admitted, the material shown reached a very high standard of merit. Mr. Charles Blick's exhibit of twenty-four blooms (not less than twelve distinct sorts to be shown), was grand indeed, and took first honours in its class. Amongst other good flowers Duke of Orleans, Eudoxia, Waterwitch, Voltaire, Almira, and The Dey were to be seen in very high order. After him came in order of merit, Mr. Chas. Turner, Mr. Jas. Douglas, Mr. F. Hooper, Mr. M. Rowan, Mr. H. W. Weguelin, Shaldon, Teignmouth, Devon, whose samples would have taken a first prize at a show of less importance, and Mr. A. J. Sanders. Mr. R. Sydenham carried off first honours for twelve blooms of selfs and fancies, having Cardinal Wolsey, Janira, Soudan, and Western Glory in grand condition. Second was placed Mr. John Walker; third, Mr. Charles Harden; fourth, Mr. A. Medhurst; fifth, Messrs. Thompson; and sixth, Mr. C. Phillips. Mr. A. W. Jones had the best six blooms, dissimilar, of selfs and fancies. Second came J. Ffoulkes, Esq., Old Northgate House, Chester; third, Mr. W. Spencer, Jun.; and fourth, Mr. J. J. Keen. The first prize for the best yellow self Carnation fell to Mr. A. W. Jones, who showed Germania, whilst a similar award for the finest fancy was won by Mr. Chas. Turner with Primrose Dame.

In a class for twelve Carnation and Picotee blooms, dissimilar, open only to those who have never won a prize. Mr. M. Orr, Pemberley Cottage, Bedford, was the most successful exhibitor. Following him came, according to order of merit, Mr. E. Colly Sharpin, 19, Bromham Road, Bedford, and M. V. Charrington, Esq., The Warren, Hever, Edenbridge. Mr. E. Colly Sharpin was also successful in taking the first prize for two cut blooms shown with foliage from any seedling. A first prize was also given to Mr. J. F. Kew, London Road, Southend, for grand samples of his new yellow-ground that exhibited many points of merit. Mr. W. Gilbert, Bishops Waltham, also exhibited several stands of new Carnations and Picotees. First awards also fell to the lot of Aubrey Spurling, Esq., Heath Villas, Blackheath Park, for twelve blooms of Carnations, from any of the classes, arranged with a spray of foliage to Mr. J. F. Kew, for six blooms staged in a similar manner. Mr. W. Rowan carried off the Turner Memorial Prize for the best stand of Carnations, flakes and bizarres, distinct, with twenty-four splendid blooms. Mr. J. Douglas added still further to his list of successes by taking the first awards for twelve trusses of the best self Carnation of the border section, and for nine varieties of flakes, bizarres, or fancies, not less than six trusses of each variety to be shown, whilst Aubrey Spurling, Esq., came in first for six varieties of self-coloured blooms, also suitable for culture in borders.

Mr. Chas. Blick contributed a very elaborate floral dinner table for twelve persons, the decorative material in which, according to schedule, was entirely of carnations and picotees, with of course fern fronds or other greenery. Smilax, Asparagus, Maiden Hair fern, and variegated Honeysuckle were plentifully utilised, although the ultimate effect was somewhat heavy (First award). Second to Mr. Blick was placed Mr. F. W. Seale, Vine Nurseries, Sevenoaks, who had an extremely light and charming combination; third Mrs Morter, The Market, Upper Norwood; fourth Mrs Walter Mole, 22 High Street, Hemel Hempstead. Other very pretty tables were sent by Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, and Mr. A. Bawtree, Blackwater, Sutton, Surrey, M. V. Charrington Esq., had the best vase of Carnations and Picotees arranged with their own foliage, Mr. Jas. Douglas taking second place. Mr. F. W. Seale obtained first award in a class for six button holes of Carnations, and Mr. Charles Blick a like prize for three sprays of blooms not exceedingly twelve inches in length.

In the classes for plants in pots some praiseworthy groups were *en evidence*. Twelve splendid specimen plants were shown by Mr. Chas. Blick that thoroughly deserved the first award they received so well flowered and grown were they, second Mr. Jas. Douglas. A superb group of smaller plants that came from Martin R. Smith Esq., The Warren Hayes, Kent, also obtained a first award.

The miscellaneous exhibits, as has been previously intimated, formed no small portion of the brilliant scene. A grand group of hardy cut flowers came from Mr. B. Ladhams, The Shirley Nurseries, Southampton. Messrs. H. Cannell and Sons exhibited a number of splendidly grown tuberous Begonias of the double flowered section, also cut Carnations of all classes, tastefully arranged with Asparagus. Besides exhibiting in the numerous classes, Mr. Charles Blick showed a considerable number of Carnation blooms arranged in variously-sized bunches that spoke volumes for the wealth of his collection. An exceptionally brilliant display was that of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, N. The dominant feature was cut Carnations of many and varied hues, prettily set up with Gypsophila paniculata, and throughout the whole of the show the bright and showy flower never appeared to greater advantage than it did here. Mr. Henry Eckford, of Sweet Pea fame, brought from his nurseries at Wem, in Shropshire, a very rich collection of these beautiful flowers in a condition that left but little, if anything, to be desired, whilst a similar exhibit came from Mr. W. E. Tidy, Brockhampton Nurseries, Havant, Herts, for which a Bronze Floral Medal was awarded. Hardy cut flowers in fresh and beautiful condition came from Mr. Pritchard's famous nurseries, at Christchurch. Liliums longiflorum, chalcedonicum, auratum, and testaceum being conspicuously in evidence. Several tastefully arranged groups of foliage plants contributed by the Crystal Palace authorities also deserve a need of praise for their tasteful and effective arrangement.

Durham, Northumberland & Newcastle, *July 24th and 25th.*—The grand summer show was held in the Recreation Ground at Newcastle on the above dates. This well known society which was formed as long ago as the year 1824 is the oldest of its kind in the kingdom. It has accomplished a great deal of useful work, for since the date of its inauguration an entire year has not been suffered to elapse without a flower show being held under its auspices. Since 1876 the year of its reorganisation it has been marked by the zeal and vigour which have characterised all its operations, and which have found their latest outlet in the recent grand Newcastle show. At this great floral symposium this season several new features have been introduced with a view to increasing the attractiveness and usefullness of the whole. One of these we were pleased to see took the form of additional inducements to exhibitors of cut flowers to put in an appearance, with the result that cut blooms were present in far greater numbers than they have before been. The classes for table and fire-place decorations were also extremely popular, and the material that they brought out elicited a good deal of well deserved admiration from visitors. Indeed the entries all round were really good; but, while herbaceous plants were present in rather larger numbers than usual, there was a decided falling off of fruit, although the examples forthcoming were all that could be desired as far as quality goes.

One of the most noteworthy exhibits in the whole of the show was that of choice conifers contributed by Messrs. Wm. Fell & Co., of Hexham; for not only was the material of which it was composed in fine condition, but its arrangement was most artistic and well deserving a tribute of praise. Messrs. John Laing & Sons, Forest Hill, S.E., well sustained the honour of the South of England and their own credit by a grand group of tuberous Begonias. Both single and double flowered sections were well represented and this showy subject appeared to very great advantage. Messrs. Kent and Brydon, Darlington, had hardy herbaceous as well as exotic plants in great variety and good condition, likewise hardy cut flowers in fine order. Other firms that were large contributors were Messrs. Laing and Mather, Kelso; W. L. Cocker & Son; Gunn & Co., Sunderland; aud W. and J. Birkenhead, Sale, Manchester.

In the open classes for miscellaneous plants, Mr. J. McIntyre, gardener to Mrs. Gurney Pease, Woodside, Darlington, was the most successful exhibitor, taking first prizes for miscellaneous plants arranged for artistic effect; for foliage plants, Crotons, tuberous Begonias, Liliums in pots, and table plants.

Mr. F. Nicholas carried off first honours in classes for exotic Ferns and plants in bloom. Messrs. Harkness & Sons, Bedale, were placed first for forty-eight cut Roses, dissimilar, whilst Messrs. J. Cocker & Sons, Aberdeen, came in a good second. The latter firm were adjudged to have tbe best thirty-six Roses, dissimilar. Messrs. D. & W Croll, Dundee, had also splendid samples of the Queen of Flowers, taking first for a stand of yellow ones and for teas. Mr. G. Thompson, Newcastle, distanced all other competitors for show Pansies, Mr. Campbell, Blantyre, occupying a like position for fancies. Mr. T. Flowdy, Gateshead, had the best Carnations, and Mr. J. Arkless the finest Picotees. In the classes for floral decorations Messrs. Perkins & Sons, of Coventry, won heavily, taking first awards for a basket of cut flowers, a bridal bouquet, a hand bouquet, and a lady's spray.

In the classes from which nurserymen alone were excluded, the following exhibitors obtained first awards:—Mr. D. Wylam, Shankhouse, for plants in bloom; Mr. J. McIntyre, for foliage plants; Mr. J. Wood, for Ferns; Mr. Edward Callaghan, Benwell Grove, for Coleuses; Mr. R. Elliott, Felling, for Fuchsias; and Mr. J. Morris, for table plants. The most successful competitor in the classes for fruit was Mr. McIndoe, who won the greater part of the leading prizes. He was placed foremost in the collections of eight and also of four dishes, and first awards likewise fell to his lot for two bunches of White Grapes; for green, white, and scarlet-fleshed Melons; Peaches, Nectarines, Cherries, and Tomatos. Mr. J. Tullett, Raby Castle, sent the best Pineapples; Mr. G. Marr, Clitheroe, the finest four bunches of black Grapes, and Mr. Jas. Wood the most praiseworthy samples of White Muscat Grapes.

In the amateurs' classes the various exhibits of all kinds of favourite pot plants, cut flowers (in which Roses played an important part), and vegetables displayed evidences of not a little cultural skill and enthusiasm. In fact, taking the show throughout, the judge's task must have been anything but an easy one, so numerous were the exhibits and so keen was the competition. We are pleased to learn that the Society is in a flourishing condition financially, and trust that it will continue for many years more to carry on the work it has hitherto done so thoroughly and so well, attended by an increased prosperity that shall enable it to still further extend its efforts.

Middlesbrough Flower Show, *July 24th*.—Unfavourable weather attended the fifth annual show of the Middlesbrough Floral, Horticultural, and Industrial Society, which was held at Linthorpe. A drizzling rain fell during the morning, and though the weather cleared up in the afternoon, it remained dull and threatening for the remainder of the day. The show was pretty much on the same lines as last year, the size of the exhibition, number of entries, and quality of the specimens shown being about the same, and there was a good attendance considering the uninviting atmospherical conditions. The show was formally opened by Col. Sadler, with whom was Mrs. Sadler and Mrs. Gloag, the Mayor, Ald. W. L. Taylor, the ex-Mayor (Councillor Baker), and Councillors Forbes, Barron, Keay, and Mattison being amongst the large company.—The President (Councillor Baker), in asking Colonel Sadler to declare the fifth floral fête open, said he was very sorry the weather was not more promising.—Col. Sadler, who was received with cheers, said he was delighted to take part in their praiseworthy effort to establish in that centre a flower and horticultural show. When one considered the grimy and smoky pursuits many of them were engaged in, the association with flowers afforded them by such an exhibition would be found to be an excellent neutralising agent. He thought there was nothing more elevating or harmonising than the cultivation of flowers. He trusted the society would flourish and prosper. In the open section of the Horticultural Department, the leading awards were made to Mr. C. Burton, Seaton, Carew; G. Pinkney, Middlesborough: Mr. W. Knight, Middlesborough; Mr. T. Stainthorpe, Ormesby; Mr. G. Knight, Linthorpe; Mr. F. Ralph, Linthorpe; Mr. R. Dobson, Marton, Sinnington; Mr. T. Gowland, Lazenby; and Mr. W. Clarke, Skelton. There were also sections for Cottages, fine art, industrial products, poultry, pigeons, &c.

Melton Mowbray Horticultural, *July 25th*.—The annual exhibition of the Melton Mowbray Horticultural Society took place in Egerton Park, and was largely attended. The preliminary arrangements had been admirably carried out under the superintendence of Mr. J. French, hon. secretary, and an energetic staff of officers. The exhibits were not so numerous as in previous years, although they compared favourably in point of quality, some very fine specimens of fruit, flowers, and vegetables being staged. Potatos were considerably fewer in number, but were in capital condition, and although fruit was scarce it was remarkably good. Mr. Smith's dinner table decoration was greatly admired, and the grapes exhibited by Mr. Milford were magnificent. Some splendid collections of hothouse plants were shown by Mr. Pacey, Mr. Relf, and Mr. Milford.

Billingborough and Horbling Horticultural, *July 25th*.—The fourth annual exhibition of flowers, fruit, and vegetables was held in the grounds of Captain Ed. Smitb, J.P., at Horbling. The show was considerably larger than any of its predecessors, and the exhibits, especially in the vegetable department, were splendid. In Class A the chief prizetakers were—Captain E. Smith Horbling; Mr. B. Smith, Horbling; Mr. Henry Abbott, Swaton; Mr. G. Chessman, Pointon; Mr. W. Smith, Mr. W. A. Owston, Horbling; Mr. E. Burrand, Billinborough; and Mr. E. Goodacre, Billingborough; and Mr. G. Chessman, Mr. Henry Glenn, Mr. E. Barrand, Mr. E. Goodacre, and Mrs. Pearce. Tbe principal winners in Class B for vegetables were—Mr. T. Barnatt, Mr. G. H. Whiles, Mr. J. Peet, Mr. T. Tebb, and Mr. A. Smith; while Mr. T. Tebb, Mr. W. C. Oxley, and Mr. J. Peet carried off the chief honours for fruit. Four special prizes were given for design in the form of house and garden, and these were awarded as follows:—1, Mrs. Woodcock; 2, G. H. Taylor; 3, Miss Wilson. Prizes for wild flowers arranged by children under sixteen years of age were also given. The show was very largely attended in the afternoon. The Swineshead Brass Band was in attendance. In the evening the band played selections for dancing, and at dusk there was a display of fireworks.

QUESTIONS AND ANSWERS

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

NAMES OF PLANTS.—*G.H.*: Eryngium alpinum, one of the finest of all the species.—*A.B.*: 1, Odontoglossum bictonense sulphureum—a good flower; 2, Epidendrum prismatocarpum; 3, Aerides odoratum; 4, Aerides multiflorum Lobbii.—*J.W.*: 1, Sidalcea malvaeflora; 2, Lathyrus sylvestris platyphyllus; 3, Geranium pratense album; 4, Epilobium alatum; 5, Potentilla nepalensis; 6, Sedum Telephium.—*A.C.*: 1, Spiraea discolor ariaefolia; 2, Rosa rubiginosa; 3, Rhus Continus; 4, Hypericum oblongifolium.

GRAPES GONE WRONG.—*Gardener*: As far as we can see it is a case of shanking, although we cannot assign a reason. There is also evidence that the skin of several of the berries has been injured in the early stages, possibly by scalding. Moisture might have been retained between the berries, just where they touched, and the sun striking upon them strongly would injure the tender skin. This must have been done while the berries were yet quite small, and the skin being unable to swell in places now appears shrunk. The tissue in the centre of the berry is sound and healthy while immediately beneath the skin it is brown. This would point to external injury as above stated. If the border and roots are in good condition, is it a case of overcropping this or last year? It might be that the vines wanted feeding, particularly, early in the season.

FREAK OF PYRETHRUM.—*J. G.*: The specimens you sent are very singular, though we have seen something similar after a dry season. The flower heads are produced on the top of the stems in the ordinary way, when the plants become played out as it were. Later in the season, after the advent of rain, growth is resumed and flowering shoots are produced from the axils of the leaves along the stems of some varieties. Those we noticed produced shoots long enough to be utilised as cut flowers. The specimens you sent differ in having produced flower heads without stalks from the axils of the leaves. They constitute a great curiosity, and you might preserve or propagate the variety for that reason. We do not think the plants would behave in the same way every year. Nor would tbe public generally take to tbe variety, on account of this peculiarity; but some migbt, nevertheless, be greatly interested in the plant, and like to possess it.

COMMUNICATIONS RECEIVED.—A. Hope.—C. B. G. — J. G. P.— Dobbie & Co.—G. W. Cummins.—F. C.—H. C.—A. R. W.—H. J.

TRADE CATALOGUES RECEIVED.

JOHN WALKER, Thame, Oxon.—Descriptive list of Carnations and Picotees.

JOHN WALKER, Thame, Oxon.—Catalogue of Dahlias, Fuchsias, Chrysanthemums, Pelargoniums, &c.,—also catalogue of Roses and fruit trees,—and catalogue of garden and flower seeds.

LONDON SEED TRADE.

July 30th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slower demand for Trifolium incarnatum. Mustard and Rape at unchanged rates. New Trefoil offers freely without finding buyers. New English Italian Ryegrass opens at reasonable prices.

COVENT GARDEN MARKET.

July 31st, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.
Apples.....per bnshel		
Nova Scotia Apples per hartel		
Cob Nuts and Filberts, per 100 lbs.		
Cherries, half sieve	3 6	5 0
Currants, Black...half sieve	5 0	0 0
Currants, Red... half sieve	3 6	0 0
Grapes, per lb.	6	1 6
Pine-apples.—St. Michael's each	2 6	6 0
Strawberries	0 2	1 0
Peaches ..... per doz.	2 0	8 0
Tasmanian Apples, per case		

VEGETABLES.—AVERAGE RETAIL PRICES

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Asparagus,per bundle		
Beans, French, perlb.	0 4	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bnnch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cncumbers .....each	0 3	0 6
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bnndle	2 0	4 0
Lettnces ...per dozen	2 0	
Mnshrooms, p. basket	1 0	1 6
Onlons.....per bunoh	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Smallsalading,punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	0 9
Tnrnips .....per bnn.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d
Asters .. ... per bch.	1 0	1 6
Arum Lilies, 12 blms.	2 0	4 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz.blms.	2 0	3 0
Euoharis ...per doz.	1 6	2 6
Gardenias ...per doz.	2 0	3 0
Geranium, scarlet, doz. bunches	4 0	6 0
Lilac (French) per bch.	4 6	5 0
Lilium lancifolium per doz.	3 0	4 0
Lillnm longiflorum per doz.	2 0	4 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.....	1 0	2 0
Pelargoniums, 12 bun.	4 0	8 0
Primula, double, doz. sprays	0 6	0 9
Pyrethrum doz. bun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
,, Tea, white, doz.	1 0	2 0
,, Yellow, doz. ...	2 0	3 0
,, Safrano (English), doz. ...	1 0	2 0
Red Roses.....	1 0	1 6
Pink Roses	1 6	2 6
Roses Moss, doz.....	1 0	1 6
Roses, mixed, doz.bhs.	3 0	6 0
Smllax, per bunch ...	4 0	5 0
Stephanotis, doz. sprays	1 6	2 0
Tuberoses, doz. blooms	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
,, specimen plants	5 0	10 6
Calceolaria, per doz.	4 0	6 0
Dracaena, various, per doz.	12 0	30 0
Dracaena vlridis, doz.	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, Invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	2 0	10 0
Fuchsia, per doz.....	4 0	8 0
Heliotrope, per doz.	4 0	6 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	6 0
Lobelia, per doz.....	3 0	4 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	4 0	6 0
Marguerite Daisy doz	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	12 0
Rhodanth, per doz.	4 0	6 0
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FLOWER SHOW FIXTURES, 1895.

AUGUST.

3, 5.—Southampton Summer Show.
3, 5.—Liverpool Rose Show.
5, 6.—Northampton Summer Show.
6.—Abbey Park, Leicester Flower Show.
8.—Ramsey Flower Show.
8.—Great Grimsby Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Salisbury Flower Show.
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Weston-super-Mare Flower Show.
15.—Goole and District Flower Show.
15.—Maidenhead, Flower and Fruit Show.
15.—Martock Horticultural Show.
21.—Kingswood, St. George and West Gloucestershire Flower Show.
21,22.—Shrewsbury Floral Fete.
23, 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
27.—R.H.S. Drill Hall Meeting.
28, 29.— Bath Autumn Show.

SEPTEMBER.

5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29 —R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30.—Teignmouth Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days)

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

13, 14.—B'rmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22.—Warwick and District Chrysanthemum Show.
21, 22, 23,—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
6.—R.H.S. Drill Hall Meeting.
9, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

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" " " Red, splendid ...	1	6	10	6
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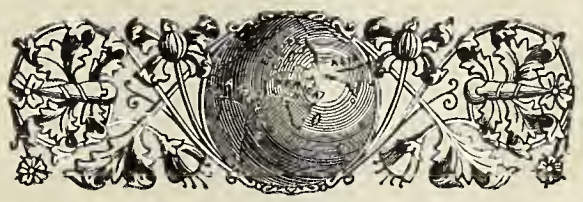


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER F.L.S.

SATURDAY, AUGUST 10th, 1895.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, August 13th.—Royal Horticultural Society: Meeting of Committees at twelve o'clock. West Malvern and Mathon Flower Show.

WEDNESDAY, August 14th.—Flower Shows at Salisbury and Bishop Stortford. Opening day of Cardiff Horticultural Show.

THURSDAY, August 15th.—Martock Horticultural Show. Continuation of Cardiff Horticultural Show. Flower Shows at Weston-super-Mare, Maidenhead, and Goole & District.

FRIDAY, August 16th.—Sale of Orchids at Messrs. Protheroe & Morris' rooms.

JOURNAL OF THE KEW GUILD.—The third annual issue of this journal has just been published, as announced in our previous number. Long looked for come at last will be echoed by the old Kewites all over the globe. The reason for this is not far to seek; for it is virtually an answer to the questions, "where are you, and what are you doing? Unfortunately the echo only answers "where?" in far too many cases. The whereabouts of many are unknown, and the numerous obituary notices too plainly indicate the price in human life, that the mother establishment at Kew pays for her name and fame in the distant colonies all over the globe. Portraits are given of four heroic men—pioneers in distant lands—who met their fate in the early spring of their career—three in tropical Africa and one in India. The record is sufficiently convincing that "not all who go out to Greater Britain win a comfortable competence and old age."

The frontispiece of the journal consists of a portrait of Sir William Jackson Hooker, and following it is a short memoir of that famous botanist, formerly the director and the first one of the Royal Gardens, Kew. Then follows the annual report, and the proceedings of the annual general meeting of the Guild. The notes and correspondence that follow must prove exceedingly interesting to gardeners generally, whether they are old Kewites or not. It is satisfactory to learn that it has been definitely decided to complete the Temperate House, and that both wings are to be built simultaneously at an estimated cost of £12,000. In a note upon the abandonment of green glass for plant houses at Kew an admission is made that "science does sometimes make a "muss" in a garden." We are opinion that unless green glass had previously been tried in some or other garden and found wanting, the use of it at Kew would only have been in the nature of an experiment; and even if such use originated as an idea conceived by scientific men, its failure in securing the desired results cannot be laid at the door of science. What is not actual knowledge, cannot be science. A correct knowledge of the results obtained by experiments, whether made by practical or scientific men, is more of the nature of true science.

Amongst the many improvements that have been effected in the gardens and the working of the same, we cannot overlook the fact that fifteen more gardeners have been added to the staff than formerly, thus raising the number to fourty-four. Trained gardeners now do the work in several departments for which labourers were at one time considered competent. The correspondence contributed by many old Kewites, is extremely interesting and constitutes an epitome of the successes and failures of the world's gardeners, for the old boys have been and are of all nationalities, and white, brown and black skinned. The following extract, taken from the letter of a correspondent in Denmark, no doubt expresses the feelings of many with regard to the journal and the information it contains:—"I had been wondering how fate had dealt with my old comrades, and now here comes the journal with just the information I wanted! Mr. Dewar wielding his sceptre in Scotland; Broadway lounging beneath the palms in the West Indies; Cameron and Canning going ahead in the Far West; Baker residing in venerable Oxford; Mr. Hardy dwelling at the Antipodes—at Mooroopna (what an uncivilised name!); Proudlock eating rice in India, etc., etc.,"

Mr. V. Bouckenhooghe, writing from the Upper Congo, thus testifies the value of Kew as an educational institution:—"What a fine country Tropical Africa is. But above all the manifold phases of nature which you see, that of the struggle for existence is the most prominent and impressive. What strange things one sees, too, among plant life. I regret now that I did not obtain a better grasp of systematic botany whilst at Kew. It is when placed in such circumstances as I am that one feels keenly the want of knowledge which one had the chance of acquiring, but neglected to do so." Not the most important items of information are the above, though vastly interesting. Technical education, we note, has reached the banks of the Nile, and we hope that before many years have passed, it will have reached far Cathay.

Mr. F. W. Moore, the Curator of the Royal Botanic Gardens, Glasnevin, has been elected a corresponding member of the Société Nationale d'Horticulture of France.

The Potato Disease is now rampant in the West Cork owing to the recent heavy rain.

His Grace the Duke of Richmond and Gordon, is providing seats and laying out walks and pleasure grounds on his property adjoining the town of Huntley, to be used by the public.

The Drumblade Mutual Improvement Association offered prizes for the best kept cottage, and for the best kept garden. The awards were made recently, and the winner of the first prize for the best kept cottage also received the Highland Society's Medal.

The Hampton Court Vine, now 127 years old, is at present furnished with 1,200 bunches of grapes, the average number it produces.

Wheat is believed to have been originally a native of Mesopotamia. To the east and west of Western Asia it has probably never existed but as a cultivated plant.

Best kept Gardens.—The Horticultural Sociey of Banchory, N.B., has just awarded prizes to the cottagers of the district for the best stocked gardens, the best kept gardens, and window boxes.

Coffee Planting promises to be the great industry of British Central Africa. The export for 1895 is expected to equal or to be close upon 380,000 pounds. It has been doubling itself annually for the past three years.

A Sugar Maple, measuring 21 ft. in circumference, in Wayne county, Maine, has been furnishing the Davis family with sugar for the last fifty-six years.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will be held on Tuesday, 13th August in thh Drill Hall, James Street, Victoria Street, Westminster. At 3 o'clock a paper by Mr. A. B. Freaman-Mitford on "Hardy Bamboos" will be read.

Acton Show.—We are given to understand that the financial results of this show are unprecedented. There were 3,000 visitors, and the entrance money amounted to £28. This is believed to be due to the innovation of athletic sports in conjunction with the show; a large number of tickets was sold previous to the day.

Importations of Lilium Harrisii bulbs are now coming in to the United States from Bermuda with every steamer. The vessel arriving on the 17th ult., brought over a thousand cases. The bulbs are in splendid condition, surpassing the quality of previous years, and appear to be well cured and ripened.

Forthcoming Floral Fete at Duthie Park.—Arrangements for the Aberdeen Royal Horticultural Society's Show, which is to be held in Duthie Park a few weeks hence, are now completed, A large number of attractions to is be provided, and a display of fireworks will be given in the evening. It has been decided to hand over twenty-five per cent. of the nett profit for the benefit of the Hospital for Sick Children.

Rats, Mice, Voles, and Microbes.—Last year, and at the beginning of the present year, the laboratory of Parasitology of the Paris Commercial Exchange commenced experiments for the extirpation of rodents as mice, rats, field-mice, etc., by means of a virus the nature of which will propagate amongst these animals the germs of a special and always fatal disease. The results given by these experiments prove that with very rare exceptions, owing to imperfect use, the virus gives the expected results.

The O'Mara Water Lily.—A year or two ago Mr. Peter Bissett, of Washington, raised a new hybrid tropical Nymphæa, and named it in compliment to Mr. P. O'Mara, of New York. It has a fine, sturdy constitution, and produces large, showy, red flowers with the greatest freedom. Mr. John McElvery, of Flatbush, who has had it in constant bloom for nearly a year, and with whom we saw it in fine form last winter, regards it as one of the best Nymphæas extant.—*Gardening (American.)*

Golden Wedding Decorations.—At a farm house in the neighbourhood of New York recently, a fine effect with inexpensive materials was obtained by the use of the native Maidenhair fern on a table, in the centre of which was a mass of several hundreds of Coreopsis lanceolata. The table was outlined with the fern, and Roses and Carnations were freely used before the arrival of the guests. The vivid yellow of the Coreopsis was subdued by the fern, so that the general effect was rich without being startling.

Bury Botanical Association.—On the 21st ult., the members of the Bury Botanical Association held a meeting at the Woolfold Liberal Club, Mr. Lonsdale presiding. Mr. Ackroyd, assisted by Mr. Davenport, classified and named a number of plants and explained their medicinal properties. Among the plants were included members of the families Ranunculaceae, Labiatae, Scrophularineae, and Umbelliferae in abundance, mostly gathered by the members of the club. A short lecture on fertilisation was afterwards given by the secretary.

The Marguerite Centaurea.—This charming Centaurea is a variety of C. suaveolens, and originated a few years ago in Italy, where it received a special award from the Horticultural Society of Florence. The blooms are pure white with beautifully fringed florets, sweet scented, and about the size of a border Carnation bloom. They last well in water in a cut state.

Eradicating Charlock.—A farmer in Durham entered upon a new place some four years ago and in the month of June found that his fields of corn were becoming yellow with Charlock or Field Mustard. He finally engaged six Irishmen to pull up the weeds and they placed themselves abreast in touch with one another and pulled up all the Charlock as they went, depositing it at the ends of the field. The following year the field was in Beans, and in the next was sown with Turnips. In both cases the Charlock was easily kept down, and the farmer now hopes he has got rid of it. Time alone can tell; for the seeds retain their vitality a long time.

Colorado Wild Flowers.—The National Educational Association has been in session during the second week of July, in Denver, Colorado. The town has been crowded with nearly fifteen thousand of these guests, ranking from the College president to the country school marm. The decorations were in the hands of a N.E.A. committee, and efforts were made by them to use the Colorado wild flowers and foliage as much as possible. The Colorado Blue Spruce formed the back-ground, and hung in festooning around the sides and from the ceilings of the rooms. On the mantels and tables were placed graceful bunches of Columbine (the state flower) and other flowers peculiar to our Rocky Mountains.

Brookfield Horticultural Society.—The 11th annual exhibition of flowers, fruit, and vegetables in connection with the Brookfield Horticultural Society was held on the 27th ult. at Highgate, in a field lent by Mr. Burdett Coutts, M.P. Amongst the early visitors to the show was the Baroness Burdett Coutts, the patroness of the Society. The exhibitors numbered 115, who between them sent in over 500 entries. The first prize bouquet was presented to the Baroness Burdett Coutts by the exhibitor, Mr. Cram, who had grown all the flowers of which it was composed in his allotment garden.

Serpentine District Horticultural Society.—An interesting feature of the recent gathering of this society at St. Ruan Rectory were the lectures given under the direction of the Helston District Technical Committee by Rev. C. R. Sowell, vicar of St. Goran The first lecture given dealt with the culture of bees, and was listned to with great interest by a good roomful of people, many of whom already knew something of the production of honey, which should be a profitable industry in such a flower-bearing district; but even the most inexperienced could not but be stirred by the evident interest felt by the lecturer in his subject and by the appeal made to the eye by the admirable illustrations provided by the British Beekeepers' Association. A second lecture, this time on "Gardening," was given in the show tent, and was followed by a select audience of practical gardeners, who greatly encouraged the lecturer by the intelligence of the questions they put to him. Such lectures should greatly advance the objects for which these horticultural societies are formed.

Roses in North Devon.—Florists have it that this year has been exceedingly favourable to the propagation of flowers of all kinds, but foremost of all, Roses. In some country districts Roses have flourished in abundance. No brighter sight, nothing more delightful to the eye, that to see the walls of some rustic cottage aglow with the lovely tints of the queen of flowers. During the month of June, the growth of Roses was exceptional. Wear Gifford is as famous for its Roses as the luxurious Strawberry. The dazzling glory of the summer has not left us, though we have the varying changes. In this "garden of England," whilst it has been pleasing to see what is regarded as the national flower in such rich profusion, it is a singular reflection that no definite homage is paid to it. The Irish pay due respect to the shamrock on the day devoted to the memory of St. Patrick, and why should not the Rose be worn in England on a specified day?

Royal Botanic Society.—The 56th annual meeting of the Royal Botanic Society will be held in the Gardens Inner Circle, Regent's Park, on Saturday afternoon the 10th inst. at one. The meetings have been held on the same date since the Society was founded in 1839, but if they were to take place at a more convenient period of the year a much larger attendance of the Fellows would undoubtedly be secured, and it is thought by many that in this and in other matters the Charter might now with advantage be revised. The business to be transacted includes the election of eight members of the council, the presentation of the council and auditor's reports, and the consideration of a resolution to be moved by Mr. J. S. Rubinstein congratulating the society on the great success of the experimental opening of the gardens to the public on the Bank Holidays and other days this year, and recommending the council to admit the public to musical promenades to be given next season on the afternoon and evening of every Monday and Saturday.

Grimsby Gardeners and Amateurs' Mutual Improvement Society.—On the 22nd ult., the final meeting of the first session took place in Ripley's rooms, Mr. Johnson occupying the chair. After routine business had been disposed of, the chairman introduced Mr. Flemming, gardener at Weelsby Hall, who read a paper on "The Culture of the Cineraria." The essayist, in an able and practical manner, dwelt upon seed sowing, kind of compost required, treatment of seedlings, and potting in its various stages, enlarging fully with regard to stimulants required in order to promote sturdy growth and largeness of bloom. He also gave his experience regarding the various pests which attack the Cineraria, and explained how best to eradicate them. A good deal of lively, interesting, and instructive discussion took place, and the essayist was cordially thanked. Before separating it was announced that the president, G. Marshall, Esq., had received a few days ago the Silver Medal of the London Royal Horticultural Society for a staging of Orchids submitted by his gardener, Mr. J. Johnson.

A Terrific Cyclone.—The various American journals, dated 20th July, give an account of a terrible storm of wind, hail, and rain, variously described as a cyclone, and tornado. The hail or lumps of ice were as large as a hazel nut, and destroyed much glass as well as growing crops in New Jersey, Massachusets, Winconsin, and the nothern part of New York City. Some of the crops were only fit for plowing down after the storm. The tornado that struck the region of Ridgewood, New Jersey, on July 13th played havoc and peculiar pranks with gardens, orchards, and especially with the ancient and modern ornamental trees, shrubs, and vines. Whatever escaped destruction by the wind was battered into shreds by the hail which accompanied it. Hailstones as large as medium-sized hen's eggs were abundant, and could be gathered by the bushel two hours after the storm had passed. The greatest destruction of fine old ornamental trees occured on the Grayden place, a half-mile north of the station. These grounds are quite extensive, and were laid out and planted about forty years ago with the choicest kinds of trees and shrubs obtainable at that time. Now all are gone—the evergreens broken up fine enough for kindling wood, and the deciduous kinds turned out by the roots.

Bornemouth Gardeners' Mutual Improvement Society.—The seventh annual excursion in connection with this Association took place on Tuesday, when a visit was paid to Henstridge, where the hospitality of Lady Theodora Guest rendered the gathering one which will long be remembered by all who were fortunate enough to take part in the excursion. The members, to the number of between fifty and sixty, left Bournemouth West Station by the 7.25 a.m. train, Henstridge being reached about

half-past-nine. Here carriages were in waiting to convey the party to Ven House, Milborne Port, Sir Edward Medlycott having kindly granted permission for the members of the Association to inspect his fine gardens and grounds, over which they were courteouly conducted by Mr. C. J. Bower, the head gardener. The weather being fine the drive to Milborne Port was much enjoyed, and the return drive to Henstridge was also a pleasant one. On arriving at Inwood House, the residence of Lady Theodora Guest, the party were received by Mr. T. Wilkins, the head gardener, who piloted them round the kitchen garden and through the glass houses, of which there are no less than twenty-six. The magnificent collections of plants, Palms, Ferns, &c., (collections probably unequalled in this part of the country) were greatly admired, and those well qualified to judge and criticise were unanimous in oheir approbation of all that there was to be seen. At one o'clock the company gathered together in a marquee erected near the house, where they partook of Lady Theodora Guest's hospitality in the shape of a splendid luncheon served up by Mr. Clark (the house steward) and Mrs. Ball (housekeeper). The hospitality of Lady Theodora Guest was further tested by the provision of a capital tea, which was done thorough justice to. After enjoying one of the pleasantest possible "outings," the members returned to Bournemouth by train, reaching home about ten o'clock.

EXAMINATION IN HORTICULTURE.

ROYAL HORTICULTURAL SOCIETY.

THE results of the examination in horticulture, held by the Royal Horticultural Society, have been issued. The candidates came from various widely separated districts in England and Scotand, and as far as England is concerned 122 of the students passed, twelve of them in the first-class, thirty-seven in the second, and seventy-three in the third. Of those who passed first-class, Kent and Surrey furnished five each, and Leicester and Norfolk one each; a third of the whole in this class were women, and the list was headed by Miss A. U. Gulvin, Kent, who had 260 out of a possible 300 marks, and secure the Royal Horticultural Society's Medal. Of the thirty-seven which passed second class, six were women. Surrey furnished seven out of the thirty-seven students; Kent and Staffs, six each; Essex, Suffolk, and Yorks, three each; Norfolk, two; and Leicester, Glamorgan, Hants, Herts, Cheshire, Devon, and the Isle of Man, one each. Of the seventy-three who passed in third class thirteen were women. Surrey heads the list with twenty-five successful students; then comes Kent with seventeen; Staffs, seven; Essex and Herts, five each; Leicester, Suffolk, Yorks, and Cheshire, two each; Lancs, Middlesex, and Hants, one each. Taking the 122 who passed, eighty-one per cent. of them in round numbers were men, and nineteen were women. What are all the other countries doing towards providing their teeming populations with a proper education? Surely all of them have gardeners fn their midst. At the examination eight questions in the Elementary Principles of horticulture were set, and the students were only desired to answer four, one question being compulsory. A like number of questions in Horticultural Practice was set, and only four of them were to be answered, the students making their own choice.

SUMMER SCHOOL OF HORTICULTURE.

In our last issue we gave an account of the Summer School of Horticulture at Chelmsford, organised by and under the auspices of the Essex County Council The results of the examination held on July 20th were issued too late for publication in our last number; and we, therefore, now publish the results from *Biology Notes* as follow:—

FIRST CLASS.

1. W. H. Patterson, Colchester.
2. B. W. Bull, Ramsden.
3. A. W. Day, Stock.
4. O. D. Carter, Great Baddow.
5. H. Kingham, Woodford.
6. F. H. Harris, Chelmsford.

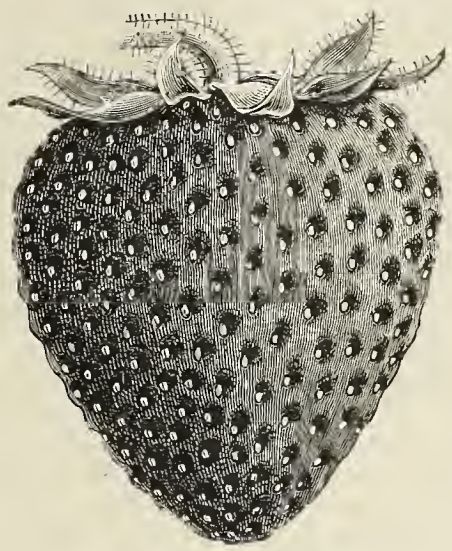
SECOND CLASS.

7. F. L. Coote, Ingatestone.
8. A. Feast, Chigwell.
9. F. P. Burton, Wickford.
10. H. J. Parmenter, Braintree.
11. C. B. Smith, Birch.

THIRD CLASS.

12 { A. F. Smart, Chigwell.
A. Valentine, Braintree.
14. H. Sparkes, Wakes Colne.
15. F. J. Stock, Takeley.

The students in every case seemed anxious to learn and willing to work. They were always ready to follow instructions, and invariably carried them out to the best of their abilities. They expressed a wish to continue their studies, and a home-study course is being arranged for them. The first lesson of this course is given in the present number of *Biology Notes*.

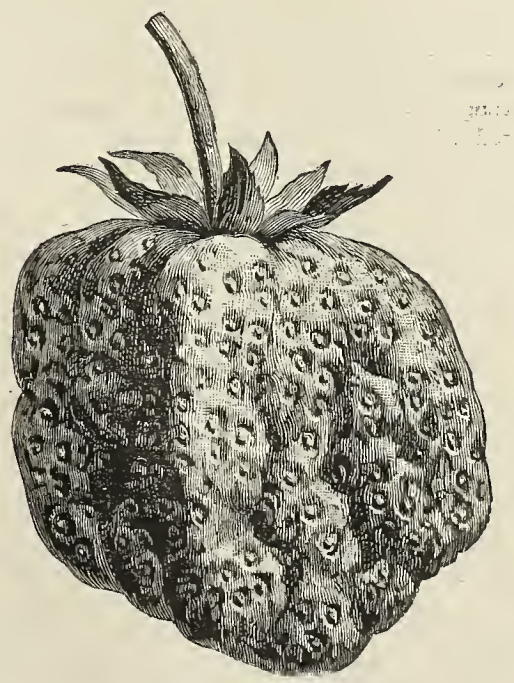


SCARLET QUEEN STRAWBERRY.

MESSRS. CUTBUSH & SON'S STRAWBERRIES.

IT is well known that Messrs. Wm. Cutbush & Son, Highgate, London, N., are very energetic in putting new varieties of Grape vines into commerce; but they are also notable for the large collection of Strawberries which they keep in stock and cultivate. The list of varieties is lengthy, but it will suffice to say that all the best of the standard sorts in cultivation are retained, while the same may be said of those that have been acquired in more recent years, and which are notable in many cases for the huge proportions which they attain. Vicomtesse Hericart de Thury, Sir Joseph Paxton, President Keen's Seedling, British Queen, Black Prince, Auguste Nicaise, and Elton Pine, amongst old sorts, still attest their value for general cultivation and will doubtless hold their proud position for many years to come. Amongst the newer varieties that are now becoming well-known in every garden abreast with with the times, are Royal Sovereign, Gunton Park, King of Earlies, Lord Suffield, Noble, Sensation, White Knight, and Empress of India. Several of these are well adapted for forcing while a still greater number is in the front rank for size.

It was well proved last winter that the new variety, Stevens' Wonder (see illustration), is well adapted for forcing, seeing that it was extensively grown and forced for market by a market grower. Dishes of fruit and plants in fruit were exhibited at the meetings of the Royal Horticultural and Royal Botanical Societies, early in last spring, at which time we fully described the variety in our pages. It is a prolific bearer of large fruits, which, though pale in colour, are of good flavour, highly perfumed and sufficiently firm in the skin to carry well to market. The stock of this has been acquired by Messrs. Cutbush, who are growing it largely. Another new variety is George Rundle, which is considered an improvement on British Queen. It was raised by Mr. George Rundle of Chrysanthemum fame. It bears heavily, and has large, light red fruits of excellent flavour, and often weighs over an ounce. Scarlet Queen (see illustration), is a beautiful Strawberry, regular in form, bluntly conical, earlier, and of better flavour than Sir Joseph Paxton to which it may be compared. It is remarkabably early, richly coloured, and the vigorous plants bear very heavily. We are indebted to Messrs. Cutbush for this opportunity of figuring the two varieties accompanying these notes.



STEVENS' WONDER STRAWBERRY.

THE RETIREMENT OF MR. A. F. BARRON.

IT will come as a surprise to many of our readers, to whom Mr. Barron's name has been as a household word, to hear of his retirement from the superintendence of the gardens of the Royal Horticultural Society at Chiswick. For the past thirty-five years Mr. Barron has been loyal to the cause of the Society, both under affluent and adverse circumstances, as, for instance, when dragging along a doubtful existence under the wretched management at South Kensington. We take it for granted that the Council of the Royal Horticultural Society have given the matter their fullest consideration, and have not taken this step without being convinced that material advantage will accrue to the Society and all concerned by way of compensation for such a far reaching change.

Practically a life time of invaluable services, has to be placed in the balance, when calculating the indebtedness, the Society owes to a faithful servant. The older members, at least, of the Council cannot have forgotten Mr. Barron's services on various occasions to the cause of pomology, fruit culture in general and grape growing in particular. He came to the rescue of the first plantation of vines in the big vinery at Chiswick, when that was obviously a failure. His book on *Vines and Vine Culture* is admitted to be the standard work on the subject, in other countries than Great Britain. Even if that is claimed to be outside his official duties, the same can hardly be admitted for *British Apples* which appeared more recently.

Coming to practical work of more recent times, we have seen more than one vinery filled with flourishing and fruitful vines. The trials of Peas, Potatos, French Beans, Scarlet Runners, Cabbages, Strawberries, Tomatos, Figs, Peaches, Apricots, Apples and Pears have been conducted fairly and equitably on a more or less extensive scale. The collections of Apples and Pears, but particularly the former, have been greatly enriched by the addition of expanding plantations of healthy and fruitful, young trees on the dwarfing stocks instead of the cumbersome old trees that have been gradually disappearing. Need we refer to the extensive trials of Dahlias, Phloxes, perennial and China Asters, Violas, Paeonies, Carnations, Sunflowers, Sweet Peas, hardy Annuals, Cannas in pots and others that have been described in our pages for many years past. All these things speak for themselves, and urge that the principal worker should neither be overlooked nor allowed to go unrequited. Mr. Barron's services to the Gardeners' Orphan Fund also give him a claim upon the recognition of all concerned.

POPULAR FLOWERS AT EYNSFORD.

SOME time ago we had the pleasure of walking over and inspecting the nursery and seed farm of Messrs. H. Cannell & Sons, at Eynsford, Kent, but being pushed for time owing to other engagements we have been unable hitherto to utilise our notes. The drought which prevailed at the time has come to an end, and the various subjects in the open ground

must now be looking finer than when we saw them, at least, those which are still in season. Many of the flowers named below will sufficiently indicate the date of our visit. The Violas and Pansies must be much finer, for they delight in moisture. About two acres of ground are devoted to the cultivation of these popular flowers, and take a man's time and labour to look after them. About 8,000 cuttings were wintered in one house, the varieties, including the best of the more recent varieties, both rayed and rayless, being very numerous. A large proportion of the stock is grown on a wide border between two hedges. Eynsford Sweep looked very sooty in juxtaposition to the creamy-white Countess of Hopetoun. Other kinds flowering very freely here were Ariel, blue and white; Lottie, dark violet; Chelsea Belle, an improvement on Bluebell; also here, Sylvia, creamy-white; True Blue, a rich blue and floriferous sort; Chieftain, darker than Blue King; Cliveden Blue, Souvenir, large light blue; and The Mearns, one of the dwarfest and most floriferous of the particoloured kinds. The beautiful rosy Wm. Neil did not like the dry weather, but is perfectly happy now. Duchess of Fife, Ardwell Gem, and the pale blue or lavender Duchess of Sutherland were, on the contrary, remarkably floriferous. Purpurea is a bright purple self, while Archibald Grant is an intense violet-blue. The flowers of Miss Cannell were large, pure white, with a large golden eye, very floriferous, and made many of the so called white varieties look pale by comparison. We noted a curiosity in the old-fashioned double Pansy.

On passing from this border to the low grounds in the bottom of the nursery we came upon a large plantation of Violas which had been planted the previous year. As a considerable number of them have already been mentioned, it is unnecessary to repeat the names, suffice to say that they were remarkably floriferous, and Miss Cannell here again sustained its reputation and could be singled out even at a distance by the quantity of flowers it produced and their purity. A large collection of fancy Pansies in frames arrested our attention by the size and rich colours of their flowers as well as quality. They had been better looked after in the matter of watering. Close by were other frames containing a collection of the new race of rayless Violas, so charming in their refinement. Border Witch is a huge white flower clouded with light blue, Queen of the May is creamy with a golden lip, Oriole is yellow with a golden lip, and Grander is a very choice pure white one. Pride of Etal is blue with a white centre and quite new, as many others are. The soft lavender flowers of Princess May are furnished with a yellow blotch. Blue Gown is one of the best of the dark blue rayless sorts. Old Gold is still a gem amongst the "miniature" race.

Large plantations of seedling Carnations were remarkably floriferous, though few of the blooms were then expanded, and showed great variation in habit. One lot consisted of seedlings of the Malmaison race, and another batch had been raised from Mr. Martin Smith's seeds. About an acre of Paeonies which had bloomed splendidly was just passing out of season. Amongst herbaceous border plants proper we noted fine Cup and Saucer Campanulas, Geraniums, Oriental Poppies, a collection of Irises, Leucanthemum grandiflorum like a great Ox-eye Daisy, Erigeron philadelphicus, Campanula persicifolia in variety, Heuchera sanguinea, the double pure white Dame's Violet, and many others. There was about an acre of Violets proper recently planted, including the splendid Californian Violet and the still better Princess of Wales, both grown in quantity. Not far off was a fine plantation of Intermediate Stocks of good quality in bloom. In a sheltered situation was a fine plantation of Onions, which had been sown under glass early in the year and planted out later on. Even at the early period of our visit some of the bulbs measured 7 in. in circumference, and would have taken a lot of beating at that time.

From thence we passed up the hill to the hothouses overloking the valley. Here were two houses, each 100 ft. long, filled with a new variety of Tomato raised in Denmark and named the King. They were planted on raised but solid benches, and were remarkable for their dwarfness, short nodes, fine leafage, and fruitfulness, the lower clusters almost touching the soil. A house was occupied with young Vines, and another with tuberous Begonias planted out. A fine batch of an early Wallflower, that originated in France and had been sown early this year, was passing into seed. A houseful of Stocks also grown in pots, including Intermediate and Ten Weeks varieties, was very interesting. Amongst others we noted the pure white Princess Alice, Fire King, crimson and notably dwarf, being only 6 in. to 8 in. high even under hot-house culture. Interesting also was the soft buff-pink Isabel. Both the Tomatos and the flowers under glass are cultivated for the production of seed and promised well at the time of our visit.

GARDENS AND THE DROUGHT.

The long severe period of drought during the past season will long be remembered by many horticulturists—aye, and judging from the dwarfed Oats, Barley and Wheat, so general in many districts, many farmers will not readily forget the summer of 1895; while Turnips and some other green crops are failures in many districts. I am able to say that I never saw these finer, and Potatos also, than in some large fields in the Stirling district. In gardens, fruits, flowers and vegetables often suffer from drought, especially where ground is light and poor. We were without rain to moisten the ground under the surface more than an inch deep, from early in May to well into July. I could not say that there was real suffering of vegetation, and at present I do not remember having better vegetable crops. Celery well mulched and planted in ridges of three and four rows, Cauliflowers, Peas, Turnips, and most other crops were never more satisfactory; deeply trenched ground has most to do with this. Watering was only done at the time of planting or sowing.

Small fruits were never larger nor in greater quantity. Flower beds and borders suffered a little at first, but soon were in active growth. Herbaceous borders have filled up well, Paeonies, Asters, Delphiniums Potentillas have been extra robust. Pansies which have flowered from April are getting towards their best and likely to be a mass of inflorescence till checked by frost. It is incomprehensible why so many cultivators of these beautiful and most popular of flowers, do not make special preparation in their beds and borders for them. Deep trenching, liberal supplies of decayed manure, the seed pods kept off as soon as the flowers fade will, in any locality, secure a long season of abundant inflorescence. From Rothesay while I write, I have before me a selection of Violas, beautiful and fresh. The two recently certificated at the Newcastle-on.Tyne exhibition, and raised by Mr. M. Cuthbertson, have created quite a sensation at that well-known grower's nurseries, and at the public park, Rothesay, and are very beautiful. The purple blue William Haig is an acquisition, and Mrs. R. Kennedy Mitchell red and purple with white centre is a most attractive variety.—*M'Temple, Carron, Stirlingshire, N.B.*

FRUIT UNDER GLASS.

Peaches.—As soon as trees in the succession houses have been relieved of their burden of fruit the same treatment as was accorded the earlier ones must be given to them. The trees should be syringed regularly and well, and the borders examined to see that they have not been allowed to get too dry during the time the fruit was ripening. If so they must be thoroughly soaked with water. Air should be admitted with all freedom, for now that the present season's crop has been secured, all attention must be turned to the furnishing of the rest, and if this is to be likewise satisfactory the wood must be healthy and well matured.

Strawberries for Forcing.—By this time the layers should be well rooted, and therefore no time should be lost in transferring them to their fruiting pots, as it is necessary to allow a good long season of growth for the production of strong reliable crowns. Six-inch pots are the ones generally used. It is important that these should be dry and clean, whilst if new from the potteries they should be soaked for a while in water before they are used. Having regard to the natural thirstiness of the Strawberry, and the large quantities of water that have to pass through the pots during the forcing period, it is almost unnecessary to say that efficient drainage is a great desideratum. The soil should consist of the best loam procurable, nicely chopped up by means of the spade, to which may be added a third part of dried cow manure, a little coarse river sand, and a liberal sprinkling of soot. The whole should be well mixed up before potting is commenced.

Firm Potting is essential, and if the compost is not too wet at the time of using, the handrammer may be plied fairly freely. Carefully avoid filling the pots too full of soil. In all cases the surface of the latter should be fully half an inch below the rim of the pot, thus allowing sufficient room for enough of water to be given at one application to thoroughly soak the ball.

Varieties.—The varieties of Strawberries now upon the market is legion; but it does not follow that all of them will force well by any means. Indeed the number that will stand this treatment, and yield satisfactory crops, is comparatively limited, although sufficient for all purposes. Sir Joseph Paxton, Keen's Seedling, and Vicomtesse Hericart de Thury have won for themselves golden opinions from hosts of cultivators as to their good forcing qualities, and we question if their superiors are yet forthcoming. Laxton's Noble also stands forcing exceedingly well, although now and again we hear a murmur or two that its flavour is not so good as it might be. Other good sorts which can be confidently recommended are James Veitch, Sir Charles Napier, President and La Grosse Sucreê.—*A.S.G.*

HARDY FRUIT GARDEN.

Raspberries.—In some localities where it has not been possible to give these plenty of water, the crop has been a decidedly scanty one; but in others where water has been given, followed by good mulchings of short manure, plenty of fine fruit has been gathered. Now, however, the season is well nigh over, and steps may therefore be taken to relieve the stools of some of the strain by cutting out the old canes from which the fruit has been gathered. The canes which have been produced this season, and from which next year's supply of fruit will be obtained, may likewise be thinned out somewhat. Five or six growths may be left to each stool, tying these neatly up to the stakes or espalier wires, whichever it may chance to be. All the energy of the plants will thus be turned towards developing and maturing these chosen canes.

Strawberries.—The old stools which it is decided to leave for another season to produce fruit for preserving purposes may now be trimmed neatly up with a sharp knife, removing the greater portion of the old leaves together with all runners, the rooted layers having been previously removed with a trowel. All the rubbish may then be carted away and burned, the spaces between the plants hoed and cleaned, and things will be ship-shape once more.

New Plantations.—As advised in the previous calender, the beginning of the present month is the best time to make these, and if the instructions for the preparation of the ground have been followed, everything will be in readiness for planting. Some growers adopt the practice of putting three plants together, but we prefer the plan of planting good strong plants singly. As a rule two feet between the rows, and from fifteen to eighteen inches between the plants will be enough of space to allow for varieties of ordinary habit; but in the case of especially vigorous sorts on extra rich land, a few inches more room either way may be given with advantage. As to this, however, the cultivator must use his own discretion. The runners which have been allowed to root themselves in the existing beds will, if carefully lifted with a good ball of earth attached, start away quickly and well. For this purpose a day should be chosen if possible when the soil is nicely damp from previous rains, for then the young plants can be lifted with the least likelihood of their coming to grief. Still, as we have intimated in previous issues, where the time can be spared to layer the plants into pots a great deal is gained; for no matter how carefully the runners are lifted from the open they are almost sure to receive a slight check, of which there is but little fear with the plants in pots, seeing their roots are practically not disturbed at all. Another advantage which the latter practice has over the former, moreover, is that it admits of the old plants being trimmed up or removed entirely which ever it is proposed to do, rather sooner than can be done if

he runners are allowed time to root into the soil naturally.

As to varieties.—There are now a host from which to pick and choose, and although like the boy with the biscuits, all may be good, some are decidedly better than others. The particular locality, together with other items of soil and situation, has of course, a great deal to do with the comparative merits of different sorts. From among the following, which have established a reputation as good all-round Strawberries, a selection may be made. For early work, King of the Earlies, Laxton's No. 1, Laxton's Noble, Royal Sovereign; for midsummer crops, Dr. Hogg, President, James Veitch, Sir Charles Napier, Sir Joseph Paxton, and the white Picton Pine; and for late sorts, Frogmore Late Pine, Oxonian, Laxton's Latest of All, and Helene Gloede.—*A. S. G.*

THE FLOWER GARDEN.

In many cases there was a scarcity of plants at bedding-out time, and thus they were planted rather farther apart than usual, the gardener trusting no doubt, that they would soon cover the additional space, for where the plants are put in thickly in the first instance, so as to produce an immediate effect, they usually get pretty crowded by the end of the summer. This year, however, the dry sesson has prevented them from growing so freely as usual, and up to the middle of July many beds looked rather scantily furnished. Since then, however, a different tale may be told, for the lovely rains, assisted by the natural warmth of the ground have set things moving at an extraordinary rate. The grass, too, has recovered from its leaking in a marvellous manner, and the mowing machine and the scythe are having a busy time of it. Weeds, moreover, are growing apace, and their destruction, either by hand picking or by means of the hoe, will be an every day occupation.

Hollyhocks.—Such noble plants as these should find a home in every garden. It is true that they are somewhat stiff in habit, but they look very stately when growing in the background of the herbaceous border. It should be seen that they are provided with strong stout stakes, also that the ties are not too tight about the swelling stems. Eyes may now be taken from the side shoots if they have become sufficiently matured. These should be dibbled into a compost, consisting largely of sand, covered with a bell glass, and kept close and moist until rooted. Sometimes a very good "strike" will be obtained, at others, a comparatively low percentage will root; but still the system is well worth a trial.

Wallflowers.—These are indispensible for spring flowering, and therefore every care should be taken to obtain good strong plants. The hoe should be kept well at work among the beds where they have been planted out, weeds kept down, and plenty of air and light thus given. If later sowings have been made, no time should be lost in dibbling out the seedlings on a prepared position. The rows may be about a foot apart, and nine inches of space must be given between the plants. By careful attention to watering, these later ones will not be very far behind the plants obtained from earlier sowings.

Violas.—If these have been planted thickly they will have grown pretty closely together by this time, and thus a judicious thinning of the growths will be advisable. The beds may look a little ragged for a day or two afterwards, but they will soon get over it, and will look all the better eventually for the trimming.

Gladiolus.—This splendid autumn flower is just commencing its brilliant career, and in various places we have noticed some fine rows and clumps of our old friend G. Brenchleyensis, with its rich crimson-scarlet flowers. A little liquid manure now and again, as required, will materially assist in developing fine flowers spikes.

Scillas.—These bright-faced children of spring are everywhere welcome, and not only do they look exceedingly well when growing in clumps in herbaceous border, but they are none the less delightful when partly naturalised in parts of the pleasure grounds. They may be planted with fine effect in batches in corners of lawns, rockeries, or hardy ferneries. A little outlay in this direction is money very well spent, as a large number of bulbs may be obtained for a comparatively small sum. For naturalising, our native S. nutans is a splendid subject, as it is of hardy constitution, and will grow almost anywhere. Where it is decided to plant upon the grass, the turf may be lifted, the bulbs scattered about and then the turf relaid on the top of them. It is rather a long operation to dibble in each bulb separately, and as good results as could be desired may be obtained by the former, and the more expeditious method, there is no need whatever to go to all the trouble entailed by the adoption of the latter mode.

Liliums.—As first come first served is the motto upon which most dealers in bulbs work, it would be unwise to delay the order for Liliums for outdoor planting for too long, as the first consignments received usually contain the best material. Included in the genus are many magnificent plants which are well worth growing in any and every garden. Some of the best are L. auratum, L. croceum, L. candidum, L, chalcedonicum, L. davuricum, L. Hansoni, L. elegans, L. e. bicolor, L. pardalinum, L. longiflorum Harrisii, L. pomponium, L. Martagon and its white variety L. M. album. This list might be considerably extended, but the garden that has even this number of Liliums may be regarded as being fairly well off, and will certainly not be devoid of charm or variety next season.—*A. S. G.*

THE KITCHEN GARDEN.

Onions.—The storing of spring sown Onions will soon demand attention, as the season being an early one the growth will be completed somewhat earlier than usual, and if there is any delay in taking up the crop when fully matured a second growth may result, which may ultimately ruin them, now that the ground is well saturated with moisture. The crop this season, so far as I have seen, will be a light one; the long and severe frost almost completely killed those resulting from the autumn sowing; then the continued drought reduced considerably the spring sown ones, therefore the necessity of using the utmost care in harvesting the crop; and it will be time well spent.

The value of sowing a considerable quantity under glass in the spring, and planting out when duly prepared, has more than ever been demonstrated this season. Lately when visiting a well-known garden my attention was drawn to the Onions growing under three different methods; the first was those transplanted from what was left of the autumn sowing in April; the second lot was sown out of doors in the usual method about the same time; and the third had been raised under glass in the spring, and duly planted out. The last method is by far and away the best in this case, the weight being more than three times as heavy as the autumn sown ones, which in turn was better than those sown outside in the spring. When drawing the crop it will be well to go over them at two or three different times, taking only those that have become ripe, and placing them in any position where they can be kept free from rain, but can command as much sun and light as possible, finally tying them in ropes, and hanging them in a dry airy shed.

It will now be safe to make a sowing of Winter Onions, continuing at intervals of ten days for three sowings. Care should be taken that the ground is well dug, and if dry trampled well before sowing. The lines may be drawn 15in. apart and about ½in. in depth, sowing the seed moderately thick and neatly covering it in with the feet. Varieties of Onions are very numerous, and for present sowing Sutton's Selected Giant Lemon Rocca is a good hardy sort, and moreover a beautiful Onion when well grown. This variety for early exhibitions is quite the best that I know. Other varieties worth sowing now are White Lisbon, Cranston's Excelsior, and Improved Reading. Where Onions are specially grown for exhibition they will require careful handling from now, as with the ground and atmosphere so moist as at present, the bulbs will be liable to split in two. Where there is any sign of spliting, or a second growth taking place, discontinue feeding, and with a fork partially ease them from the ground, which will be the means of checking the supply of sap, and also of maturing the bulbs without loss. Much better to have a medium sized Onion well finished, than one larger but having no other quality than size.

Spinach.—For a supply of winter Spinach no time should be lost in making the first sowing, if not already done. An open position and ground that is fairly rich and in good heart will suit this crop best. Continue sowings every ten days till the middle of September in rows 18 in. apart, and gradually then out in the rows to 4 in. or 6 in. Of varieties of Spinach I like the Victoria best, but the Prickly and Round are also very good and reliable.

Potatos.—Continue the lifting of early Potatos as soon as they become matured, as no good can result from leaving them in the ground when ripe only to become a prey to the disease and start into a second growth. Those required for seed fully expose to the light to become green; when in this condition they keep much the best.—*James Gibson, Devonhurst, Chiswick.*

A FREE-FLOWERING STEPHANOTIS.

The genus Stephanotis comprises about fourteen species of tall, twining glabrous shrubs, natives of tropical climes, but only two species are in general cultivation. The one, however, which seems to enjoy the largest amount of patronage is S. floribunda: and this appears to have been introduced into this neighbourhood about fifty-five years ago by the late Mrs. Lawrence, of Ealing Park. S. floribunda is a native of Madagascar, and is still a great favourite with those who love purity of colour and richness of fragrance of a certain, not to say peculiar, sort. It is, in fact, the florist's friend; for who would think of making up a wreath or cross without the aid of the clustered wax flower, or, as it is sometimes called, the Madagascar Jasmine!

Well, I suppose, there are good and bad varieties even of this normally free-flowering Stephanotis, but, it is quite certain that Mr. Chandler, gardener to Major Wilkinson, of Springfield Park, Acton, W., does not possess an inferior sort. A recent visit more than sufficed to disprove this for the wires of the little span roofed house—about 12ft. by 15ft.—were literally covered with the pure white waxen bunches of this strongly perfumed Asclepiad. But that is not all, for Mr. Chandler avers that he has already picked, at least, three pails full! This freedom of flowering and absence of mealy-bug he attributes chiefly to the *low* temperature to which the plant is subject. The roof, too, is only lightly shaded with a "summer cloud," and the growths, in consequence, are sturdy and strong, while the flowers are vigorously produced in cymes or clusters, from five to eight in number. The variety is doubtless Elvaston. It is, moreover, growing in a 12-in. pot, which is plunged in a centre bed of mere rubble, on which are placed Maidenhair Ferns, &c. It has occupied this position for the last three years, is kept very dry at the roots in winter, and receives a top-dressing annually of Clay's Fertilizer mixed with powdered charcoal and fibrous loam.

This house—and another adjoining it—is heated only by a small Loughboro' boiler with a 4-in. flow and return; and, efficient though this is in ordinary weather, yet several times during last February the thermometer indicated two degrees of frost! And, further, for over two months there has been no fire-heat whatever; hence it would seem to follow that, an established plant of Stephanotis floribunda Elvaston var. does not require the high temperature which is invariably recommended. For these details I am indebted, not only to the gardener but to the Major himself, who courteously acceded to my request for information.—*C.B.G,*

DOUBLE PETUNIAS.

The double Petunia, it goes without saying, is not found growing wild in its native land (Brazil). It is the product of civilization, and the art of man; and, although it is not seen quite so frequently at our exhibitions, perhaps, as it used to be, it is still in some places, very much to the fore. At the late Acton Show it was much in evidence, the first prize going to Mr. Chandler, gardener to Major Wilkinson, Edendale, Springfield Park; who exhibited half-a-dozen well-grown specimens of this useful and effective plant.

The varieties, however, were not so good as might have been expected, although some were beautifully fimbriated and otherwise veined and splashed; it was the cultivation which appealed to me; and through Mr. Chandler's deference to my enquiries I am enabled to offer the following *modus operandi* to those whom it may concern. The cuttings, then, were taken in the second week in March; potted singly into small 60's; plunged into gentle bottom-heat, and transferred to other pots and the cool greenhouse as the young plants advanced. Pinching back, of course, was resorted to; and after the final potting (the compost for which consisted of nodules of fibrous loam and powdered charcoal), they received a light, airy position in a cold greenhouse. The pots used were 9 in.; a subsequent application of Clay's, and the necesary attention to other details produced on the day of the show, the coveted reward. When I say that these specimens measured from 2ft. 9in. to 3ft. in diameter, I think I am stating a creditable performance.—*C. B. G.*

HINTS FOR AMATEURS.

DAHLIAS.

THE Dahlia season will soon be upon us, that is to say the particular time of year during which the showy flowers monopolise a good deal of the space at various flower shows, and not a little of the attention of visitors thereto. Now the Dahlia is a splendid amateurs' plant, and is an honoured and a conspicuous occupant of many a small garden. The great grievance that many growers have to urge against it is that its blooming season is nine times out of ten materially shortened and brought to an untimely end by the intervention of sharp frosts from the beginning to the middle of September. Last year, however, was a singular exception, for, although in one or two exposed localities sufficient frost to spoil the Dahlias was experienced early in the autumn, in the majority of cases the season was mild and open, and we were able to cut good blooms as late as the end of October, and in some instances well on into November. This, of course, was an exceptionally favourable season, and it is scarcely likely that we shall get another like it for some time to come.

The great point therefore in Dahlia growing is to get the plants as far forward as possible in the spring, so that they shall commence to flower early, and thus allow themselves a long period for blooming. Already they have made their appearance upon the show tables this season, one of the first exhibitors upon the field being Mr. J. Walker, of Thame, Oxon, who had three stands of show and fancy blooms at the recent show of the Carnation and Picotee Union held at Oxford. This example will, no doubt, be followed extensively ere long, and even during the past week, in looking round a local show, we found several exhibits of Dahlias; but although those of the show and fancy section were passable, Cactus varieties had evidently been cut too soon.

As far as soil goes it is scarcely possible to make it too rich, and the addition of plenty of well decayed manure is an essential feature. Where planting in masses is practised the soil should therefore have been thoroughly prepared by manuring and deep digging or trenching last autumn or early in the spring. Where, as is often the case, the plants are dotted here and there in the herbaceous border, this mode of treatment is on the face of it impracticable. Still, if holes are dug at the places where it is proposed to plant, a layer of manure may be put in and the soil returned to its place again. This must be done, however, at least a month or two before planting out is thought about.

As a rule, the plants will have been consigned to their flowering quarters at some time from the middle of May to the beginning of June; possibly at the former season, as the weather at that time was very warm and inviting. Where preparations of the kind suggested have been made they will have stood the plants in good stead during the hot dry June and former half of July. The recent rains too have improved matters considerably, and although the plants, if anything, are somewhat dwarfer than they are during ordinary seasons, the difference is one of but little moment. Any position will suit them, although they much prefer a light open one not overhung or shaded by trees, although the slight shelter from a hedge or shrubbery in the back ground is often of very great service, more especially if the weather happens to turn cold, and dry cutting winds prevail immediately after planting out.

STAKING.—This will need constant attention, for the growths although heavy are succulent, and not very strong, and in the event of the visit of rough winds and storms of rain will be sure to sustain damage. Sometimes two or three stakes will be needed, at others one will be enough. In tying, however, the operator must at all costs avoid the bunching up process that we see now and again put into practice, not only in cottagers' and amateurs' gardens, but also in some of the more pretentious establishments. In the former case it may be ignorance, in the latter it can be nothing but neglect. But whether neglect or ignorance is the cause of the evil, plants so treated look miserable enough. It is by far the better plan to take each main shoot separately and secure it by a single ligature to the stake or stakes, for although it may take a little longer time, and time as we all know is very often an exceedingly precious commodity, the results achieved look much better and, we may add, far more workmanlike. See to it therefore that the plants are gone over at intervals and all the leading shoots at least secured from possible adversities.

THINNING THE GROWTHS.—In most cases a little of this kind of work is necessary, more especially perhaps with old plants carrying a score or so of tubers from last season. But for plants which are being cultivated with a view to the procuring of a few large flowers for exhibition purposes, it must be consistently looked after if success (and success here means perhaps the winning of a coveted prize and the consequent procedure of crowing over my neighbour opposite, whom I beat, sir, fairly and squarely) is to crown the efforts of the aspiring and enthusiastic cultivator. In the first case therefore all lateral growths must be kept pinched out before they have reached any great size. Secondly, the main shoots may be considerably reduced in number, only allowing each plant to carry four or five, and finally the flower buds as they appear must be thinned down to one to a shoot. This, of course, applies only to plants that are being grown solely for the production of blooms for show; but, still, thinning of the shoots may be practised to some extent with great advantage upon the ordinary plants, for the size of the blooms is much improved thereby.

PEGGING DOWN.—Sometimes it is desired to procure very dwarf plants instead of those that run from 3 to 5 ft. in height. Pegging the shoots down to the ground must therefore be resorted to, and if properly done fine dwarf masses may be produced with comparatively little trouble. Instead of planting such subjects as it is proposed to treat in this way erect in the usual manner, they must be laid down, and as soon as the young shoots begin to elongate the pegging down system must be commenced, for if allowed to get too far advanced before pressure is put upon them they are very liable to be broken or damaged. This method of cultivation might be adopted very much more frequently than it is at present, for not only is the necessity for very large stakes, which it may be difficult to procure, done away with, but protection from frost is much more easily given.

WATERING.—A very important operation this, and one to which strict attention must be paid throughout the hot weather. During the last week or two the rainfall has been pretty heavy, and thus there need be no fears as to the efficiency of the water supply at present. But it must be remembered that Dahlias are very thirsty subjects, and that their roots soon exhaust the moisture in the strata of soil immediately surrounding them. Liquid manure is of very great advantage, and occasional doses of it may be given with the best of results.

EARWIGS.—These little pests always evince a marked liking for Dahlias, eating into the buds and gnawing the petals. Traps must be set for them in the shape of small flower pots containing a little hay. These must be looked over each morning, and if there are many of the little pests about once again during the day. It is astonishing to see how many can be caught by even this simple means.—*Rex.*

AN ENGLISHMAN ON HIS TRAVELS.

I RECEIVED THE GARDENING WORLD of April 27th safely, and I observe you have published a portion of my letter to you of the 20th March. On p. 553 of the issue in question I notice two errors which I venture to point out. They are:—1, The names of the men and women have got mixed, and should read as follows:—"Mohr, Lodhar, Beersha and Gohonu" are the names of the four men; while the names of the two women should read "Mango and Bhawney." 2. In referring to the wages of our workpeople I notice you have printed the word "Roubles" for "Rupees." The Rouble is a Russian coin, and the Rupee is an Indian coin.

At the time I wrote to you last I was very poorly. The doctor ordered me away for a complete change and rest; so Dr. King kindly granted me about 2½ months privilege leave, which, I and my wife are now enjoying. Perhaps a little account of our journey to this part of the world, and what we have seen since we started may interest you. We left Calcutta on the night of the 4th April *en route* for this place (Landour), which is about 1,100 miles from Calcutta. As we were on a holiday we took the opportunity of visiting a few important places on our way. Our first call was at Benares where we spent a day in sight seeing. Benares is the most sacred city on earth to the Hindoos and it is full of temples. The Hindoos from every part of India usually make it a point to visit the holy city once during their lifetime, where they worship at the temples and bathe in the holy water of the Ganges. The native part of the city is very crowded and dirty, but the Cantonment and European quarter is kept very neat and clean, and has fine wide roads beautifully kept. One of the commonest trees planted about Benares in the "Num" (Melia Azadirachta). The Tamarind tree is also to be seen about, as well as the Mango. The two latter are excellent shade-giving trees. At Allahabad there is not much to be seen in the way of gardens except the Khusru Bagh (Khusru's Garden), the Alfred Park and Government House grounds. The Alfred Park is the finest place of the three. In it there is a fine stretch of well-kept lawn.

At Cawnpore the only place we visited was the Memorial Garden, which is round in shape, and (I was told) about 60 acres in extent. In it is the site of the house, marked by a small monument, where about 200 poor European ladies, women and children were imprisoned for about a fortnight, and afterwards so cruelly slaughtered. Close by is the Memorial Well into which the poor victims, dead and dying, were afterwards thrown. Perhaps 30 or 40 yards from the well are two small oval cemeteries neatly enclosed by iron railings. In one, rests the remains of many brave British people killed during the mutiny. In the other, the poor little children's bodies and parts of bodies—chiefly legs, arms, heads, &c., are interred. These poor little innocent children were butchered in the cruelest manner conceiveable by the rebels. The memorial erected by Government over the well is a beautiful piece of architecture. It consists of an octagonal Gothic stone screen with a gate by which one can go inside of it. Over the archway of the gate the following words are inscribed:—"These are they which came out of great tribulation." Inside the screen (where no native is ever allowed to enter) is the well, now built over with solid masonry. On the top and over the well, the following inscription is engraved:—"Sacred to the perpetual memory of a great company of christian people, chiefly women and children, who near this spot were cruelly massacred by the followers of the rebel Nana Dhoondopunt, of Bithoor, and cast the dying with the dead into the well below on the 15th day of July, 1857."

I was shown the trees to which the British men prisoners were tied and shot, after they were brought in and shown to the wicked Nana Sahib daily. Some distance from these trees, on the other side of the wall I was shown one of the remaining trees on which General Havelock, after he entered Cawnpore with his relieving force, used to hang the natives who were found to have been implicated in committing the atrocities on our people already referred to. The frightful massacres that were perpetrated inside what is now the Memorial Garden at Cawnpore will be remembered by Britons for centuries to come as being unparalled in history. I enclose a piece of Sweet-brier, in flower, which was given to me, from a bush growing in the small oval cemetery wherein lie the remains of "many brave people killed during, the mutiny" above referred to.

We spent a few days in Lucknow under the hospitable roof of Mr. Matthew Ridley, Superintendent of Government Gardens there. Mr. Ridley was very kind in taking us about and showing us the most interesting places in and around Lucknow, and, altogether we had a most enjoyable visit. The old residency is a most interesting place as being the centre of fighting during the memorable siege of Lucknow. The walls of the ruined buildings are pitted with innumerable bullet marks, and pierced by shot and shell from cannon. The poor British must have had a terrible time of it for months during the time they were besieged by the mutineers until finally relieved by Sir Colin Campbell.

Now I shall tell you briefly a little about the Lucknow parks and gardens. They are all under the superintendence of Mr. Ridley, and they are exceedingly well kept. I cannot name all the places, but the number is nearly, if not quite, a dozen situated in different parts of the city under Mr. Ridley's charge. The principle places are the Wingfield Park, Victoria Park, Husainabad, the grounds of the Residency, the Horticultural Gardens, Kaiser Bagh, Government House, Shah Najjaf, &c. Mr.

Ridley is a Kew man I must tell you, and has laid out most of the places I have mentioned.

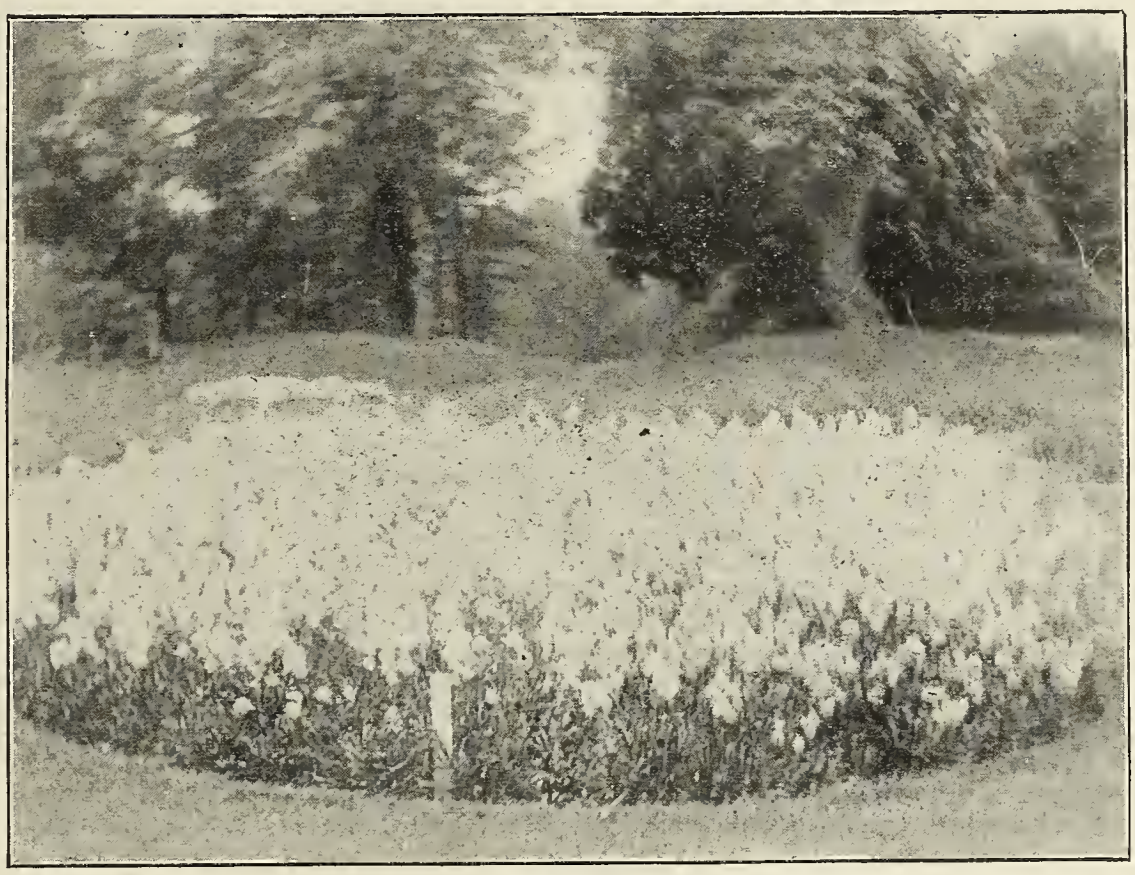
The special features of the parks and gardens of Lucknow are the beautiful lawns of "Doob" grass; they are equal to the best kept lawns I have ever seen either in England or in Scotland. In reply to my questions as to how the lawns were made and maintained in such good order, &c., Mr. Ridley very kindly gave me the desired information. He said that first of all the ground had to be deeply trenched and allowed to settle for a time, after which, arrangements are made to smooth the surface of the soil for the reception of the "Doob" grass. The planting, or sowing rather, is done immediately after the rainy season begins. The grass is collected from any place, or places, where it is growing in abundance; it is pulled up roots and all, and chopped up with a sharp chopper into short pieces approximately one inch in length. It is then taken and sown on the prepared ground and afterwards covered with a thin layer of good soil, when it soon takes root and begins to show itself on the surface. The lawn mower is then brought into requisition and kept going regularly, or as necessity demands, on it. Mr. Ridley told me that he found it necessary at Lucknow to water the lawns copiously during the driest season of the year in order to keep them in good condition. One of the prettiest and most effective pieces of flower gardening I have yet seen in India is in the Wingfield Park surrounding a large marble summer house. It is an exceedingly fine piece of work.

I am glad to say that both my wife and self have derived benefit from the change. I must be back to Calcutta to recommence my duties on the 24th of this month (June). By-the-bye, I see in the papers that the Kew students (young men) have got their pay raised to twenty-two shillings per week, which I am pleased to learn. Mr. Gollan, Superintendent of the Saharunpore Gardens, is at home just now on six months leave. Perhaps you may meet him sometime. He was at one time in the Edinburgh Botanic Garden. Where we are staying is 7,200 ft. above sea level. The climate is good and fairly pleasant with a genial temperature.—*Robert L. Proudlock.*

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s. post free, 5s. 3d., from GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C.

LYCHNIS VISCARIA FLORE PLENO.

THIS plant commonly called the double German Catch-fly, is at the time of writing, one of the most attractive features of the flower garden. It is very effective in the borders as single plants here and there; but it is only when we see it massed as in the photograph that we really see the true value of it as a decorative plant. Being a native of Britain and Siberia it is very hardy, and can remain in the bed throughout the severest of our winters without any protection. It is best when allowed to remain in the bed for a year or two as then it forms a thick mass, and the dark green foliage contrasts well with the bright racemes of deep rose flowers. It is admirably suited for massing along with varieties of Violas; and it is a pity that it is not more extensively grown for this purpose, because when once seen in its grandeur, it is a sight not to be soon forgotten.—*W. H. W.*



A BED OF LYCHNIS VISCARIA FL. PL.

GOOSEBERRIES WITHOUT SPINES.

THE sowings of Gooseberries which have hitherto been made, have been almost exclusively with the view of obtaining commercial varieties with large fruits. That was the end pursued. As to the very great inconvenience, however, in having spines liable to injure the workers when gathering the fruits, it had until now almost passed unnoticed. Some years have passed since the absence of spines has been looked for.

The first unarmed subject, and consequently the first Gooseberry bush without spines that has been seen, was a result due to chance; it was found in a sowing of seeds of Gooseberries made about 1860 by the late M. Billard, the seedsman at Fontenay-aux-Roses (Seine). It is from that, that towards 1884, M. Edouard Lefort, general secretary of the Horticultural Society of the district of Meaux, commenced to raise the new series of Gooseberries without spines, of which we are about to speak.

We think we ought to apply to one of them, first the name of him who obtained the first unarmed type of Gooseberry, that is to say, to the late M. Billard, afterwards to dedicate another to M. Ed. Lefort, who conceived the idea of sowing seeds of that first subject with the intention of obtaining new, unarmed varieties. His efforts were crowned with success, and, thanks to him, we have been able, amongst a great number of subjects, to describe several fine varieties of them. Probably it is only the prelude to other acquisitions.

SOUVENIR DE BILLARD.—The bush is vigorous, extremely fertile; the spreading branches are long and divaricate, and the branches somewhat dressed with an ashy-green bark. The small leaves are shortly stalked; the lamina is truncate at the base, almost to the petiole, thin, deeply lobed with irregular lobes and unequal teeth. The fruits are very numerous, sub-globular, sometimes slightly oboval by reason of their attenuation towards the apex, upon a short peduncle with umbilicate union and about 1½ in. long. The skin of the berry is rose or deep vinous red, perfectly smooth, surrounded by numerous longitudinal nerves, either simple or branched; it is also thick, leathery, and very resistant. The withered calyx is slender and very short. The pulp is of a beautiful pale rose, juicy, firm, sugary, and slightly acidulated with a particular flavour. The seeds are slightly elongated, well attached to the top of a white funicle which nestles in the pulp, where one can see them by transparency. This variety ripens somewhat late towards the end of July, even in August. It is excessively fertile and gives fruits generally in bundles.

GOOSEBERRY EDOUARD LEFORT.—This sort is of moderate vigour. The branches are divaricate, ramifying, numerous, and covered witn a yellowish green bark. The leaves are smooth, sufficiently large, and long stalked; the lamina is slightly wedge-shaped at the base, strongly nerved, thin, green, shining above, a little paler beneath, with fairly deep, incisely toothed lobes and irregular teeth. The fruit is perfectly smooth, oboval-elliptic, largely rounded at the two ends, 1½ in. long and 1¼ in. in diameter. The smooth skin is shining, vinous red, and surrounded by internal striae. The calyx is short, the stigmatic or umbilical spot large, short and obtuse. The pulp is gray or ashy-reddish, permeated internally with longitudinal striae, sugary, and relatively firm. The seeds are small, brown, rounded, embedded in the pulp, which is gelatinous, and grayish-white. It is a beautiful and good variety, fertile, vigorous, keeping well by reason of its thick, leathery skin, which keeps the fruit entire, and enables it to travel without deteriorating.

MADAME EDOUARD LEFORT.—This variety is represented in the *Revue Horticole* by a chromo-lithograph, while some of the others are also figured, including the first variety raised. The bush is very dwarf, clothed with branches covered with an ashy-gray bark. The crowded leaves are small, smooth, lobed, with irregular lobes, unequally and deeply incise-toothed; the lamina is small, smooth, thin

horizontally truncate at the base almost to the origin petiole, which is slender and relatively short. The fruits are numerous, spherical, about 1½ in. in diameter, crowded in clusters, of a vinous red, and borne upon a short peduncle. The skin is smooth or bears some small, short hairs, straight, and ashy-gray. The stigmatic or umbilical cavity is fairly long, often bent; peduncle very short inserted in a sort of cup, furnished with short, slender teeth; skin vinous red, traversed by numerous longitudinal striae or nerves. The pulp is very firm, fleshy, waxy white, sugared, slightly acidulated with an agreeable savour. Seeds scarcely numerous, small, a little elongated at the extremities of the placental threads. This variety is very productive, gives its fruits in bunches, fairly compact; those which are large and spherical hold on very strongly to the plant from which they are somewhat difficult to detach.

Belle de Meaux.—The plant of this variety is of great vigour, with very long, trailing branches, and long, spreading divaricate ramifications, sometimes slightly twisted and drooping. The bark is ashy gray or of a grayish red. The leaves are very long stalked, deeply and straightly lobed, with irregularly toothed lobes; the limb is strongly wedge shaped at the base, of a bottle green above, paler and strongly nerved beneath. The fruit is moderate in size, subelliptic, of an intense red, almost black at full maturity. The skin is shining, thin, very strong, smooth; strongly and distinctly rayed with bright red. The pulp is firm, ashy gray, not very juicy, lightly sugared, and sourish. The seeds are violet, small, and strongly attached to the placental threads. This extremely vigorous variety has long trailing branches, so that its ramifications showed that it ought to be grafted upon a stem; in that case one can enjoy the beauty of the plant, and, on the other hand, being well exposed to air and light, the fruits will become more beautiful and will be better. In this case Ribes aureum or R. palmatum should be used as a stock.

Before closing this article we think it worth while to recall the characters that we have already given of the Gooseberry obtained by M. Billard, and which was the first destitute of spines, and from whence later on the unarmed varieties, to which the present article is devoted, originated. The following is what is written upon the subject in the *Revue Horticole*, 1867, *p.* 370:—"It is only since that year (1867) that we have been able to see and appreciate the fruits of that variety (Gooseberry Billard). These fruits are large, at first of a pale yellowish green, then intense red, finally almost purple-black, smooth, and savoury, uniting in consequence, all the conditions that one can desire. They are slightly oblong, large, and attain to 1¼ in. to 1½ in. in length by 1¼ in. in thickness. The spineless Gooseberry that we have named Gooseberry Billard is one of the most happy discoveries, not only by the direct advantage it presents in not having spines, but again by allowing one to foresee its becoming the type of a series of varieties destitute of spines like itself, and which will offer advantages not hitherto presented. One can hope, furthermore, that the fruits may give many seeds, and that they are well shaped. One can, however, place a small fault to Gooseberry Billard, inasmuch as it is not very vigorous. Nevertheless we must be content with it, such as it is; it is a precious find which will be heartily welcomed, and which, as one says, will make headway."

Under this latter description, the supposition does not appear to have been realised, for that primitive type does not appear to have spread much, but it is otherwise to be hoped "that the plant will form the founder of a family," which is already an established fact, inasmuch as the new varieties, of which we speak, show it. Besides those that we have described, M. Lefort possesses a great quantity of others completely deprived of spines, and of which we shall soon see the fruits.

Independently of the above descriptions taken from the *Revue Horticole* and sent us, we were also supplied with information concerning the spineless Gooseberries by M. Letellier, of the firm of MM. Letellier & Son, Caen, Calvados, France, who with his English representative called at our office recently with specimens of several of the varieties above described. Souvenir de Billard, grafted on Ribes aureum, and only one year old, was 2 ft. high and furnished with numerous branches. Madame Ed. Lefort was remarkable for its very dwarf and bushy habit. Fruiting branches were also brought, and bore testimony to the fertility of the bushes on which we failed to find a single spine. The facilities they offer for the gathering of the fruit without tearing and pricking the hands and arms of the gatherers, are very apparent, and the advantages of the same cannot be overrated. It is another triumph of horticulture. Souvenir de M. Billard was raised in 1860 and first fruited in 1867. The roots of Ribes aureum, used as a stock, die the second year after being grafted; but by this time the scions are upon their own roots, which begin to develop the first year from points above the union. Grafting on the stock named ensures much more rapid growth than cuttings would. MM. Letellier & Son possess a large stock of the four varieties above named.

THE ACTON FLOWER SHOW.

The annual flower show of the Acton Horticultural Society was held in the Cricket Field on the 31st ult., and proved to be the best and most largely patronised that has been held for several years past. The marquee in which the gardeners' exhibits were staged was much larger than previously. The valuable prizes other than money, the fine day, and the fact that athletic sports were held in connection with the show may be held responsible for this success. The number of entries was greater than formerly, and the quality of the exhibits in the matter of flowers and vegetables were noteworthy. The first prize for a group of plants was taken by Mr. G. Benham, gardener to R. W. Davies, Esq., Grassgarth; his foliage plants were brightened with Chimney Bellflowers, Celosias, Carnations, Petunias, Gloxinias, and others. He was followed by Mr. F. Chandler, gardener to Major Wilkinson, J.P., Edendale; and Mr. W. J. Simpson, gardener to C. Sutton, Esq., The Beeches, Acton, was a good third. The latter was first for Caladiums, as well as for exotic ferns, which were good; in the latter case he was followed by Mr. F. Chandler and Mr. W. Polley, gardener to A. Hubbard, Esq., J.P., Derwentwater House, in the order named. Mr. G. Benham had the best two ferns. The best four stove and greenhouse plants in the show were those exhibited by Mr. W. J. Simpson; Mr. W. Polley and Mr. F. Goody, The Chestnuts, Acton, followed in the order named. Mr. G. Benham was first for two stove and greenhouse specimens, and was followed by Mr. H. Hinton, gardener to A. Beldam, Esq., The Lodge, Acton. Mr. Wilks had the best two foliage plants; and Mr. W. Polley had the best single specimen in the shape of a huge Curculigo. Mr. F. Chandler was first for foliage plants including a fine piece of Calathea zebrina, and first for Petunias; Mr. W. J. Simpson was a good second in both cases, but took the premier position for foliage Begonias and Coleus, the latter being well-coloured, pyramidal specimens. He also had the best Fuchsias in pyramidal specimens. Mr. G. Benham had the best six Balsams, Cockscombs and Fuchsias, the two first named being very fine. The prizes for Gloxinias were taken by Mr. W. J. Simpson, Mr. W. Polley and Mr. F. Goody, respectively; and for tuberous Begonias Mr. Simpson changed places with Mr. Goody. Cut flowers were also shown in some quantity.

In the classes for fruit and vegetables Mr. W. J. Simpson again scored heavily taking the leading awards for four dishes of fruit, one Melon, two bunches each of black and white Grapes, six and eight vegetables. Mr. W. Wilks was second in both cases for Grapes; and Mr. E. H. Cackett, an amateur was second for eight vegetables. Mr. C. Burrows had the best Cucumbers. Amongst exhibits not for competition Messrs. de Rothschild (gardener, Mr. G. Reynolds), Gunnersbury Park set up a beautiful group of flowering and foliage plants, and which was highly commended as was a smaller but equally attractive group shown by E. M. Nelson, Esq. (gardener, Mr. D. Cooper), Hanger Hill, Ealing. Messrs. Charles Lee & Son, Ealing, staged a fine collection of Roses. T. A. Gledstane, Esq. (gardener, Mr. Manning), Manor House, Gunnersbury Lane, had a table of Cactus and decorative Dahlias in fine condition.

The exhibits staged by amateurs and cottagers formed no mean part of the exhibition; indeed, in the matter of vegetables they were more numerously and prominently represented than the gardeners themselves, the latter being sometimes beaten in their own lines. A splendid piece of Sedum Sieboldi variegatum shown as a specimen plant by Mr. C. B. Green, Acton, took the leading award. He also had the best hanging basket and the best hardy ferns, being followed in the latter case by Mr. C. M. Roberts. Mr. G. Matthews had the best six and three window plants; Mr. E. Dean and Mr. J. Gale took the second and third prizes respectively for six. The number of entries for winter and summer Onions, Shallots, Vegetable Marrows, Potatos, French Beans, Scarlet Runners, Rhubarb, Salads, Peas, herbs and collections of vegetables, was something remarkable, and the competition was accordingly very keen, and well-sustained throughout. Mr. E. Dean was the most successful competitor in this section, taking the first prizes for a collection of six vegetables in each of three distinct classes, also for French Beans, Cabbage Lettuces, and a collection of salads, all of which were in fine condition, and testified to the industry of the cottager. Some of the classes for collections of vegetables were special, the prizes being offered by Messrs. Sutton & Sons and Messrs. J. Carter & Co. Mr. E. Cackett took the first prizes for Scarlet Runners, Carrots, Peas, and boiled Potatos. Mr. W. J. Grant had the best Vegetable Marrows; and Mr. G. Matthews took the first position for four vegetables. Mr. J. Venn secured the leading awards for Rhubarb and Potatos in one of the classes. Mr. J. Gale had the best Potatos in two other classes. Mr. J. W. Harris showed the best summer Onions; and Mr. R. Crowe took a similar position for winter Onions. The exhibits of wild flowers by children were very extensive, and the competition keen, the youthful winners considering themselves highly honoured.

DEVON AND EXETER GARDENERS' OUTING.

The members of the Devon and Exeter Gardeners' Association held their annual outing on the 24th ult. There were heavy showers through the day, but a true gardener is equal to any weather, and all the members protested that they heartily enjoyed their forty miles' drive with its attendant incidents. The party, numbering sixty-four, assembled at Bedford Circus and proceeded in four-horse breaks supplied by Mr. Marles, Belgrave Mews, *via* Whipton and Pinhoe, to Poltimore, which was their first halting place. There they were met by Mr. Martin, the head gardener, who escorted them through the gardens and over the grounds. The magnificent avenue of Lime trees and Cedars were much admired. A fine Tulip tree, a Hemlock Spruce, some of the finest Wellingtonia gigantea trees in England, and many other rare Coniferae were noted by experts. A splendid tree of Cedrus Deodara was pointed out, bearing between 100 and 200 cones upon it. There was also a specimen of the Pinus tuberculata, which is peculiar from the circumstance that it never drops its cones. The fruit trees and the Grapes showed most skilful management, as they were all bearing abundant crops. After finishing their inspection the party were most liberally entertained to refreshments, and three lusty cheers were given for Lord Poltimore.

Proceeding through Broadclyst, the next halt was made at Cullompton, but merely for the purpose of picking up the latest political news, and then the drive was continued to Bradfield, which was reached at one o'clock. Mr. C. E. Hay, representing Sir Wm. Walrond, M.P., received the party; and by Mr. Heath, the head gardener, they were conducted over the gardens, through the greenhouses and conservatories, and around the grounds. Notable at Bradfield were the vineries, which bore evidence of good cultivation, indeed, the whole garden spoke to the skilfulness of the cultivator. In the grounds some splendid specimens of the Coniferae were noted. On the site of the old chapel, which dates from 1332, are some fine English Yews, about 200 years old, neatly trimmed into fantastic shapes, as was the custom in old-fashioned gardening. An excellent lunch was served before leaving Bradfield, and the party gave cheers for Sir Wm. Walrond and his agent, Mr. Hay.

Resuming the drive, and travelling through Halberton and Tiverton, the party went straight to Knightshayes, Sir John Amory's seat, and were there met by Mr. Dickson, the head gardener. At Knight-

shayes special attention was paid to the vineries and fruit trees, which appeared to be well managed. Some Banana plants were remarkable for their vigour and healthiness; and Peaches and Nectarines were full of fruit. In the conservatory was noticed a climbing Lily (Gloriosa superba) and other choice plants. The Tomatos and Grapes seem to be especially well grown,

The journey was again resumed, and the Angel Hotel, Tiverton, reached about six o'clock. Here Host Moyle served an excellent meat tea, and at eight o'clock the final stage was undertaken when a start was made for Exeter.

The arrangements were made by Mr. Andrew Hope, Hon. Secretary to the Association, and in his capable and methodical hands of course gave perfect satisfaction. The company comprised the following:—Messrs. E. Sparkes (Pynes), Martin (Poltimore), Weeks (Stoke House), Mackay (hon. treasurer), Webber and Radley (Veitch's Nurseries), Luxton (Exeter Nurseries), Hill (Whipton), Vickery (St. Leonard's), G. B. Carlile (Exeter), F. Meyer (Veitch), Bawden (Beaumont House), Horne (Hillersdon), and several honorary members of the society, including G. R. Lansdale, T. B. Purnell, W. Costin, R. Mills and J. F. Ralling.

NAMES AGAIN.

He who visits Kew frequently, will often come across, not only plants which he does not recognise, but plant names also. On the other hand he will, of course, recognise many plants and many names, which, in themselves, are well enough, but in conjunction with one another are, to say the least of it, confoundedly confusing. The sweet Alyssum is a case in point. Every gardener knows it; and possibly, also its botanical name Alyssum maritimum. Ah! there's the rub; is it Alyssum maritimum? At the beginning of the season the Kew authorities labelled it Königa maritima, but now I notice they have reverted to the older or the younger name—which is it, Mr. Editor—Alyssum maritimum?

When I think of the etymology of the term Alyssum, viz., *a*, not and *lyssa*, rage, I cannot be angry, because that would belie its generic name; and I cannot condemn the powers that because I do not know which is right and which is wrong; but I do know that vacillation in our public bodies is often indicative of divided councils.—*Le Vert.* [The plant you mention has several other names, including Koniga, Lobularia and Glyce, all given by different authors, a fact that may afford much food for reflection, but little satisfaction. The differences between Königa and Alyssum are purely technical and of very minor importance. Seeing that Alyssum maritimum was the name adopted by Linnaeus, the great father of botany, we are perfectly satisfied that it is old enough and good enough for general adoption. Gardeners and horticulturists generally, are often responsible for the retention of the name Königa or Koeniga.—Ed.]

CHRYSANTHEMUMS, TAKING THE BUD.

The season is close at hand when the grower of Chrysanthemums should go his rounds among the Queen of Autumn flowers with even greater frequency than before. Not only has the securing of the bud to be attended to, but earwigs, grubs, maggots, green fly, &c., must be very closely looked after. The outlook for large blooms is at present anything but good. The continual rainy weather we have had of late having rushed the plants, and softness of wood is apparent everywhere. With bright and favourable weather this defect may disappear, and a good or average season result. The taking of the first bud, or, to use the professional phrase, the "crown bud," should be performed from now onwards, according to the varieties grown and the particular time when they were stopped.

As the crown bud usually lacks the plumpness that the ordinary buds show when allowed to develop naturally, it is often passed over unnoticed by many novices. We are all aware how easy it is to do a thing when one knows how to do it. As a matter of course, after any observant man has once been shown he hardly can fail in taking the bud properly, and also keeping it when taken. The crown bud always shows itself just as the plant is breaking away to finish its natural growth, generally consisting of three or more shoots. In the centre of these will be found the bud. Now don't look for anything like an ordinary bud, because if you do you won't find it. To the inexperienced the object in question does not appear to have anything at all like the making of a large flower in it. But have faith; beneath that insignificant-looking bud, for it is a bud with two or three small bracts attached, beneath these I say many silver cups do lay.

Some may ask what becomes of the first or crown bud if not taken? Will it not bloom better if you leave it alone? My answer is that the shoots as I stated above are breaking away to complete the natural growth of the plant. All the energy would be turned in this direction, and the bud would be left blind and devoid of all substance. Therefore, when it makes its appearance carefully remove all laterals, and anything calculated to rob the bud, and thus devote the whole of the strength of the plant towards the development of the bud instead of the making of growth.

Feeding should be commenced gradually, should not be overdone at any time, and must be partially discontinued when the flower commences to open. High feeding after a certain time is very injurious, causing the blooms to damp off, and considerably shortening their lives.

I have written this in time to enable anyone in the amateur line to experiment on having a few large blooms, and I advise any who are so inclined to make friends with the ever-obliging gardener, and be shown how it is done, or some may in ignorance make mistakes that might in many instances be avoided if information had been sought from the right quarter.—*J. G. Pettinger, Strawberry Dale Nursery, Harrogate.*

GARDENING MISCELLANY.

PRIMULA FARINOSA AT HOME.

I would like to add a word to your answers to an enquiry about the hardiness of Primroses. P. farinosa is quite plentiful in my bailiwick, that is Northern Wisconsin or the northern peninsula of Michigan. I saw beautiful patches of it a month ago on the shore of Lake Michigan, but at its extreme north end. It was growing in springy oozy ground, and it is only in such a place that it ever will grow. I find it in the springy gravelly shores of the Escanaba River, or growing in the crevices of the limestone banks right in the drip. It grows sometimes almost afloat in wet miry spots. In the garden it has done well with me in muck or leaf mould, but is smaller and less conspicuous than it would be in moist congenial ground. It grows in black muck or clear gravel, but always in a wet place and in full sunshine. I would be able to send plants to anyone especially interested, and would be pleased to help your correspondent make the experiment.—*C. L. M., Milwaukee, June 23rd, 1895, in Gardening (American).*

DAISY THE BRIDE.

Under the name of Bellis perennis flore albo pleno "Die Braut," a beautiful and new variety of Daisy will be put into commerce the coming autumn by Messrs. Lambert & Son, Trier. Those of our countrymen who secure it will be content to grow it under the name at the top of this note. The flower-heads are hemispherical, of great size, pure white, and borne upon long stalks so that they can readily be utilised for cut flower purposes in the making of bouquets and similar devices. Those who have seen it think that it will be serviceable for spring bedding during March, April and May, or even later, and judging from the value of older and well-known varieties there can be little doubt of this fact. The special features of the new Daisy are the size and purity of the flower heads and the length of their stalks. A figure of the plant is given in *Mueller's Deutsche Gartner-Zeitung* of the 20th July last.

HUMULUS JAPONICUS LUTESCENS.

Since the introduction of this species, which proves annual in this country, it has given rise to several varieties. The beautiful variegated form (H. j. variegata) is well known to many gardeners in this country. Now it seems that the plant is giving rise to other variations in Naples, amongst which is a variety named as above. It is described as a new plant in the *Bulletino della R. Società Toscana di Orticultura* for July. The leaves are of a beautiful yellow washed with bronzy-gold. In Italy, as in America, the plant is somewhat weedy in character owing to the large number of seeds which scatter themselves over the garden and germinate everywhere. The seedlings of H. j. lutescens are not always true to character as might be expected.

SOCIETIES.

Beckenham Horticultural, *July 24th.*—This society held its annual exhibition of flowers, fruit, and vegetables in the Croydon Road Recreation Ground, and, as it has been during the past two or three years—in fact ever since its resuscitation—so it was this year: a complete success. The weather was fine; it was not exactly a summer-like day because not a ray of sun broke forth. Clouds hung about all day and threatened, but only once did they send down any rain, and then it was so slight aud of such short duration that it is scarcely worth mentioning. There were a dozen or more marquees and tents on the ground, four of which were occupied by the numerous exhibits. Others were for refreshments lecturers on bees by the Rev. T. Sissons, the exhibition of prizes, &c. The show was an excellent one, and, although, perhaps, it did not reach the excellency in all respects (as far as quality was concerned) of last year's exhibition, the fruit and vegetables especially, considering the dry season, were remarkably fine, and the entries were more numerous than on previous occasions, One of the judges characterized the show as of very high order, and he particularly mentioned the groups of plants arranged for effect; the brilliancy of the colour of the flowers and the foliage of the plants of the group which gained the first prize being exceptionally striking. The tuberous rooted Begonias (specimen plants in pots) were much finer than the judges were accustomed to see at exhibitions. One of the most striking plants in the show was a huge *Plumbago capensis*, an excellent specimen of its kind, Outside the show was a fine collection of tuberous rooted Begonias, exhibited by Mr. J. R. Box, Croydon. Down the centre of each of the two largest marquees were tables on which were placed some very fine plants in pots, while round the sides were cut flowers, fruit, and vegetables, all displayed in a most tempting manner. The prettiest sight of the show was probably the table decorations, some which were masterpieces of art and skill. The groups of plants were quite equal to those of former years, and that staged by Mr. T. Crosswell who carried off the first prize in the open section was a magnificent display. A group which commanded particular attention was that staged not for competition by Mr. T. Horsman, of Clock House Nursery. Messrs. John Laing & Sons, of Forest Hill, exhibited a splendid lot of Roses and also had some fine groups of plants. Flowers and plants were exhibited from Reid's Nursery, Beckenham Hill; a dozen very fine cucumbers were shown by Mr. T. Roots of the Victoria Nursery; Messrs. John Peed and Sons, of Norwood Road and Streatham, had an excellent display of plants; and amongst others who sent non-competitive exhibits were Mr. Arthur Groom, Mr. H. Grenyer, Mr. T. Croswell, the Rev. H. E. Hill and Mr. C. Terry, the latter being highly commended for a model greenhouse. Some very fine seedling Carnations gained Mr. Wright a certificate. The "Beckenham Journal Cup" was won by Mr. T. Croswell, gardener to Mr. W. M. Bullivant. The Silver Medal of the R.H.S. was awarded to Mr. F. W. Price, gardener to Mr. H. O. Crowther, and the Bronze Medal to Mr. F. Sinnock. The One and All Silver Medal was won by Mr. Abrahams, gardener to Mr. J. W. Price, Eden lodge, and Mr. W. Sinnock took the Bronze Medal.

Forest Hill and Catford Horticultural.—The annual summer show of the above society was held on Tuesday and Wednesday, July 30th and 31st, in the charming grounds of St. Dunstan's College at Catford. Although but a young society, it has accomplished some real good work, and favoured by fine weather the meeting this year was an exceedingly popular feature. The exhibits of cut flowers, of bouquets, sprays specimen plants in pots, and groups, fruit and vegetables were very numerous, and as to quality left exceedingly little to

be desired. The committee of management are to be heartily congratulated upon the success that has attended their efforts, a success which we may observe was only due to their zealous efforts. In section one of the schedule, open to amateurs employing gardeners, some very nice groups of plants were to be seen. C. J. Preston, Esq., carried off first honours for a group of miscellaneous plants arranged for effect, and occupying a space of 50 sq. ft. Crotons, Dracaenas, and Acalyphas with the ever popular Asparagus, and Maidenhair Fern were employed here with fine effect. H. Clifton, Esq., came second with a rather more heavily arranged group, which, nevertheless, contained some well-grown material, two good pots of Lilium auratum being very conspicuous; third, C. J. M. Fox, Esq. A first prize group of flowering and foliage plants, very neatly arranged, also came from Dr. Wilson; Mr. A. Cockett here taking the second place. C. J. Preston, Esq., took first prize for six specimen flowering plants distinct. Very fine and well-grown were his samples of Allamanda Hendersoni, Bougainvillea glabra, Stephanotis floribunda Elvaston var., and Vinca alba. Other pretty groups of plants were contributed by G, W. Beste, Esq., and G. A. Farini, Esq.

C. J. Preston, Esq., was adjudged to have the three best Fuchsias, and his plants were, indeed, full of flower; also the finest four tuberous Begonias. Second to him come G, A. Farini, Esq. The last-named gentleman came out first for three pots of exotic Ferns. C. J. Preston, Esq., added to his other successes first awards for four Gloxinias; six plants suitable for table decoration; four double Petunias; cut hardy annuals; and a very praiseworthy group of exotic Ferns. Miss Kibble won the second prize for the last named, G. W. Beste, Esq., coming in third. C. J. Preston, Esq., was also a heavy winner in the classes for fruits under the same section of the schedule, taking the first prize, an R.H.S. Bronze Medal, for the best collection, showing thirteen dishes as against the eleven sent by Mr. Bayer, who won the second prize; also first awards for a brace of Cucumbers and a dish of Tomatos. Mr. J. Munro contributed the most praiseworthy Melon, likewise two bunches of white Grapes of first-class quality. The society's Silver Challenge Cup value five guineas, for the winner of the highest number of points in section one fell to the lot of C. J. Preston, Esq.

In the classes open to professional gardeners, Mr. O. Staddon obtained a first award for a group of miscellanous foliage and flowering plants, arranged for effect, and covering a space 6 ft. by 8 ft. Miss L. V. Berkshire proved herself an apt hand at floral arrangement, winning first prizes for a gent's button hole, a ladies spray, and a bridal bouquet; excellent taste being displayed throughout. Mrs. Barnicoat contributed a wondrously pretty floral table 6 ft. by 4 ft., a first award being given. Sweet Peas were the chief feature here, and very graceful they looked. The second prize fell to Miss L. A. Fox. Mrs. Bragurin had the finest epergne in the eyes of the judges, whilst Miss C. M. Soykes took first prize for her basket of flowers, and Miss C. J. M. Fox a like award for the most tastefully arranged bunch of Sweet Peas.

Amateur's exhibits were very numerous, and much of the material that was forthcoming in this section would have done credit to professional cultivators. The undermentioned were some of the most fortunate exhibitors:—Mrs. Hempson, for three foliage Begonias; Mr. H. Solley, for three Pelargoniums; Mr. A. Goddard, for Coleuses and for three foliage and flowering plants; Mr. R. Wilkinson for six cut Dahlias; Dr. Shackleton, Sydenham, for border Carnations; and C. J. Preston, Esq., for cut Roses.

A spacious building was devoted to the exhibits of vegetables, which, despite the dry season, made a brave show. A very noteworthy feature here was the classes for cooked vegetables, an example that might well be followed at other local cottagers' shows. Mr. H. Hayne had the best collection of vegetables in a class in which the prize was given by John Penn, Esq., M.P. Mr. D. Wilks also obtained a first award for an exhibit of vegetables grown only on Catford allotments, J. Penn, Esq., also being the donor of the prize here. The exhibitors had no occasion to complain of the number of prizes given; for the schedule was most extensive, and one that must have cost a good deal of trouble to draw up.

Among the miscellaneous exhibits that of Messrs. J. Laing & Son, Forest Hill, S.E., was specially noteworthy. In the large tent a fine group of tuberous Begonias in superb style were placed, flanked on either side of the doorway by hardy cut flowers and Roses in quantity, and quite up to the standard of excellence that always characterises that well known firm's exhibits. Mr. G. A. Farini, Dartmouth Lodge, Forest Hill, S.E., occupied a small tent with a considerable quantity of tuberous Begonias, chiefly of the double-flowered section, amongst which some really good varieties were to be seen. Altogether Catford Show is one of the brightest and best managed of those which it has been our lot to visit, and one for which we trust there is a long run of prosperity in store.

Liverpool Horticultural Association.—*Aug. 3rd and 5th.*—The sixteenth summer exhibition was held on the Review Ground, Sefton Park, under somewhat depressing circumstances, heavy storms occurring at frequent intervals on the first day. The exhibition fully sustained its high reputation, whilst the cut flower section undoubtedly surpassed all previous efforts, England, Ireland, and Scotland contributed strongly in the open classes for Roses, the trade exhibits quite overshading the effects of the amateurs. Liverpool has been long famed for herbaceous cut flowers, but the recent show eclipsed all previous ones. The collection of Messrs. Dicksons, Chester, was undoubtedly the feature of the show, and occupied a table of about 30 ft. run. Each bunch showed considerable taste in arrangement, and being placed in tiers, they were seen to advantage. This glowing bank was enchanced by Gypsophila being freely interspersed throughout. Messrs. J. Cocker & Son, Aberdeen, had the premier lot for competition, the twenty-four varieties—huge pyramidal bunches—being greatly admired.

T. S. Timmis, Esq., Clevely, Allerton (gardener, B. Cromwell), staged the premier lot of stove and greenhouse plants, four foliage and four flowering, which included Kentia Belmoreana, 10 ft., Davallia fijiensis plumosa, 9 ft., Croton Countess, well coloured, Lapageria alba, Ixora superba, fine trusses, I. Williamsii and Clerodendron Balfourianum. For three flowering and three foliage plants, Col. Wilson, Allerton (gardener, Thos. Healey), took the lead, and was second in the previous class. For four stove and greenhouse plants in bloom, the Rt. Hon. the Lord Mayor of Liverpool was to the fore with Ixora regina, Statice Holfordii, Allamanda Hendersonii, and Erica retorta major. For three distinct varieties in bloom, A. L. Jones, Esq., Aigburth (gardener, J. Bounds), proved successful. For a single stove flowering specimen, T. S. Timmis, Esq., won with Allamanda grandiflora. For the greenhouse varieties, Sir Thos. Earle, Bart., was accorded first honours. Four fine foliage plants distinct, the Rt. Hon. the Lord Mayor took the lead, including Croton Queen Victoria, an immense ball of rich colour. For a single foliage plant, T. S. Timmis, Esq., was successful with Croton Williamsii. For three Palms, Col. Wilson was in the post of honour with large plants, and for the single won with Cocos Wedelliana. J. A. Bartlett Esq., (gardener, Mr. T. Gowen), Mossley Hill, staged the finest exotic Ferns. Mr. T. S. Timmis showed the best three Ferns. For a single specimen (not tree), the same exhibitor took the lead. J. A. Bartlett, Esq., was allotted the place of honour for a tree Fern. For four exotic Orchids, distinct, S. Banner, Esq., Sefton Park, (gardener, J. Edwards), won with Cattleya Gaskelliana, C. Guttata Leopoldii, C. granulosa Bannerii and Vanda tricolor.

J. A. Bartlett, Esq., was well to the fore with a fine Saccolabium Blumei majus, with six spikes. Other first prizes were one zonal Pelargonium, J. A. Bartlett, Esq., for four and one Ivy-leaved, Sir Thos. Earle, Bart., Allerton (gardener, Mr. J. Stoney); four Coleus, A. Earl, Esq., Childwall (gardener, T. Hitchman); six Gloxinias, Mr. S. Gladstone; six Caladiums, Mrs. Cope, Woolton (gardener, T. Carling); two pots Liliums, Mr. S. J. Waring, jun. For a circular group of miscellaneous plants the Rt. Hon. The Lord Mayor proved the victor, for that of 250 and also 150 square feet, both being models of artistic skill. Mr. F. H. Gossage was a good second in the amateur or smaller group. Mrs. Cope staged four Tomatos laden with an abundance of fine fruit.

Cut Flowers.—Messrs. Harkness & Son, Bedale secured the chief honour for forty-eight distinct varieties of Roses, the best being Messrs. J. Laing Comte Raimbaud, Her Majesty, A. K. Williams, Marie Baumann Victor Hugo, Chas. Lefebvre, Alf. Colomb, Gus. Piganeau, Camille de Bernardin, Dr. Sewell, Duchess of Bedford, Dupuy Jamain, E. Y. Teas, Margaret Dickson &c. Messrs. A, Dickson, &c. Newtownards were second with good flowers.

For eighteen Teas, Hybrid Teas, and Noisettes Messrs. A. Dickson staged a fine lot. For the most tastefully arranged box, 4 ft long, prizes were given by Mr. A, Howard, Liverpool. Mr. Dulton had a nice collection of Teas interspersed with Maidenhair fern. For twelve vars. of stove and greenhouse flowers Mr. T. S. Timmis had the following choice vars:—Oncidium incurveum, Ixora macrothyrsa Odontoglossum Roezlii, Cypripedium Curtisii, Ixora coccinea superba, Dipladenia boliviensis, Gloriosa superba and others.

For twenty-four hardy herbaceous and bulbous flowers, distinct, Messrs. J. Cocker & Son, Aberdeen, were grand. For twelve varieties, a question arose here as to five of the stands containing Carnations, and which is to come before the committee. A bench of Dahlias and Roses was also staged, which are clearly outside the definition. Mr. R. G. Allen was to the fore with two hand bouquets, and Mr. C. J. Procter for the single.

Mr. S. E. Eccles was successful with a well-arranged flower garden.

Fruit.—For six distinct kinds, not more than two varieties of Grapes (Pines excluded), Sir Thomas Earle, Bart., Allerton, had a grand lot. Second, A. R. Gladstone, Esq., Court Hey (gardener, T. Elsworthy). For four dishes of fruit, Mrs. Banner, Roby (gardener, R. Pennington), took the lead. For four bunches of Grapes, distinct, J. Beecham, Esq., Huxton (gardener, W. Oldham), led the way. For two bunches of Black Hamburgh, J. W. Raynes, Esq., Rock Ferry (gardener, J. Barker), took the lead; two bunches Muscat of Alexandria, Sir Thomas Earle, Bt.; two bunches black (Hamburgh excluded), J. Raynes, Esq., with good berried Madresfield Court; two bunches white (Muscats excluded), J. Beecham, Esq., with Buckland Sweetwater. For a dish of Peaches, A. R. Gladstone. Esq., led with Bellegarde; dish of Nectarines, Mrs. Banner with Stanwick Elruge, very fine; Melons, scarlet and green fleshed, Sir. Thomas Earle, Bt., with Sutton's Scarlet and Dickson's Exquisite; six dishes hardy fruits, W. Macherall, Esq., Formby; best arranged basket, Sir Thomas Earle with a pleasing combination.

Vegetables.—For twelve distinct kinds, the Earl of Lathom, Ormskirk (gardener, J. Hathaway), led with bright clean samples of Autumn Giant Cauliflower, Beetroot Lathom Red, Globe Artichoke, Carrot Sutton's Early Gem, Potato Satisfaction, &c. For eight distinct kinds Mr. J. Pownall led the way; and for six distinct kinds, the Earl of Lathom was again in evidence. For four dishes of Tomatos, Mrs. Cope was adjudged the winner; three dishes, Mrs. Banner; single dish, Mr. Branker.

Exhibits not for competitions formed a strong and interesting feature of the show, Certificates of Merit being awarded to Messrs, Dickson, Chester, for herbaceous cut flowers; to Messrs. R. P. Ker & Sons, Liverpool, for miscellaneous plants and Gloxinias; to Mr. H. Middlehurst for Sweet Peas and border flowers; to Messrs. Thomas Davies & Co., Wavertree, for cut flowers; to Mr. John Forbes, Hawick, for seedling Carnations, Violas, and Begonias; to Messrs. John Cowan & Co., for collection of plants; collection of Sweet Peas, Mr. H. Eckford, Wem, Shropshire; Carnations, &c., Mr. C. Young, West Derby; hot houses and frames, Mr. J. Webster, Wavertree. The staging and general arrangements were of a satisfactory nature.

Royal Horticultural of Southampton, *August 3rd, and 5th.*—The annual summer exhibition of this Society was held in the spacious grounds of Westwood Park on Saturday and Monday last, and from a horticultural point of view was of a high order of merit, all branches of the gardener's art being well represented by the products of home and distant competitors. Would that we could say the weather was of an equally satisfactory character, but in truth it was quite the reverse, and with the counter attraction on the first day of the opening of the new graving dock, we fear the "gate" upon which the Society so largely depends for its resources, was not so satisfactory as all could desire. The Society has

for some years been struggling against adversity, but with indomitable courage its council, and most energetic secretary, Mr. Fuidge, have manfully stuck to their guns and done that for the horticulture of the district, which is deserving of the highest praise, and should secure for their enterprise a much greater measure of local support than has hitherto been vouchsafed to them.

The various subjects exhibited were staged in three large marquees, one being devoted entirely to specimen stove and greenhouse plants, and the minor classes of decorative subjects grown in pots; the second being completely filled with groups arranged for effect, a remarkably fine display in itself; and the third filled with cut flowers, fruit and vegetables, &c. The open classes for ten and six stove and greenhouse plants brought out a grand lot of specimens, and Mr. J. Cypher, Cheltenham, was again to the fore in both competitions, showing among others noble examples of Latania borbonica, Kentia Forsteriana, Phoenocoma prolifera Barnesii, Stephanotis floribunda, Erica Austiniana, Allamanda grandiflora, and splendidly developed and coloured specimens of Crotons, Sunset and Angustifolia. In the class for ten Mr. T. Wilkins, gardener, Inwood House, Henstridge, was a very creditable second, and Mr. E. Wills, and Mr. W. Peel, both of Shirley, secured the other awards. With six miscellaneous plants in a competition open only to residents in the County of Hants, Mr. N. Blandford, gardener, Moorhill, West End, secured the premier award, having in his group very fine examples of Croton Mortii and Allamanda chelsoni. In another good competition for a similar number open to gardeners only, the first prize went to Mr. T. Hill, gardener to the president of the Society, Sir S. Montague, Bart., South Stoneham House.

In the open competition for groups arranged for effect, the contest was exceedingly close and the display of a very fine character. Premier honours fell to Mr. E. Wills, of Shirley, who had a light, elegant arrangement of choice flowering and fine foliaged subjects on an undulated groundwork of Maidenhair. Mr. E. Carr, gardener, W. W. A. Gillett, Esq., Fair Oak Lodge, who was second, had also a rich and very effective group, but a little overdone with dwarf flowering plants in the groundwork. Mr. T. Wilkins, who was third, showed excellent taste in arrangement, but his materials were somewhat lacking in brightness. In a smaller class Mr. W. Peel, gardener to Miss Todd was first, and Mr. T. Hall, second, in an excellent competition. The smaller plant classes were all well contested, notably that for half-a-dozen Cockscombs in 9 in. pots, which brought out a beautiful lot of plants, among which Mr. W. Mitchell, gardener, Chilworth Manor, led the list. The best and most varied collection of nursery stock came from Mr. B. Ladhams, Shirley, the other awards going to Mr. E. Wills, and Mr. F. G. Bealing, Sholing, in the order named. Mr. Ladhams also secured premier honours for a dozen bunches of cut hardy herbaceous flowers, and Messrs. Keynes & Co., Salisbury, were first for Roses. The same firm had also a fine exhibit of Cactus Dahlias.

The fruit staged was both plentiful and good, especially the grapes. For a collection of six dishes, distinct, Mr. H. W. Ward, Longford Castle Gardens, Salisbury, was first with well-finished Black Hamburgh, and Muscat of Alexandria Grapes, Sea Eagle Peaches, Pine Apple Nectarines, Windsor Castle Melon, and Brown Turkey Figs. Mr. G. A. Inglefield, gardener to Sir J. W. Kelk, Bart., Tedworth House, Marlborough, came in second, Mr. G. Hall, gardener, Melchet Court, Romsey, third, and Mr. W. Mitchell, Chilworth Manor, fourth, all showing well. Mr. J. Sanders, gardener, Paulton's, Romsey, had the best finished Black Hamburgh, and for any other Black Grape, Mr. T. Hall was first with very fine examples of Madresfield Court; while Mr. Mitchell had the finest Muscats, and Mr. Hale the best Buckland's Sweetwater, very finely finished examples.

Notwithstanding the long continued drought the display of Vegetables was one of the finest the Society has ever had. In the open class for nine dishes Mr. T. Wilkins, Inwood House, was again to the fore with a grand lot, comprising Champion Onions, Autumn Giant Cauliflowers, New Intermediate Carrots, Pragnell's Exhibition Beet, Perfection Tomatos, Ne Plus Ultra Runner Beans, Duke of Albany Peas, Satisfaction Potatos, and Telegraph Cucumbers; and Mr. W. Pope, Highclare; Mr. C. J. Waite, Glenhurst, Esher, and Mr. A. Brown, Hill Farm Dairy, were close up in the order named. Messrs. Sutton & Sons's special prizes for six dishes went to Mr. W. Pope and Mr. T. Wilkins; Messrs. E. Webb & Sons, to Mr. Pope, Mr. Wilkins, and Mr. Waite; and Messrs. Toogood & Sons, to Mr. Wilkins and Mr. A. Brown; while the last named firm's first prize for four dishes went to Mr. Follett, of Swaythling, a cottager who came out well in a strong competition. The Onions, Potatos, Cucumbers, &c., shown in other classes were all of a high order of merit, the cottagers and amateurs especially distinguishing themselves.

Of miscellaneous exhibits we noted a fine display of Hardy Herbaceous Plants from Mr. B. Ladhams, a smaller but good assortment of similar subjects from Messrs. Longster Bros.; an attractive group of hardy shrubs from Mr. W. A. Rogers, Red Lodge Nurseries; a pretty group of hardy shrubs, and small Apple Trees in pots from Mr. Hillier of Winchester, and an attractive collection of Edwardian decorations from Messrs. W. Edwards & Sons, Sherwood, Nottingham.

QUESTIONS AND ANSWERS

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

NAMES OF PLANTS.—*P.B.G.*: 1, Polemonium humile; 2, Lychnis Vespertina flore pleno; 3, Antennaria margaritacea; 4, Thymus Serpyllum lanuginosus; 5, Potentilla argyrophylla atrosanguinea; 6, Armeria vulgaris: 7, Prunella vulgaris; 8, Sedum Telephium: 9, Arabis albida variegata; 10, Centranthus ruber; 11, Antennaria tomentosa; 12, Pelargonium Cloth of Gold; 13, Saxifraga hypnoides; 14, Sedum asiaticum; 15, Yucca aloefolium variegatum; 16, Coprosma Baueriana variegata.

CARNATIONS DEFORMED.—*W.P.C.*: The flowering stems you sent us were affected with what gardeners often speak of under the name of gout; but as that may be the result of one or more of several causes, the explanation becomes more difficult. From what we can see by the specimens, they have been punctured by frogboppers, or some other kind of plant bug during the earlier stages of growth, say, in the last half of June or the first half of July. The injury on one side of the stems would check them there and cause the other to grow more, and in the attempt to heal the wounds, the growth is so considerable that the flowers, by the time they open, are pointing downwards. Staking and tying them up early will sometimes check the evil before it goes too far. In any case we should advise you to keep a sharp look out about the time the froghoppers are producing the frothy masses, termed cuckoo spittle, in the axils of the leaves during June. If any such makes its appearance, syringe the plants somewhat forcibly with a solution of soft soap in water.

FINE VARIETIES OF PETUNIAS.—*H. J.*: Seeds obtained from a strain of some standing, will give a good percentage of flowers like their parents; but if a particularly fine variety should turn up as a seminal variation or otherwise, your best plan would be to take cuttings during the present or next month. Root and preserve them in a greenhouse during winter, after which you may harden them off and otherwise treat them like ordinary bedding plants. No bottom heat will be required for rooting them at present, but if you have a spent forcing bed that was used for raising Potatos or other crops, you may stand the pots or boxes of cuttings upon the surface, and put on the sashes, keeping them close till the cuttings show signs of having commenced to root.

SHOW AND DECORATIVE PELARGONIUMS.—*R. F. H.*: You may take the cuttings at once, that is, if their removal would not defoliate the plants to an overdue extent in their present condition. After the plants had been kept dry for ten days or so you may cut them hard back, and when they have commenced to push their buds again, you may shake them out, reduce the ball, and put them in smaller pots, using a substantial compost, consisting chiefly of loam with sufficient sand to keep the whole porous and open. Place the pots of cuttings on a shelf near the glass in a cool house.

PENTSTEMONS AND PHLOXES.—*A. L. M.*: The cuttings may be put in any time between this and the end of September; but we think you could not do better than accomplish the work at once, provided you can get the cuttings. By inserting them in good time they will be all the better rooted and stand the winter well, besides making better plants to put out in April next. A cold frame will answer the purpose admirably for rooting them.

COMMUNICATIONS RECEIVED.—W. Dyke.—R. G. W.— W. Atlee Burpee & Co.—W. B. G.— G. G. —Omega.—D. D.— W. R.— A. J. H.— R. West.— T.

TRADE CATALOGUES RECEIVED.

E. H. KRELAGE & SON, Haarlem, Holland.—Dutch Bulbs for Autumn Planting.

JOHN DOWNIE, 144 Princess Street, Edinburgh.—Bulb Catalogue.

DICKSONS & Co., 1 Waterloo Place, Edinburgh.—Dicksons', Flower Roots.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.— Dutch Bulb List.

LITTLE AND BALLANTYNE, the Queen's Seedsmen, Carlisle.— Bulb Catalogue.

LONDON SEED TRADE.

August 6th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slower demand for Trifolium incarnatum. Mustard and Rape at unchanged rates. New Trefoil offers freely without finding buyers. New English Italian Ryegrass opens at reasonable prices.

COVENT GARDEN MARKET.

August 7th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples.....per bnshel		
Nova Scotia Apples per barrel		
Cob Nuts and Filberts, per 100 lbs.		
Cherries, half sieve	3	5 0
Currants, Black...half sieve	5 0	0 0
Currants, Red... half sieve	3 6	0 0
Grapes, per lb.	6	1 6
Pine-apples. —St. Michael's each	2 6	6 0
Strawberries	0 2	1 0
Peaches ..... per doz.	2 0	8 0
Tasmanian Apples, per case		

VEGETABLES.—AVERAGE RETAIL PRICES

	s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0
Asparagus, per bundle		
Beans, French, perlb.	0 4	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 6
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Smallsalading, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	0 9
Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asters (English) doz. bunches	3 0	6 0
French Asters per bch.	0 9	1 0
Arum Lilies, 12 blms.	2 0	4 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz.blms.	1 0	2 0
Eucharis ...per doz.	1 6	2 6
Gardenias ...per doz.	2 0	3 0
Geranium, scarlet, doz. bunches	4 0	6 0
Lilium lancifolium per doz.	1 6	2 6
Lilium longiflorum per doz.	2 0	4 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.	1 0	2 0
Pelargoniums, 12 bun.	4 0	8 0
Primula, double, doz. sprays	0 6	0 9
Pyrethrum doz. bun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
,, Tea, white, doz.	1 0	2 0
,, Niels	3 0	6 0
,, Yellow, doz. ...	2 0	3 0
,, Safrano (English), doz. ...	1 0	2 0
Red Roses.....	0 9	1 0
Pink Roses	1 0	2 0
Roses, mixed, doz.bhs.	3 0	6 0
Smilax, per bunch ...	4 0	5 0
Stephanotis, doz. sprays	1 6	2 0
Tuberoses, doz. blooms	0 3	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
,, specimen plants	5 0	10 6
Calceolaria, per doz.	4 0	6 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, In var. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	1 0	5 0
Fuchsia, per doz.....	4 0	6 0
Heliotrope, per doz.	4 0	6 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	6 0
Lobelia, per doz.....	3 0	4 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	4 0	6 0
Marguerite Daisy doz.	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	12 0
Rhodanth, per doz.	4 0	6 0
Scarlets, per doz.....	3 0	4 0

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FLOWER SHOW FIXTURES, 1895.

AUGUST.

13.—Clay Cross Flower Show.
13.—R.H.S. Drill Hall Meeting.
13.—West Malvern and Mathon Flower Show
14.—Salisbury Flower Show.
14.—Bishop Stortford Flower Show.
14, 15.—Cardiff Horticultural Show.
15.—Weston-super-Mare Flower Show.
15.—Goole and District Flower Show.
15.—Maidenhead, Flower and Fruit Show.
15.—Martock Horticultural Show.
21.—Kingswood, St. George and West Gloucestershire Flower Show.
21,22.—Shrewsbury Floral Fete.
22, 23, 24.—Manchester Lily and Grape Show.
23.—Knaresborough Flower Show.
23, 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
27.—R.H.S. Drill Hall Meeting.
27, 28.—Brighton and Sussex Summer Show.
28, 29.— Bath Autumn Show.

SEPTEMBER.

3, 4.—Dumfries Flower Show.
5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29 —R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30.—Teignmouth Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days)

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—B rmingham Chrysanthemum Sho

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show.
15, 16.—Stockport Chrysanthemum Show.
16.—Bacup Chrysanthemum Show
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22.—Warwick and District Chrysanthemum Show.
21, 22, 23,—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
6.—R.H.S. Drill Hall Meeting.
9, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

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WORDSLEY, STOURBRIDGE.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER F.L.S.

SATURDAY, AUGUST 17th, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, August 19th.—Special Trade Sale of Dutch Bulbs at Messrs. Protheroe & Morris' Rooms.

WEDNESDAY, August 21st.—Kingswood, St. George and West Gloucestershire Flower Show. Shrewsbury Floral Fête (two days).

THURSDAY, August 22nd.—Manchester Lily and Grape Show (three days).
Special Trade Sale of Dutch Bulbs at Messrs. Protheroe & Morris' Rooms.

FRIDAY, August 23rd.—Lady Well Flower Show (two days). Knaresborough Flower Show. National Co-operative Flower, Fruit and Vegetable Show at the Crystal Palace (two days).
Sale of Orchids at Messrs. Protheroe & Morris' Rooms.

CHRYSANTHEMUMS IN AMERICA. — The popularity of the Charysanthemum in America is of comparatively recent date, though the first regular Chrysanthemum exhibition was held as long ago as 1868. Since Mr. W. A. Manda paid 1,500 dollars for the variety Mrs. Alpheus Hardy, in 1888, "the queen of Autumn flowers" has risen from a very inferior position to one of the greatest importance and prominence, even from a commercial point of view. The £312 10s. paid for Mrs. Alpheus Hardy, and the subsequent advertising of it, did more than all previous efforts combined to make the Chrysanthemum an object of public fame in America. This will come as a surprise to hundreds in this country, who have signally failed in their efforts to grow the variety above named, with any degree of satisfaction. Though it behaves so badly is this country, it may be stated on the contrary that very few English or Continental raised varieties give satisfaction in America. We are all the more surprised at this, seeing that a large number of American varieties gives complete satisfaction in Britain and figure largely on the exhibition boards. Our cousins across the Atlantic find that the greater portion of the imported varieties produce imperfect flowers when subjected to the American climate and their methods of cultivation.

The fashionable craze for big blooms is not so great in the United States as it is here. Independently of exhibitions, a large proportion of the Chrysanthemums is grown for decorative purposes, and the plants, in either case, cannot be grown too dwarf or stocky in growth, within reasonable limits. Other requisite qualifications are that the plants should be strong, erect, with luxuriant foliage, and bear double flowers of some distinct shade of colour, and 4 in. to 8 in. in diameter. A notable feature of American exhibitions is the showing of Chrysanthemums cut with long, leafy stems, and this method of showing them might well be more largely developed and encouraged in this country, much to the advantage of all concerned. The American methods of cultivation differ greatly from ours. The plants are propagated during the spring months, and though grown in pots for a time, are finally planted on raised benches or in solid borders under glass. Some are also planted out of doors and transferred to pots in the autumn. The system of pot culture so prevalent in this country would not answer in America owing to the expense in the matter of labour necessitated by the excessive heat and drought of summer. Where the necessary attention can be given, pot culture ensures the finest results, however, owing to the more complete control which the cultivator has over his plants in the matter of watering, and the application of artificial and other stimulants. Fully developed specimens can only be obtained by exclusive pot culture. Bench culture gives the second best results, because here again the root room is restricted, and the fertility of the soil under fair control. A whole bench should be planted with one variety or with batches of a kind to give each fair play. Commercially, the method of culture in beds is the most economical. Plants grown in the open ground, then potted up in autumn, staked and trained with little or no disbudding of the flowers, find many purchasers.

Some months ago we gave a short notice of the *American Chrysanthemum Annual*, the first that has been issued. On this occasion our notes have been taken from *Bulletin* 91 entitled "Recent Chrysanthemums" and issued from the Cornell University, Agricultural Experiment Station, Horticultural Division. Both the *Bulletin* and the *Annual* were written by Mr. Michael Barker, head gardener at the Cornell University, Ithaca, N. Y., U. S. A. A large collection of recently raised Chrysanthemums has been grown there upon trial to ascertain their value for commercial purposes, to unravel the mysteries of nomenclature, synonymy, misrepresentation and kindred matters. The *Bulletin* is the report of this trial, and a most valuable one it is. Mr. Barker says that "perhaps the one feature of Chrysanthemum development which affords little or no indication of progress is the colour of the flowers." Each variety grown upon trial is separately described in the *Bulletin*, and where two plants were obtained, the crown bud of one and the terminal of the other was taken. The results are fully and faithfully recorded and cannot but prove a valuable guide for American growers at least. Mr. Barker is an old Kewite.

Roman Hyacinths.—There is now little doubt that the French crop of white Roman Hyacinths is a short one and quality only fair.

Horticulture will be one of the twenty-four divisions of the Berlin Industrial Exposition to be held at the German capital May to October, 1896.

Royal Botanic Society.—Mr. J. B. Sowerby has recently been appointed as secretary to this Society on the resignation of his father, Mr. W. Sowerby, who has held the post for fifty years.

Mr. A. F. Barron's retirement.—In connection with the retirement of Mr. A. F. Barron from his office of Superintendent of R. H. S. Gardens, at Chiswick, we understand that the Council have resolved to make him an allowance which is practically a retiring pension of £180 a year.

Mr. Gladstone declared that, although labour-saving machinery is necessary on large farms, there is as much room as ever for spade husbandry in the cultivation of cottage gardens. It is simply wonderful what these scraps of ground can be made to produce by an industrious family.

Blackberries.—Gather the fruit as it ripens. For the home table you want the berries dead ripe. Then they are luscious. For market or canning, gather them a little before that time. Don't let the suckers spread too far from the rows.—*American Gardening.*

Plant diseases on the Continent.—During the past three or four weeks, about nine-tenths or more of the growing crops of Tomatos in the fertile lands of the Rhone valley have been destroyed by disease. The Onion disease is just now assuming alarming proportions. In both Western and Southern France whole fields are simply ruined; where 500 kilos were confidently expected, not so much as ten kilos will be saved. These are, of course, exceptional cases, but hardly one field is unaffected. Were it not for the fact that the acreage is exceptionally large, a famine would certainly result. Leeks, although not affected to the same degree, are also attacked, but only the individual growers of this article are likely to suffer.

Loughborough Flower Show.—The thirty-eighth annual exhibition of the Loughborough Horticultural Society was held on Bank Holiday in the field adjoining The Willows, Derby Road. The show was the best held for some few years, for although the number of entries was about the same a larger quantity was shown, and it was of first-rate quality, staged in capital condition. Over £50 was offered in prizes, and the schedule was about the same as in previous years.

Flower Show at Hawarden.—On the 5th inst., Mr. Gladstone attended the distribution of prizes to the successful competitors at the annual Hawarden Flower Show, the ceremony taking place on the Terrace in front of Hawarden Castle, and being witnessed by a numerous company. Mrs. Gladstone handed the prizes to the winners, and at the close a hearty vote of thanks was, on the motion of Mr. C. B. Toller, unanimously accorded to her. Mr. Gladstone, who appeared in excellent health and spirits, acknowledged the vote, and delivered an interesting speech on the show and horticulture generally.

St. Giles Cottage Garden Show.—One of the most popular, and certainly the most picturesque cottage garden exhibitions in North Devon, is that held at St. Giles, or rather in the lovely grounds of Stevenstone Park, which, with the Hon. Mark Rolle's usual generosity, are thrown open to the public for the occasion. The miserable weather, which has considerably lessened the attendance at various shows lately, exerted an unfavourable influence at the show on the 1st inst. With the exception of a few slight showers, however, the rain held off, and spectators found their way to the grounds in large numbers towards evening. The character of the show was fully maintained, for though owing to the lateness of the season some of the classes were not so well filled as in other years, this was was counterbalanced by heavier entries in other departments, while the quality was excellent. In several of the classes the quality was so high and evenly matched that extra prizes had to be awarded. The entries in the vegetable classes were numerous, and of highly meritorious quality. There were seventy-four exhibits of Potatos, and Beans were more numerous by fifteen entries than last year. Peas, Cauliflowers, Turnips, Onions, and Vegetable Marrows were fine.

Wells Flower Show.—On the 5th inst. the annual fruit and flower show was held at The Cedars (by kind permission of Mr. C. C. Tudway). The weather was very unfavourable, and consequently the attendance was limited. Taken as a whole, the show was a fairly good one, the groups being the principal feature. Begonias were a good class. There was also a good collection of vegetables.

Flowers at Peckham.—During the first three days of the second week of this month the Camberwell and Peckham Amateur Floral Society afforded its patrons and the public a very neat and effective flower show, this being the nineteenth annual exhibition made by about a dozen amateur growers, who contend year by year, and that most successfully, with the adverse surroundings of the district. The exhibits are all grown by working members. The display cannot be considered from any point of view a meagre or an indifferent one. The most noticeable features are the numerous groups arranged within a given space, and the Fuchsias.

Night-flowering Cactus.—There is at present flowering in the greenhouses of the Rev. R. Burdon, Heddon House, the night-blooming Cactus (Cereus nycticalus), the flowers of which are about a foot in diameter. They open about seven o'clock in the evening, and fade the following morning. The Cactus is now rare as compared with its popularity a generation or so ago, when it was to be found among many collections of plants, and at that time its flowering was looked upon as an unusual event.

Vegetable Marrows.—A new variety has, during the last season or so, been introduced into the Evesham gardens, and is very favourably spoken of by those who have tried it. It is called the Bush Marrow, presumably from the manner of its growth. Instead of sending out runners like ordinary Marrows, the plant takes more the form of a bush with very short branches, and the Marrows grow from these branches. There "bushes" are considerably taller than the commoner Marrows, and as they have no runners, they are more easily kept in order.

Cedar struck by lightning.—The thunderstorm that burst over the metropolitan district on the evening of Saturday, August 10th, was one of the heaviest on record. Not only did torrents of rain fall, but the lightning was exceptionally brilliant, the flashes recurring at exceedingly short intervals, whilst the accompanying thunder crashed and rumbled its loudest. A handsome specimen of Cedrus Deodara growing on the right of the walk leading from the Palm house to the Pagoda Vista in Kew Gardens came to grief. The top of the tree was broken clean off, the remaining trunk being rent asunder right to the ground, whilst large wedges of the wood torn from different parts of the stem by the Titanic energy of the lightning flash lay here and there amidst the other ruins. Singularly enough, but little traces af any discoloration or burning were discernible. The scene of the catastrophe was visited on Sunday by large numbers of visitors, who crowded around the fallen monarch with unmistakable indications of interest.

Plants Certificated at Ghent.—At the monthly meeting of the Syndical Chamber of Belgian Horticulturists, held in the Casino, Ghent, on the 4th inst., Certificates of Merit were awarded to Daphne Laureola atropurpurea, Spiraea Anthony Waterer, Physalis Franchetti, Euphorbia Fournieri, and Aristolochia tricaudata, shown by M. F. Desbois; to Euphorbia Fournieri, shown by M. Pynaert-Van Geert; to Anthurium Scherzerianum Adrieni, shown by M. Em. de Cock; to Agave Trouhetzkoyana, shown by M. Bedinghaus: to Physalis Franchetti, shown by M. Al. Dalliere; to Grisebachia compacta, shown by M. E. de Cock; to Aralia monstrosa, shown by M. Desmet-Duvivier; to Cattleya Rex and Laelio-Cattleya Proserpine, shown by M. Jules Hye; and to Yucca filamentosa fol. var., shown by M. Aug. Toeffaert. Similar awards were made to collections of double flowers of tuberous Begonias from this year's seedlings, presented by M. Georges Van Oost, M. Szewczik, and by M. Joseph Alsberghe, whose plants were raised in 1894.

Gardeners' Royal Benevolent Institution.—On Wednesday last, through the kindness of A. Mordan, Esq., a garden party was held in the grounds of Stone House, Reigate, for the benefit of the Gardeners' Royal Benevolent Institution, established for the support of aged and infirm gardeners. The weather being exceedingly fine, the grounds were visited by over a thousand persons. Amongst those present were Lady Jennings and party, Mrs. Simmons and family, the Misses Baxter, Mr. and Mrs. Mordan, Mr. Lawder Eaton, Miss Mordan, Mr. R. E. West, Mr. Davidson, &c. In the evening the grounds were beautifully lighted by fairy lamps and Chinese lanterns, especially the verandah, which was most effectively illuminated. The work was carried out in a most satisfactory manner by Messrs. T. Lanaway & Sons (Redhill). The whole of the grounds and greenhouses were thrown open for the inspection of the visitors, many of whom were heard to remark on the admirable way in which the grounds were kept by the head gardener (Mr. G. Steer), who, it should also be mentioned, ably carried out the general arrangements of the gathering. Dancing was carried on in the evening with much vigour; the Redhill Town Band, whose services were highly appreciated, played the selections. Refreshments were supplied on the ground by Mr. Mark Dean, of Bell Street, Reigate. By this effort the funds of the Institution will be benefited by over £12.

Liverpool Window Garden Association.—During its existence, extending to twenty-one years, the Liverpool Window Garden Association has done a great amount of valuable work, as through its influence and active exertions, it has fostered and extended a love of flowers in many of the lowest parts of the city amongst dwellers whose surroundings have been greatly brightened and beautified by the anxious care of the society. The scheme of labour has been consistently and enthusiastically carried out by many ladies and gentlemen whose object has been to encourage even the poorest amongst the population, to give some brightness and beauty to their humble dwellings. The result of these self-sacrificing and commendable efforts was apparent on the 22nd ult., at St. George's Hall, where the coming-of-age exhibition of the association—the 21st of the series—was held under the most favourable auspices so far as weather and competitions were concerned. On the tables which were placed in the large hall were to be seen most creditable specimens of plant growing, principally Pelargoniums and Fuchsias, the total exhibits numbering something like 850 plants of a very varied description. The show was generally judged as superior to that of last year, when there were 600 plants displayed. The quality of the exhibits was especially marked, and there was a more profuse display of flowers on the plants than has been seen for several years.

Important right of way case.—An important right of way case is reported from Bournemouth, where the dispute between the parties has reached an acute stage. It appears that in December last Mr. Merton Russell Cotes, the Mayor of Bournemouth, who resides at East Cliff Hall, and who is proprietor of the Royal Bath Hotel on the East Cliff, enclosed a portion of a narrow strip of ground leading from the Bath road to the cliffs, which adjoin his private grounds. The strip of ground, 250 feet long by 30 feet wide, had long been used by the public. Mr. Cotes narrowed the pathway to seven feet, taking the remainder, a strip 23 feet wide, into his grounds. This strip he had banked up with soil and planted with shrubs, privet hedge, and gorse. At the high road end a carriage way had been made to East Cliff Hall, and on the site of the old road there had also been erected a gateway to the hall, and a handsome summer house. This proceeding had been much criticised and discussed by the Bournemouth Corporation, over which Mr. Cotes presides as Mayor, and on the 6th inst., at the Corporation meeting, a motion to restore to the public the piece of land, 250 feet long by 23 feet wide, which it was alleged the Mayor had encroached upon, was carried by a majority of one. Acting in consequence of that vote, the assistant surveyor, with 58 men and a dozen carts, proceeded to the strip of ground at three o'clock yesterday morning. They at once proceeded

to restore the original roadway, and met with no opposition as the Mayor was absent from home through ill-health. The summer house was bodily removed on a trolley to the Corporation yard, and tons of soil were pitched over the cliffs. The shrubs were removed to the public gardens and transplanted there, and by ten o'clock the road was clear. There were few people about while the work was carried out, as the fact that it was going to be done had been kept quiet, but as the town awoke crowds came to see the work. It now remains for the Mayor or the ground landlord (Sir George Meyrick) to decide what action will be taken if the road is claimed as private property.

SCHOOLS WANTED.

Being a constant reader of The Gardening World I was very well pleased with the course taken up by the Essex County Council with regard to the Summer School of Horticulture at the Technical Laboratories, Chelmsford; and what I would like to see would be some of our Scotch County Councils following the example set them, and giving us, the young gardeners of Scotland, a chance to compete with our friends across the borders, and help to do away with a saying I once heard of Scotch gardeners having to go to England to get polished. However, I hope it will not be long till there shall be schools like this all over the kingdom like those there are for most other trades; but I would suggest if possible that it might be done in the evenings with Saturday afternoon visits, as it would not be easy for young men to get away three weeks in the summer. However, I would like to hear something more of this from some of your more experienced readers.—*A Youth from Ayr.*

HORTICULTURAL INSTRUCTION IN SURREY.

Mr. J. Wright, F.R.H.S., has just issued to the Surrey County Council an interesting report on the teaching of horticulture in continuation school gardens throughout the county. The first group of such gardens in the county was formed under the auspices of the Surrey County Council at Banstead, and the results were so encouraging, and the value of the teaching so much appreciated, that the movement spread rapidly till there are, at the present time, 446 plots of ground on which gardening in its most useful aspect is being taught. There are, on an averages twelve crops in each plot, and there are now considerably more than 5,000 crops of the most serviceable kind of vegetables being grown entirely by youth, in the continuation school gardens in Surrey. The great majority of the gardens are kept in splendid order, and in many the management of fruit trees and bushes is constantly under the observation of the workers. Numbers of the plots are in a far better state, and the crops grown in a better manner, than in hundreds of cottage gardens and men's allotments. Provision is made in Surrey for giving land lessons to children in the public elementary schools, and at Caterham fifty-six young boys are being taught on small plots of ground, to prepare them to pass on to the larger continuation gardens in due time. Mr. Wright remarks that in these gardens knowledge is being acquired and habits formed by the youthful workers which cannot fail to be most beneficial to them individually, while the aggregate value of the teaching is bound to have a far-reaching influence for good, both in village communities and on the working populations that reside on the outskirts of towns where plots of land are so numerous, yet, in many instances, so neglected.

Speaking at an assembly of gardeners and amateurs, on the occasion of the annual flower show of the Beddington, Carshalton and Wallington Horticultural Society, on the 5th inst., Mr. Wright told his hearers that it was a fact to be proud of that the proposal to ask Government to support technical instruction, such as is now so extensively carried on all over the country, originated in their neighbourhood. It may here be stated that the competition for the best kept gardens in this district of Surrey is very keen, and is likely to become more so as time goes on. Even those who do not actually enter for competition are stimulated to take a greater interest in their gardens, and to work them up to great perfection. Many of them judge their own gardens, and pretty correctly too, by comparison with those which take the prizes.

GRANARD GARDENS, PUTNEY.

A visit to Mr. William Iceton's establishment at Granard Gardens, to those who are at all interested in nursery work, is at all times fraught with a great deal of pleasure and not a little profitable instruction, whilst even to those who are not closely concerned with plants, or do not claim to know much about plant life, an hour or two spent in looking round a "plant factory," if we may so term it, like that of Mr. Iceton's is time exceedingly well spent. A few years ago, comparatively, even the commonest decorative plants had a prohibitive price set upon them, prohibitive at least to all but those who had not the proverbial long stocking to draw from. Consequently people in humble circumstances had no chance, or at least a very poor one, of gratifying their likes for plants by possessing a few of their very own wherewith they might enliven their lowly dwellings, and gladden their simple hearts.

But times have changed, and we may add, a good thing too. With the cessation of the duty on glass, horticultural buildings are now erected at a much cheaper rate than formerly, whilst the greatly improved system of transmarine communications that obtain have gone a great way to reduce the price of various plant seeds, many of which were formerly injured by the long sea voyages, that are now practically a thing of the past. At one time Palms were only to be seen in the conservatories of the very wealthy, for this was the only atmosphere that would suit their aristocratic tastes. Now, however, the great wave of social democracy that has swept over the country of recent years has affected them to an extraordinary degree, and we find that while they have lost not a whit of their good name with the upper, they have gained immensely in the popular esteem of the lower classes, and many a thousand plants are disposed of annually to eager purchasers from the unpretentious coster's barrow, which is invariably to be seen circling about the streets and suburbs of our large towns.

Over fifty large and convenient houses are devoted by Mr. Iceton to the propagation and rearing to market size of all the kinds of Palms that find most favour in the eyes of the public, both for beauty of habit and sturdiness of constitution. Latanias, Cocoses, Phoenixes, and Kentias are represented in vast quantities, for Mr. Iceton buys his seed by the bushel, and sells his plants by the thousand. Everywhere we see shelves packed as full as they can hold of thimble-sized pots with their precious occupants, that in these early stages baffle all attempts on the part of any other than an expert to put them in their proper genus, let alone to hit upon the right specific name for them. Passing on we find them in all stages of growth, some in small sixties, others in forty-eights. Splendid stuff these for furnishing purposes, both for conservatory and within the mansion itself. Although there are known to us some twelve hundred Palms or thereabouts, but an exceedingly small proportion of these find a place in a market nursery, for here Mr. £ s. d. is the managing director, and an inexorable master he is, for it is of no use to take up valuable space by growing stuff for which there is no sale.

Our old friend, Cocos Weddeliana occupies a very high position in the scale of decorative merit, and thus we were not surprised to see thumb pots of it galore as well as some fine batches of four-year-old plants in forty-eights, that did the gardener's heart within us good to look upon, as evidencing cultural skill of no mean quality. C. plumosa is also a most useful plant when it gets to a fair size, for then its long feathery fronds come in very handy as a background to groups of plants arranged for effect. Of late years there has also been a demand for its nearly allied congenor, C. Datil. Howea, or to give it its common market name, Kentia Fosteriana, is also grown in quantities that speak sufficiently strongly of the large demand there is for it. H. Belmoreana is another favourite very closely allied to the former species in general appearance, the great difference being that the segments of the fronds converge upwards, whilst in H. Fosteriana they have a more decided droop. Other Palms which find a ready sale are Livistona rotundifolia, L. chinensis (Latania borbonica), Chrysalidocarpus (Areca) lutescens, Phoenix rupicola, and Thrinax elegantissima. The very hardy Chamaerops humilis is likewise in considerable request for standing in corridors or other very draughty places, where its robust constitution stands it in good stead, although it is not so ornamental as some of the more delicate ones.

It must not be supposed, however, that small Palms alone are to be found in the establishment. Some of the houses are lofty and roomy, and shelter large numbers of fine specimens in splendid health, despite the fact that they are frequently utilised as decorative material for large balls, parties, etc.; for Mr. Iceton has a wide reputation as a furnisher and decorator. Among other good plants we noticed excellent specimens of Ptychosperma Cunninghamiana (Seaforthia elegans), Howea Fosteriana robusta, H. australis, and Thrinax radiata. Remarking upon the general health and vigour of the plants, we were informed that a solution of cow manure and soot was the stimulant used, as in common with other growers. Mr. Iceton believes this to be far safer to use than artificial manures. Some magnificent plants of Dracaena congesta and D. gracilis arrested our attention in our journey round, so well grown were they, and so healthy and happy did they appear. These, our guide told us, were of great service in the demand frequently made upon the resources of the establishment for large plants for furnishing at some social function or other. We also noted numbers of Araucaria excelsa in all sizes, from 6 in. in height to stately young trees 7 ft. or 8 ft. high, but in relatively small pots. Another useful subject this, and one for which the demand grows greater each year.

We must also not forget to give due mention to the houses of Asparagus plumosus nanus. The plants are not only remarkable on account of the size and strength of their growths, but also for the regularity with which they fruit; and the success with which seed is obtained year by year has materially assisted in making Granard Gardens famous. It may be useful here to observe that the annual cutting back which the plants receive, fresh, strong growths being thus thrown up each season, has no doubt a great deal to do with the satisfaction that these plants give as seed bearers. Cut fronds of Asparagus are always in request, and on account of the length of time they keep in condition after they have been cut, as well as their undeniably graceful appearance they have become even more popular than fronds of Maidenhair Fern for the making up of bouquets, sprays, etc. We were just in time to see the last of the enormous batches of Lilium Harrisii that have been grown this season. While all have done well, the latest plants have done best of all; the number of flowers produced, as well as their individual size, being considerably above the average. Extensive batches of L. lancifolium album and L. l. rubrum, some of the forwardest of which are just commencing to open their flowers, bespeak the fact, however, that the genus Lilium will yet have worthy representatives for some weeks to come.

One very pleasing feature was a long light house filled as full as it could hold of splendidly-flowered specimens of Hydrangea paniculata grandiflora. We have seen this well-known subject under a great variety of circumstances, have always found it to acquit itself well, and have had previous occasion to remark upon its great beauty and not less great usefulness, but we have never seen it in better condition than it is at Granard Gardens at the present time. The plants are dwarf, sturdy, and vigorous, the size, substance, and deep green hue of the leaves attesting the fact that the particular treatment given them suits them down to the ground; whilst the panicles of dazzling white bloom are of extra large size.

Yet another treat was in store for us before we had finished our rounds. A door leading into a forcing pit was opened, and lo! the sweet fragrance of that child of spring's brightest hours, the Lily of the Valley, greeted us. By keeping a stock of crowns on ice, and bringing these into heat to start them into growth as required, a supply of bloom is kept up the whole of the year round, although July and August are the slackest months. Nor, although we carefully examined them, do these kept back plants exhibit any weakness of habit, or deterioration of either individual bloom or raceme, and that they had not lost a whit of the delicious fragrance characterising those produced at an earlier season our olfactory nerves assured us. On striving to obtain an idea of the extent to which the practice of freezing the crowns thus, is put in vogue in the establishment, the manager, a keen horticulturist by the way, in reply to our question, made the emphatic statement that if we would give him an order for a hundred

thousand crowns they should be ready in a fortnight —in itself a sufficient illustration of the efficiency of Mr. Iceton's supply, and, we might add, of the manager's business capacity to boot.

It is obvious that we could not have bidden farewell to Mr. Iceton's nursery without a peep at the famous Stephanotis plants, which are certainly some of the largest and best in the country. Two giant specimens entirely cover the roof of a lean-to house, some hundred feet in length by twenty in width. They look a picture of good health at the present time, clean and free from mealy bug, and with large trusses of the waxy blooms appearing here and there amongst the richly green foliage, they are in themselves well worth a visit. In conclusion, we may say that we left Granard Gardens with very lively feelings of admiration for the way in which things were managed and the business-like air that pervaded the establishment generally.

DOVER HOUSE.

In visiting this establishment early in the season we particularly noticed the somewhat extensive preparations that had been made for a fine display of bedding Violas. The plants were, of course, in their infancy, although their manifest healthiness and vigour augured well for a brave show later on. Nor were those early promises of good results disappointed; for despite the exceeding dryness of May, June, and the major part of July, they have flowered away most profusely, and are now a perfect picture of gay and varied colouring. The Viola is now so highly thought of in all quarters as a showy and useful bedding subject that we need not at present launch out into a description of its merits and high class qualities. Admitted by most cultivators to have a great regard for an abundance of water at the root, it has been heavily handicapped this season. Some growers have kept their plants entirely without water other than that which they have received from the clouds, and report favourably upon the results obtained from this system of treatment.

The value, however, of the Viola as a dry weather subject and its ability to withstand unharmed protracted periods of drought have not been sufficiently demonstrated as yet to cause the majority of cultivators to change their mode of giving the plants plenty of water, by means of the hose or the watering can whenever occasion requires. Indeed, Mr. McLeod informed us that every evening during the hot weather his beds had a good watering with the hose, and that this treatment has suited them well is very evident. The principal, and in many cases the only, use made of Violas in our flower gardens is as edging to beds filled with other subjects, but at Dover House an elaborate bedding design has been thought out and put into execution. So fine is the effect produced, and so worthy of extensive imitation is the system, that we trust this note may induce some gardener who is on the look-out for features somewhat out of the common to assist in rendering his flower garden more attractive, to go and do likewise.

A large border some fifty feet in length, and averaging about fifteen feet in width, is laid out in very pretty and tasteful fashion, narrow alleys serving to separate the beds from each other, and thus to render the design more evident. Briefly the arrangement is as follows:—In the centre is a round bed flanked on either side by one of diamond shape, and surrounded by eight triangles, together with a wide margin. The light coloured varieties form, as it were, the groundwork of the whole, into which patches of dark flowered sorts are let in here and there with excellent effect. The bright yellow flowers of Wemyss Gold run all round the margin in a brilliant band of gold, from the midst of which stand out with singular effect the panels of Archie Grant, rich indigo-blue, and an especially fine bedder; Mrs. H. Bellamy, in which the upper petals are pale lavender and the lower deep purple in hue; The Mearns, a wonderfully pretty sort, of a rich plum colour, the upper petals being margined with silver; Acme, one of the very best crimson-purple bedders we have; and Rob Roy, bright yellow, heavily blotched with dark chocolate-brown. Following this outer hand come a couple of lines of True Blue, a splendid old sort, running the whole length of the border. The triangles, diamonds, and circular beds referred to contain such well known varieties as the following:—Bullion, rich gold, very handsome and free; Quaker Maid, rosy lavender, with bright yellow centre; Tory, light blue; Blue Cloud, a very pretty sort, the white flowers being charmingly margined with ultramarine blue; Edina, said to be of much better habit and a freer and more continuous bloomer than Countess of Kintore, which it much resembles in colour of flower, and which was also well represented; and Max Kolb, a deep ultramarine blue.

In making this Viola garden, Mr. McLeod's idea was to utilise as many sorts as possible, and in this he has splendidly succeeded, for the floral picture spread out before our gaze could only be compared to the brilliant hues of the kaleidoscope, so bright and varied, and withal so pleasing, were the numerous colours. Any flatness that the Violas might have possessed of themselves was admirably relieved by the dotting here and there of Fuchsias, which with their profusion of bloom were evidently striving to prevent the Violas from out-flowering them. A narrow border on the other side of the walk had been furnished in a similar way, with the difference that whereas in the larger garden the lighter coloured varieties had served as a groundwork for the darker ones, in the smaller one the position of things was reversed, and panels of the light flowered sorts stood out here and there amidst the more sombre beauty of the dark varieties. A very pretty contrast between the two borders was thus apparent. The plants have been blooming away for a long time with exceptional freedom, and have grown so strongly that it has been necessary to thin out the growths during the last week or two, an attention which cannot fail to be of service to the crowded plants.

ROYAL BOTANIC GARDEN, CALCUTTA.

Before us lies the 108th Annual Report of this well-managed establishment, and which has been drawn up by Dr. King, the Superintendent, who dates the report from Darjeeling. The principal alterations in the garden since last year consist of the re-modelling of the intermediate conservatory (the whole of the plants in which, with exception of hanging baskets, are planted out), and the repair and alteration of a road about a mile in length running along the banks of the river Hoogly, and which was done with material taken from the bed of that river. The conservatory has been laid out on a more artistic plan than the formerly, by the Curator, Mr. R. L. Proudlock, and was planted by Mr. J. Davies, the Assistant Curator, under the direction of the former. During the year, 22,553 plants had been received for the garden from various sources, and 42,188 have been sent away to numerous other places. Likewise, 1,243 packets of seed were received and 3,059 packets distributed. During the same time 13,119 herbarium specimens were received from various parts of the world including 2,198 from Kew, and 15,530 were distributed, Kew receiving 2,044. All this must entail a considerable amount of work on the part of those in charge.

AUBRIETIAS.

These beautiful spring-flowering plants, useful alike on the rockery, for masses in the borders, or spring bedding arrangements, are at home almost anywhere on old crumbling walls and buildings. We have in our mind an old garden in which, on one of the parting walls, Aubrietias grew and flourished amongst the fruit trees, and, when in flower, were a most beautiful sight. As the flowering season is now past, the plants may be cut over if getting too large; and if a larger stock of them is required, a fortnight or so afterwards lift them carefully and shake out the soil, or washing it out will he better. It is then easy to separate the young shoots with roots from the old stools; these may be planted as required. Another method of increasing the stock is, when the young growths are about two inches in length, to strip them off with a heel, and dibble them in as cuttings under a handlight in a shady place. Use a sandy soil; if well attended to, they should be rooting in three weeks. A knife is not required; in making these cuttings insert them just as they are stripped of the mother plant. The best forms are Campbelli, Improved, Hendersoni, and graeca. There are others, but these will meet the requirements of most people.—*W. B. G.*

THE SALE OF POISONS.

At the Mansion House Police-court on the 25th ult. Messrs Spiers and Pond (Limited) were summoned before the Lord Mayor, at the instance of the Pharmaceutical Society of Great Britain, for an infringement of the 17th section of the Pharmacy Act, 1868.—Mr. C. F. Gill and Mr. Clifford Probyn were counsel for the Society, Mr. J. P. Grain for the defendants.—Mr. Gill said the Pharmacy Act was passed for the protection of the public, and it provided that certain regulations should be observed and precautions taken in the sale of poisons. Among these were that no poisons should be sold to any person unknown to the seller, unless introduced by some one known to the latter, and that every sale should be entered in a book giving the name and address of the purchaser, whose signature was to be appended to the entry. Among the articles scheduled in respect of which these precautions were essential were "arsenic and its preparations." Messrs. Spiers and Pond, it was alleged had sold arsenic in large quantities without taking the steps required for the safety of the public. They carried on a large business in Blackfriars, including a drug department, where medicines and drugs were made up and sold. That they were perfectly aware of the provisions of the Pharmacy Act was obvious from the directions included in their catalogue as to the sale of poisons. Among other articles sold by them was what was called a "Patent Weed Killer." It was packed up in tins, and sold at 1s. 8d. each. A tin was bought by a perfect stranger without any of the precautions directed by the Act, and when analysed was found to consist of no less than 75 per cent. of arsenic, and 25 per cent. of caustic soda mixed in the form of a coarse and uneven powder. Each tin contained 21lbs. 13ozs. of that substance, sufficient to kill 6,000 people.

Mr. E. J. Eastir, Demonstrator of Practical Chemistry to the Pharmaceutical Society, and Dr. Thomas Stevenson, of Guy's Hospital, the Analyst to the Home Office, gave evidence as to their analysis of the "Patent Weed Killer." Dr. Stevenson added that the preparation was of a highly dangerous character and that although it had, when used, to be diluted with water, arsenic persistently adhered to the sides of every vessel in which it was contained. It was certainly in his opinion "a preparation of arsenic" within the Act.—The Lord Mayor said it seemed to him to be more arsenic than preparation.—Mr. Grain admitted the sale and the correctness of the analysis, but urged that it was a straining of the Act to apply it to such a case, when carbolic acid, oil of vitriol, and other poisonous substances were allowed to be sold. Besides, while the preparation, "Vermin Killer," was specifically mentioned in the schedule, there was no allusion to substances used for destroying noxious weeds. The defendants, if they had erred at all, had done so in innocence and through inadvertence, and directly their attention was called to the matter they withdrew the article from sale.—The Lord Mayor said there was no doubt the preparation came within the Act, and it was an element of additional danger to the public when an eminent and respectable company like the defendants' sold such an article openly and in the usual course of trade. He imposed a fine of £5 and £5 5s. costs.

STATICE PROFUSA.

This lovely plant, which is by the way a cross between S. puberula and S. Halfordii, is one of the finest decorative subjects we have, and one that comes in very useful in the greenhouse during the months of August and September. The flowers are produced in great numbers upon many branched corymbose heads. The corolla is a pure white, whilst the calyx is of a rich purple shade, and the contrast in the colour of these two floral envelopes is remarkably striking. Not unornamental are the leaves, which are rather spathulate in shape, of a leathery consistency, and a shining dark green hue. S. profusa answers to ordinary greenhouse treatment very well indeed. Cuttings taken in spring and placed under a bell glass root readily enough, and soon grow into nice plants. A little charcoal in the soil is of great service. We lately noticed some very fine examples of it flowering away most profusely in one of the cool houses in the gardens at Dover House, Roehampton, the seat of J. P. Morgan, Esq.

THE PLANT HOUSES.

The Stove.

For the next few weeks air must be very plentifully admitted, in order to impart additional firmness to the foliage, so that it shall stand a good chance of passing through the winter with comparatively little injury. The shading, moreover, will not need to be kept on so long as before, as a little exposure to the sun rather earlier in the afternoon will materially assist in the ripening process.

Crotons.—Specimen plants of these should now be in the pink of condition, and having filled their pots with roots will need abundant supplies of water. Keep a sharp look-out for the appearance of thrips, brown scale, and mealy bug, which will very soon disfigure the leaves and spoil the appearance of the plants. Where it is necessary to increase the stock cuttings may be taken at any time. Good healthy shoots if taken now, firmly fixed in a small well drained pot filled with sandy soil, and plunged in a warm propagating frame, will root very readily, and will make nice stuff of a handy size before winter sets in. As it is important that the cutting should not be disturbed, any disturbance greatly retarding the rooting process, and as the long leaves are exceedingly apt to lop about and to become caught in surrounding objects, a small neat stake should be placed in each pot, and to this the whole of the leaves may be attached.

Dracaenas.—Where eyes of these, taken from the stems of old plants, have been plunged in a brisk bottom heat in cocoanut fibre a few weeks ago, they will by this time have made one or two small leaves. This, of course, means a corresponding activity in the way of roots, and, therefore, the young plants should be lifted out of the fibre, from which the delicate rootlets can readily be separated without fear of injury, and potted up into small pots. Do not pot too firmly, however, and use a light soil largely composed of peat or leaf mould with plenty of sand. Keep the little plants on a shelf near the glass, and dew them over with the syringe twice or thrice a day.

Miscellaneous potting.—If growth has been exceptionally vigorous throughout the summer it may well happen that many of the younger plants have filled their pots with roots, and are calling out for more room. Now while it is not at all advisable to shift to any great extent, a little more room may be given them if they appear to need it. In all cases, however, avoid large shifts. Other subjects that are in an unhealthy condition, and the soil sour and sodden, must be turned out of their present quarters, as much of the old soil removed as possible, and then potted up into as small pots as will comfortably contain them. In the case of these last mentioned subjects, it will be advisable to remove them to a warm pit where they can be kept closer than is possible in the large stove. Whether the quantity of potting to be done is little or much, it must be seen to without delay, for it is a great mistake to disturb the plants too late in the autumn.

Conservatory.

Here it will be necessary in order to keep up the display, to have a turn out now and again to get rid of the old stuff, and to make room for younger or later plants which may be in readiness. Old Fuchsias that have got too shabby may be taken out and stood in a corner of the frame-yard, where they will receive plenty of light and air. The water supply may be considerably curtailed, but the necessary fluid must on no account be entirely withheld. Cuttings that were struck in the spring will now have made nice little stuff in 32-sized pots that will flower away well on on into the autumn.

Sponging.—In a house occupied by plants in flower, it is obviously impossible to syringe, and thus upon the fronds of the hardier Palms and other foliage plants to be found in the department during the summer months, a deposit of dust and dirt is usually to be seen. The leaves of Oranges are especially very much inclined to get dirty. A useful and inexpensive washing solution may be made by dissolving a piece of soft soap about the size of a walnut in a couple of gallons of tepid water; and whenever there is a little time to spare, the leaves of such plants should be carefully gone over and sponged. In the case of large specimens in pots, or of those that are planted out, it is obvious that it will be impossible to shift them, but smaller plants may be taken outside and given a good washing with the syringe.

Plants for edging.—Subjects of dwarf or pendant habit are of great value as material for putting a finishing touch to the stages, and by judicious utilisation of a few suitable plants, some very pretty effects may be obtained. The delightful little Isolepis gracilis has no equal in this respect. All it wants is plenty of water, and given that it is always in condition. A good stock of it should be kept in hand, and this can easily be obtained by dividing up the plants as they get too large. Small pots of Adiantum cuneatum, A. diaphanum, and some of the varieties of A. Capillus-Veneris are excellent. Very pretty also are Liriope (Ophiopogon) graminifolia and Ophiopogon Jaburan variegatus. Very charming effects may also be obtained by means of ivy leaved Pelargoniums suffered to hang over the edges of the stages in which position they look very nice. Campanula isophylla and its beautiful variety alba may be treated in the same way, and are certainly handsome and useful plants.

Campanula Vidalli.—A very ornamental plant this, although, sooth to say, one but comparatively infrequently met with. Still, it is well worthy a place in the conservatory, as it has a striking appearance, and is very distinct from the rest of the Campanulas. The flowers are large, pure white in colour, almost wax-like in consistency, and are produced on long loose racemes from one to two feet in length. At the present season it comes in very useful in the conservatory.

Pits and Frames.

Mignonette.—Much as this sweet-scented favourite is prized during the summer when it can be obtained from the outside garden, it is in even greater request through the dull dark days of winter, both for cutting from, and for furnishing purposes as a pot plant. No time should therefore be lost in sowing a batch of it to supply the winter demand. Thirty-two sized pots are the handiest to use. These should be cleaned, well drained, and filled three parts full of soil, the upper layer being rather fine. On this, the seed should be sprinkled thinly, covering afterwards with a very shallow layer of fine sandy soil. The seed pots may be stood in a cold frame, and kept near the glass. Shading during hot sunshine will, as a matter of course be essential, to prevent excessive evaporation of moisture from the soil before germination, and afterwards when the little plants make their appearance to preserve them from injury.

When the seedlings have attained to a sufficient size to enable the operator to decide which are the best plants, thinning out must be resorted to, leaving only three to a pot. This will be quite sufficient if properly looked after to ensure a good pot full of the coveted flower. The best Mignonette we ever saw was treated as follows. One plant only was left, and this was early pegged down and allowed to run all round the pot, pegging it down at intervals. When it had completed the circuit, the top was pinched out and the laterals suffered to develop which they did in a remarkable way, each shoot bearing a wonderfully fine spike. As varieties for culture in pots, we should recommend Mile's Hybrid Spiral, Machet, Crimson King and Garaway's White. We have tested them thoroughly and have always succeeded in obtaining good results from their culture.

Freesias.—Once more has the time arrived when the bulbs of these lovely Cape plants must be started growing. After flowering in the spring, they will have been consigned to a cold frame to complete their growth, water being withheld after they had reached a fairly advanced stage. The first consideration, therefore, will be to turn them out of their pots, and to look the soil over very carefully, taking out the bulbs. These must be sorted according to their size, the larger bulbs being kept by themselves. The smaller ones may be planted pretty thickly in shallow pans, as although they will not flower during the ensuing season, they will make good stuff for the next. For the flowering bulbs a compost of loam and leaf soil with plenty of silver sand should be used, and after they have been potted up they may be removed to a cold frame and covered with ashes until growth has fairly commenced. There are supposed to be several forms included in in the genus, but they come exceedingly close to each other. F. refracta is white, with the lower segments of the perianth more or less heavily blotched with orange. F. r. alba, the one that finds the most favour of any, perhaps, bears a pure white flower minus the orange blotchings, that characterise the type. F. Leichtlinii bears yellow or creamy-yellow flowers, and should also be grown for the sake of variety.

Roman Hyacinths.—No time must be lost in getting these from the bulb merchant and in potting them up. They can now be obtained at comparatively little cost, and advantage should be taken of this to grow large quantities, as they are so useful, and indeed indispensible, in the making of wreaths, bouquets, etc., during the winter months, when white flowers are at a premium. The same soil as advocated for the Freesias will suit admirably. From three to five may be placed in a 32-pot, according to the size of the bulbs. After potting they must be covered over with ashes or cocoanut fibre, as in the case of the Freesia, to encourage root action.

Show and Decorative Pelargoniums.—As soon as the wood on the old plants has acquired the requisite degree of maturity cutting back must be performed. Use a sharp knife and cut the shoots clean back to within two or three eyes of last year's growth. The plants may then be placed in a cold frame and kept fairly close, plying the syringe about them until they commence to break, when they will be ready for potting up. Cuttings of the firm, well-matured wood will root very readily if inserted in light sandy soil, and placed in a gentle heat. They will strike also if accorded no other shelter than that of a cold frame, although we prefer to give them rather warmer treatment, as we have invariably discovered that much time is gained by so doing.—*A. S. G.*

THE ORCHID HOUSES.

East India House.—It is quite a pleasure to see the sphagnum moss in such fine condition on all the plants where used. During the drought it was with difficulty kept in anything like a growing state, owing to the use of hard water, but since the rain, all has been changed—so much so that in many cases we have had to go over the plants pressing the moss down, so luxuriant has it become.

Phalaenopsis.—The weather of late has been very suitable to the moth Orchids. On all sides they look wonderfully well. Caution, however, should be exercised so as not to get the leaves too sappy by over-shading and insufficient air, or the dreaded spot is sure to put in an appearance. The moss should not be allowed to grow too high up round the collar; where this is so press it down and sprinkle a few broken crocks over it to keep it in position.

Saccolabiums.—Generally speaking these do best when grown in baskets suspended from the roof. They do not perhaps make such long leaves as when grown further away from the glass, but they flower more freely, and will go through the winter better.

Aerides.—These require the same treatment as Saccolabiums, but as most of them run taller, they are best grown in pots and placed on the stages. Live moss alone grows them well, but we like to first put a layer of peat, and then fill in with moss with which is mixed small bits of crock.

Cattleya House.—Without Cattleya aurea this division would be dull indeed, for C. gigas has gone out of flower and is asking for some fresh material for the new roots, which are pushing in quantity from the fresh made upgrowths to take hold of. There is no better time than now for re-potting this fine Cattleya. They establish themselves in next to no time. Use the peat, which should be of the best, in a moderately moist state, and no water will be required for at least a fortnight, and then only just a sprinkle over to keep the plants from shrivelling. If kept too wet the roots will turn black at the points, and later the plants will turn black also, a contingency to be avoided.

Cool House.—A large quantity of plants in this division will now require attention as regards potting, and as the weather is cool and moist everything should be done to forward the work. The plants will then soon get hold of the new material and be in a fit state to pass successfully through the coming winter.—*C.*

HINTS FOR AMATEURS.

Autumn Sown Onions.

The value of Onions as a vegetable is too well known to need a lengthy notice. It must suffice to say that there are very few gardens however small in which a portion of space is not devoted to their culture. Furthermore, from the "profit and loss" point of view, we question very much if there is another vegetable which gives better returns for labour expended, and which pays better to grow than the Onion. Not only is it a valuable flavouring agent in soups, stews, &c., and an exceedingly useful medicine when the invariable "code in the head" attacks members of the household, but it is also a tasty and welcome vegetable when cooked whole and served in the ordinary way. As the practice of sowing seed in autumn has a good deal to be said in its favour, a hint may be given that where it is proposed to do this the present is the time to see about it. It is not advisable to delay the sowing for too long, as it is necessary to allow time for the plants to reach a fair size, so that they shall be able to withstand the winter without fear of injury. As the autumn advances they will grow very slowly indeed, and once the frosts make their appearance they will apparently be at a standstill until the spring, unless, of course, an exceptionally mild and open autumn is experienced, as for instance like that of 1894. Another advantage obtained by sowing early is that a supply of young material for salading is forthcoming until spring-time, the young plants being pulled as required.

Preparation of the Ground.

Although it is not at all necessary to take nearly as much trouble with the ground upon which autumn sowings are to be made, as it is when getting the ground ready for sowing in spring-time, a little time in digging, levelling, &c., will be well spent. The best position to choose is a warm south or south-west border, from which early Potatos have been dug. A nice dressing of soot and a little sprinkling of lime may be given, forking it well in, breaking up and levelling the soil nicely. As in the case of spring sown Onions so with those sown at this time of the year it is necessary that the ground should be made firm before the seed is sown. Choose a dry day, therefore, and tread the bed well all over, going over it repeatedly until the requisite degree of firmness has been attained.

Sowing the Seed.

After the ground has been prepared in the manner suggested the drills may be drawn to receive the seed. Care must be taken not to make these too deep, for of all evils too deep sowing must be studiously avoided, as nothing tends so much to the production of a large number of the unsightly "thick necks," the presence of which causes so many cultivators to grumble both long and loudly. From ten inches to a foot is quite sufficient room to allow between the rows. The seed may be sown very much more thickly than is usually done in the case of spring sowings, for as has been previously intimated, directly the young plants are a few inches in height, they may be drawn as occasion requires for the plenishing of the salad bowl. After the drills have been filled in, and the seed properly covered, the firming process must be gone through once more, and lastly the surface may be put straight, and in workmanlike order by means of a small toothed iron rake. It may be observed here that in using this tool more than ordinary caution must be observed, for it is not every would-be gardener who has thoroughly mastered the way to use a rake properly, and unless some caution is exercised the novice will find that the teeth of the rake have a knack of digging rather more deeply into the soil than he intended them to do, or indeed, than is necessary or advisable.

It may also be useful to mention that where two or three sorts are grown, a label bearing the name and the date of sowing should be placed to each, for if memory alone is trusted to, some mistake or other may be made as to the correct name of a variety, and the cultivator on making out his order to his seedsman accordingly, may be disappointed to find after a while that he has not got what he wanted although perhaps what he ordered. There are a good many varieties on the market, but their merits vary considerably with the locality in which they are grown, and thus nothing but experience can tell the cultivator what particular sorts are best suited to his soil and situation.

This brings us to the consideration of varieties, and we propose to mention a few that may be confidently relied on to give every satisfaction under ordinary circumstances. Ailsa Craig has bulbs almost globular in shape that grow to an enormous size, and are very suitable for growing for exhibition purposes. Sutton's Giant Blood Red Rocca is a fine deep coloured sort, and should be given a trial whilst Sutton's Giant Lemon Rocca is of very mild flavour, good size, and what is also very important, an excellent keeper. The Giant Tripoli likewise reaches a large size, and is highly thought of in many quarters. At least three varieties should be grown, especially where fairly large sowings are made, and from the sorts mentioned a splendid selection can be obtained.

Subsequent Cultivation.

As in the case of all growing crops an occasional application of the Dutch hoe is of great service in beds of autumn sown Onions, both in keeping down the incroaching weeds, and assisting the plants to grow freely. This, therefore, should receive attention during the autumn months. Weeds which make their appearance in the rows themselves, must be removed by hand without disturbing the plants in the vicinity any more than is unavoidable. Apart from this, but little trouble will be given until it is time to transplant the seedlings to their permanent quarters—usually some time from the beginning to the middle of March. At the present time the position in which it is then proposed to place them will be occupied by other crops, but as these are cleared off as the season wears along it will also need some preparation. A liberal dressing of well decayed manure may be given, and the whole plot of ground dug well and deeply, throwing the surface soil up roughly for the frosts of winter to pulverize and sweeten.—*Rex.*

A RAMBLE FROM MAIDENHEAD TO HENLEY-ON-THAMES.

At the invitation of S. A. Sewell, Esq., chairman of the Ealing Gardeners' Society, and an ardent lover of the British flora, I proceeded to Ealing on the morning of the 19th July; and shortly after I had the pleasure of finding myself seated with him in a Great Western train *en route* for Maidenhead. It was a lovely morn—one of those sweet and balmy ones which only occur occasionally in our erratic chime; for, during the previous night, there had been a copious and grateful downfall of rain, which had so refreshed and exhilarated all nature that even the unconsidered trifles of the newly-ploughed fields—bits of glass and flint—seemed to rejoice; for they gave out scintillations of light that sparkled like diamonds in the morning sun. Notwithstanding, however, the long period of drought from which we have suffered in the London district, the trees and coarser vegetation well maintain their verdurous hues. The cereals, and other surface rooting crops, have, of course, declined; but the corn, the ripening corn, still decks the hills with gold. Here and there, however, harvest has begun—sure signs of the decay of the season of love.

But look, there is the Crimson Rambler Rose that the Queen, only four days ago, drove over from Windsor to see. It is not a wild Rose yet—nor a garden one for that matter—but it is one of those good "new" things which must ultimately prevail. From Slough the train hurries on, and while we are looking at, and commenting on, the Royal Palace at Windsor, which in the clear, sweet air is distinctly visible, we approach the English river of rivers, and casting a momentary glance up and down at the sylvan scene, we cross over the bridge and soon come to rest in the station of that pretty riverside resort, Maidenhead. Here the houses are old and new—mostly new, there is no mistake about that. Still there are some picturesque bits, and very interesting modern villas. We now strike the Bath Road, ascend the hill over the Wycombe branch line which runs through a deep chalk cutting, on the slopes of which grow in great luxuriance the Red Valerian (Centranthus ruber). My friend, Mr. Sewell, contends that whenever a cutting is made through the chalk, the Red Valerian, amongst other plants, is sure to appear, and that it is probably due to the seeds being exposed to the air and light, after having remained dormant, perhaps for a long period, away from the stimulating influences of the actinic rays of old father Sol.

Anyhow, it is a fine plant, with bright rosy-red flowers in dense cymes, which are again disposed in large corymbose panicles. As to the colours of the flowers, they vary greatly, from deep red to pure white. In fact, all seedlings differ in some respects from their parental forms, so that the plants themselves must change (as well as their names), until, at last, there can be no possible resemblance between the original and the modern types. It would be interesting to know, for instance, what the primitive form of the Centranthus ruber, or, as it used to be called, "Valeriana rubra" was like—say, two millions of years ago! But one must not philosophise now; time is on the wing; sufficient for the day is the knowledge we possess.

In the "suburbs" of Maidenhead there are some pretty gardens and some good coniferous trees. Almost immediately opposite Owen's nursery there are some fine shrubs of the Rush or Spanish Broom (Spartium junceum), which were alive with colour. Their clear, yellow, fragrant flowers attracted our attention, when an "old gardener" stepped forward and informed us that they were "citizens,' 'and that he had raised them from seed about fourteen years ago. They are allied to the Cytisus; hence the good man's mistake. He, however, was very proud of them, and they were also much "admired" by Mr. Owen, over the way. But let us bid goodbye to civilisation, and plunge, so to speak, into that sea of animal and plant life—Maidenhead Thicket. Here, the entomologist as well as the botanist, may tack and tack about until his captures, in the one case, are quite out of proportion to the area covered; while in the other, the *vasculum* will be so full that another specimen cannot be accommodated. It is a grand wild place, this open heath or common, and many are the wild flowers we noted mixed up with the golden Gorse or Furze (Ulex europaens), which the late winter, however, has severely tried.

A very conspicuous plant is the common Ragwort (Senecio Jacobaea). It has tall stems, the tops of which are smothered with corymbs of rich golden-yellow flowers. One cannot mistake it, for the sun itself is reflected back from its bright and showy discs. Galium verum and Galium cruciatum are other yellows which demand a word. The former is the common Yellow Bedstraw, with eight leaves in a whorl, and dense panicles of greenish-yellow flowers; while the latter produces its leaves in fours—as the specific name implies—and has small yellow corymbose heads of bloom. Then we have the Silver Weed (Potentilla anserina), the common Creeping Cinquefoil (P. reptans), and the bright little Tormentil (P. Tormentilla) all yellow, and all receiving and reflecting the bright beams of Sol; for, yellow being a non-absorbent of light, it follows that this colour is not conducive to optic health, philosophic calm, or, for that matter, political tranquility.

Yellow is one of the predominating colours of the month, and is said to divide the honours with blue. Certain it is that blue and gold go well together. Ah! here is one of the loveliest of blues, Campanula rotundifolia, the "Blue-bells" of Scotland, and where is the canny Scot who would nae cross the border to listen to their tender tunes? Too much can hardly be said about this sweet little child of nature, for it courts only those pure and breezy spots which men, in the race for life, are of necessity obliged to shun. Its colour and its shape, each in their particular way, are what we must write down "perfect"—whatever that may mean—and whether we call it "Blue-bell" or "Hare-bell," we must pass on without the range of its sweet appeal, for other "belles" demand attention and deserve respect.

There are the Thistles, for instance, prickly belles, yet still belles, and worth a moment's consideration. Carduus nutans, the beautiful Musk Thistle, nods its purple head; C. lanceolatus, the great Spear Thistle, is also purple—the highest of colours—and begs to be favoured [to be let alone—remember the legend.—Ed.]; while the modest C. acaulis, with bright, stemless, crimson flower-heads, impels regard. Scabiosa Columbaria and S. arvensis have pale blue or lilac flowers, 1 in. to 1½ in. in diameter; Ajuga reptans, the common Bugle—a pest in some places—with still less decided colours; and the lovely pale blue of Myosotis arvensis, go to make up variety, which is all the more charming when that place is some great open heath and all the occupants are nature's own.

We now leave the common and enter a wood, which not only gives grateful shade, but a different class of plants. Hence we note Orchis maculata, Malva sylvestris, Silene inflata, Sanicula europaea, Circea lutetiana (or the Enchanter's Nightshade), Asperula odorata, Melampyrum sylvaticum, etc., etc. The latter is commonly called Cow Wheat, and the *species* may be "pratense," although my friend writes me that "it has every appearance of sylvaticum."

On leaving the wood we were gratified by a sight of some fine plants of Cichorium intybus, which Dr. Hooker says is the origin of the cultivated Chicory. The flowers are large, showy, and bright blue, the strap-shaped petals somewhat resembling those of the Dandelion, except, of course, in point of colour. Along this road we remarked many other pretty things, such as Convolvulus arvensis, Linaria vulgaris, Verbascum nigrum (or the Black Mullein), Verbena officinalis, Origanum vulgare (or Common Marjoram), Ballota nigra (or Black Horehound), Lapsana communis (or Yellow Nipplewort), Achillea Millefolium (or Common Yarrow), Vicia Cracca (or Tufted Vetch), Lotus corniculatus, Hypericum pulchrum, Reseda luteola, Papaver Rhaeas, Lathyrus pratensis, Agrimonia Eupatoria, Galium Mollugo, and a host of others. Amongst the "others," however, we must mention Ononis repens (O. arvensis?), the pretty little trailing Rest Harrow, with pink pea-shaped blossoms and reddish-brown decumbent stems. This plant seems to love the noise and the dust of the roadside, although to-day it has been christened with rain-water, and looks in consequence cleaner and sweeter than ever.

But here we are on the top of Prospect Hill! How pleasing! The trees, the fields, the valleys, and the silvery Thames all lie before us. What a rich and pastoral scene! Then, in the distance, hills and hazy blues, soft colours and ever-changing hues. Here, at our feet, the sweet Wild Thyme, the smaller Woodruff, and a gorgeous constellation of purplish-blue stars, to wit, the Viper's Bugloss (Echium vulgare). Around, the hedges are covered with the Bitter-sweet or Woody Nightshade, the red-berried Bryony, the Traveller's Toy (Clematis Vitalba) or the Common Hop, the Blackberry, the Dewberry, and the Wild Cherry are also here. But we must descend. We must leave all this beauty, all this wildness, and hurry on to our half-way house, the "Old Bell," at Hurley. Here:—

"Men laugh and riot till the feast is o'er;
Then comes the reckoning, and they laugh no more."

—*C. B. G., Acton, W.*

(*To be continued.*)

RENANTHERA IMSCHOOTIANA.

RENANTHERA IMSCHOOTIANA.

THE species of Renanthera are neither very numerous nor so often seen as their beauty would warrant; but the fact is, there are few gardeners who succeed in flowering them. That under notice is comparatively new, and may prove more easy to manage than some of the rest. It is closely allied to R. coccinea and R. Storiei, but has simply racemose flowers instead of a panicle. The species is a native of Cochin China, and was first sent to Kew by M. Van Imschoot, of Ghent, Belgium, in 1891. A flowering specimen was exhibited at the meeting of the Royal Horticultural Society, on June 11th last, by Edward H. Woodall, Esq., St. Nicholas House, Scarborough, when an Award of Merit was accorded it. The accompanying illustration was prepared from this same plant and shows the form of the flowers, their general contour and the simple, slightly drooping raceme. The upper sepal is yellow, shaded reddish-vermilion; the lateral ones are much darker. The petals are yellow except the dark vermilion tips and numerous spots of the same hue scattered all over them. The stem of the plant was only 6 in. high, and the flower scape was 2 ft. We believe Mr. Woodall has the honour of being the first to exhibit a flowering specimen in this country; and we hope the species will prove tractable under cultivation.

POPULAR AND USEFUL FLOWERS AT READING.

So extensive and varied are the collections of all the more showy and decorative flowers in the nurseries and trial grounds of Messrs. Sutton & Sons, Reading, that we always find something interesting and worthy of close inspection. Under glass, the arrangements are such that something is always coming on to produce a display in its own particular season. The leading features of the Portland Road Nursery at present, as far as indoor plants are concerned, are the tuberous Begonias and Gloxinias. The former we have never seen in finer condition, and shall refer to them specially in the course of a few weeks.

GLOXINIAS.

The plants grown on from last year's tubers had mostly finished flowering on the occasion of our visit on the 26th ult., and were ripening a splendid crop of seed. Sufficient flowers remained, however, to remind us of the colour of the several fine, named varieties for which the firm is so well known all over the country. Duke of York is dark scarlet with a broad white margin. Souvenir de Shrewsbury is richly spotted with violet and has a broad, white, spotted margin; the under surface of the leaves is purple. Very pretty is Souvenir de Regent's Park,

which is pink, spotted and netted. Souvenir de York is intense red with a white margin. Cyclops is white with a pink zone in the centre; and Admiration is scarlet with darker spots. A violet variety was also very noteworthy. This year's seedlings were sown in February, so that they were just six months old when we saw them. The foliage concealed the forty-eight size pots in which they were grown and the flowers were commencing to expand so that the plants will now be in full bloom, and worthy of inspection. Amongst them we noted Sutton's Purple, rich purple and paler margin; Reading Scarlet, intensely coloured and of great size; Princess May, white with delicate pink margin; Her Majesty, white; and Azure Blue, white with an azure blue margin.

The Cyclamens were making fine growth and will commence to bloom in November. Amongst Streptocarpus we noted S. Wendlandi with its huge, solitary leaf, and numerous hybrids obtained from it. One of the seedlings, a curiosity in its way, had two large leaves, springing as it were from one stalk. In a batch of Impatiens Sultani, were varieties with carmine, salmon and purple flowers, all rich and attractive.

Petunias, Carnations &c.

The dry summer has been particularly favourable to the growth and flowering of Petunias, particularly for those in the open air. A strain of striped dwarf Petunias was notable for its purple flowers striped with white, and floriferous character. The tall, striped race had more varied stripes and markings. Very pretty is Dwarf Rose, lying close to the ground and having warm rose flowers with a white throat. It might be used for bedding purposes. Bright Pink is taller, quite distinct and pretty. Besides these we noted various other strains, that would answer better for pot culture, though any of the above might be grown in that way to great advantage. The Leviathan strain is notable for the immense size of its flowers, which are rose, pink, netted, striped and veined with a dark centre. The value of Petunias in a dry season, particularly for dry and poor soils, can hardly be over-estimated.

A large area of ground is occupied with Carnations which were sown in February of last year, so that they are now eighteen months old. Every individual plant forms a large clump, consisting practically of an armful of flowers, a large percentage of which are double. The habit of the plant is good; and if gardeners who require large quantities of cut flowers were to pursue this method of cultivation, they could cut basketfuls of flowers, without noticing their absence. The variety of colours is very great, for we noted rose, scarlet, white, purple, crimson, pink, brilliant scarlet, red, salmon, salmon-pink, picotee-edged, and striped sorts in ever-varying shades of colour. Other plants grown in pots were equally floriferous.

A fine effect is produced at present by a plantation of Hollyhocks, amongst which we were particularly taken with Rosy Queen, a free-flowering and attractive double variety. Fancy and decorative strains of Pansies are grown in considerable variety, and seedlings of a white variety with a heliotrope centre have come true to name. Dianthus chinensis may be seen in a great variety of colours, but we were particularly taken with D. c. laciniatus Salmon Queen, on account of the deeply fringed and beautiful salmon flowers and dwarf plants. All through the hot weather visitors to the nursery have been charmed with a border of Portulaccas, 3 ft. wide, and skirting the pathway to the houses. Both single and double-flowered varieties did equally well, and the range of colour in rich and fascinating hues was something to remember, even if visitors were unable to describe them. Phlox Drummondi, sown in the open ground, is flowering splendidly, and shows what might be done with this inexpensive annual. On another piece of ground not far off is a fine plantation of dwarf and tall Antirrhinums in great variety and very floriferous.

Ten Weeks Stocks.

These were just at their best at the time of our visit and showed no effect of the drought whatever, though that had only terminated the previous week. The masses of bloom were marvellous, and the percentage of doubles very great. Sutton's Mont Blanc is a variety with the habit of a Brompton Stock, 12 in. to 18 in. high, with numerous branches bearing large, double, pure white and deliciously fragrant flowers. The plants of Dwarf Bouquet consisted of fifteen to twenty branches each, all in full bloom except the central one which was over, and all were of the same length so that the bushes were a flat-topped mass of bloom. The Miniature or Dwarf Wallflower-leaved strain is notably dwarf and exists in white, crimson, rose and porcelain-blue varieties. Fire King is another type with massive and compact spikes of double, crimson flowers. Sutton's Perfection is a very useful strain for cutting; it grows about 12 in. high and is very floriferous. The varieties are named from their colour, dark violet, blue and pale rose, representing some of the shades. The last mentioned is Rose Perfection and a charming Stock it is. Sutton's Superb Bedding exists in numerous pleasing shades of colour such as white, chamois, yellow, crimson, etc., and is useful for bedding purposes on account of the harmony of colours which prevail amongst the sorts and which are seen to best advantage when planted in beds upon the grass. White Forcing is very pure, dwarf, massive and floriferous, and is therefore well adapted for pot culture for conservatory decoration.

Trial Grounds.

Travellers by the Great Western Railway are familiar with the attractive display of flowers, largely annuals, which may be seen from the carriage windows, on the London side of Reading. The grounds are within easy distance of the Portland Road Nursery. Tropaeolums are well represented, including some handsome colours and pleasing new shades, One of the latter is Fairy Queen, a running variety with dark foliage, and flowers ranging from orange-salmon to salmon-yellow with a crimson blotch. Aurora is the counterpart of this amongst the dwarf sorts. Both are charming for dinner table and other decorations. Here is also a collection of annual Sunflowers, including Primrose Perfection, notable for its primrose rays and black centre. The plants are only 2 ft. high. In other positions, apart from the rest and from one another, we noted Tropaeolum Cloth of Gold, with uniformly yellow leaves and bright scarlet flowers; also Empress of India, with the darkest foliage of any and the brightest fiery scarlet flowers. The mixed varieties of Tropaeolum are also good.

Sweet Sultan now rejoices in yellow, purple, lemon and white shades of colour. Most charming is the new one named Centaurea margarita with pure white, deeply fringed and feathery-looking flowers that are charming in the cut state for glass and other vases. Amongst the varieties of Chrysanthemum coronarium, Cloth of Gold has golden-yellow double flowers, and Golden Queen is single. The rose and white forms of Lavatera trimestris are good, but the new variety L. t. splendens is an acquisition, with dark rose flowers that open later than the rest though sown on the same day. Iceland Poppies are grown in quantity and in several shades of colour. Godetias are well represented by Duchess of Albany, white, Lady Bird, rosy white with a crimson blotch, and Satin Rose, rich carmine, and all very dwarf. Papaver somniferum Chamois Rose is a novel shade of colour, expressed in the name. Broad batches of Sweet Alyssum and Coreopsis Drummondi have their own particular attraction.

The collection of grasses grown here makes the Trial Grounds as good as a botanic garden. Beds of 180 distinct species and varieties are cultivated, and are classified in three sections: (1) pasture grasses (2) injurious weeds and (3) ornamental grasses which the agriculturist and horticulturist alike would do well to study. Many of them have been cut, but amongst ornamental kinds we noted Lamarckia aurea with dense heads and only 3 in. to 6 in, high; also Hordeum jubatum and Lagurus ovatus, both well known to those engaged in decorative work. Here also is a collection of the Clovers including the white-flowered Alfalfa or Bokhara Clover.

A SURREY FLOWER SHOW.

The Beddington, Carshalton and Wallington Horticultural Society held its annual show on the 5th inst., in Carshalton Park, and was favoured with fine weather till well on in the afternoon. There was consequently a large gathering of people for, in addition to the flower and poultry show, there were athletic sports and various other amusements. The park was so large that it not only afforded proper convenience for every part of the show, but sheltered a large herd of deer at the further end. The show is chiefly intended for the produce of cottagers, though gardeners also exhibit. The Society also encourages the owners of cottage gardens and allotment holders by the offering of prizes. The judging of these gardens seems to be developing into a science, so complicated does it become; and year by year gives great satisfaction. The groups were arranged chiefly round the sides of the large marquee, and the first prize for a large group was awarded to Mr. J. H. Stevens, gardener to G. Coles, Esq., The Lodge, Carshalton, whose Crotons, Lilies, Caladiums, Begonias and other plants were neatly arranged. For a smaller group, Mr. D. Harris, gardener to J. Baker, Esq., Cottisbrooke, Wallington, took the leading award with a tasteful arrangement. He was followed by Mr. A. Etheridge, gardener to A. Z. C. Cressy, Esq., Wallington, whose light coloured Caladiums were a leading feature. Mr. James Davis, gardener to F. Barton, Esq., Wallington, was third. Mr. Joseph Slater, gardener to Mrs. Hulse, Shepley House, Carshalton, had by far the best six tuberous Begonias; and Mr. A. Etheridge received the second award. Mr. D. Harris had the best four Begonias. Mr. John Wright, gardener to Mrs. Bridges, Beddington House took the first award for four flowering specimens, and was followed by Mr. Joseph Slater. Mr. John Wright was again first for Coleus; and Mr. A. Etheridge was second. Mr. Joseph Slater, Mr. John Wright and Mr. J. H. Stevens respectively took the prizes for table plants and Gloxinias. In one class for stove and greenhouse plants Mr. J. Davis took the leading award; and Mr. A. Etheridge had the same success in another. Mr. J. H. Stevens had the best exotic ferns, showing, amongst others, a fine Adiantum farleyense; and was equally successful with cut flowers of hardy herbaceous plants. In the fruit classes, Mr. Henry Shoebridge, gardener to M. Beddington, Esq., The Limes, Carshalton, took the leading award for black grapes; and was followed by Mr. Joseph Slater. Mr. W. Clayson, gardener to J. Dry, Esq., Carshalton, had the best green fleshed Melon; and Mr. J. H. Stevens showed the best scarlet variety. Mr. H. Dann, Elen Grove, Wallington, had the best Tomatos.

The dinner table decorations constituted one of the leading features of the large marquee, there being nine entries and a pretty close competition in some cases. The first award went to Miss Mildred Coles, The Lodge, Carshalton, whose device was rendered very attractive with pale-coloured Sweet Peas, Maidenhair and the tufted Hair-grass. Miss Ida Culverhouse, Heathfield, Wallington, took the second place with a device in Iceland Poppies, and yellow Marguerites. Mrs. Ethel M. Barclay, Ringstead Road, was third with quite a different style of device done in Sweet Peas. A lively interest was created by the competition in the class for the best dinner served up for four persons and not to exceed the cost of two shillings. The services of special judges, a lady and a gentleman, were necessary for this kind of exhibit, as all the dishes had to be tasted and judged separately on their own merits. The first prize exhibit by Mrs. Bates, Carshalton, had an appetising appearance; and the second one by Miss Jessie Rhodes, Wallington, was not far behind. Mrs. Morgan and Mrs. Thomas Evans, both from Carshalton, were third and fourth respectively. In another tent were exhibits of trussed fowls, eggs, and live poultry, as well as collections of vegetables. The latter really constituted one of the special, and, to gardeners, interesting, features of the show, as the prizes were awarded according to the number of marks which fell to the several exhibits. Mr. J. H. Stevens certainly had the best Potatos, Carrots, Onions, French Beans, Peas, and Beet. Mr. J. Slater was a good second; Mr. Henry Shoebridge was third; Mr. Harvey Hopkins, a cottager from Carshalton, and Mr. Wm. Clayson, were equal fourth; and Mr. James Davies came in sixth. Special exhibits also were the boiled Potatos, home-made bread, pickles, jams, and jellies in great quantity and variety, and showing the industrial side of cottage life.

The greater portion of one tent was devoted to exhibits of vegetables by cottagers. There was great competition in the classes for French Beans, Cabbages, Vegetable Marrows, Onions, Shallots, Carrots, Beet, Turnips, Broad Beans, Peas, Herbs, Salads, Lettuce and others. Window plants and fruit were shown in some quantity, and four prizes, with an extra one, were awarded for a collection of vegetables. The first went to Mr. Harvey Hopkins;

tbe second to Mr. Oliver McRae, Beddington Corner, and the third to Mr. Wm. Miles, Carshalton-on-Hill.

Amongst the non-competitive exhibits, Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, had a showy collection of cut flowers of Pbloxes, Pentstemons, Sunflowers, Gladioli and other herbaceous plants. A pretty and interesting group of Saintpaulia ionantha, Caladiums, and Maidenhair Fern, was set up by A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), "My Garden," The Grange, Wallington. A large group of plants was exhibited by Messrs. J. W. Silver & Co., Norbury Nurseries, London. Mr. J. R. King, Wallington Station, showed a barp done up with white flowers of China Asters and Sweet Peas.

NOTICES OF BOOKS.

HOOPER'S GARDENING GUIDE.*

* HOOPER'S GARDENING GUIDE. Flower gardening, Kitchen Gardening, and Calendar of Garden Operations. London: Printed and Published by H. M. Pollett & Co., Fann Street, Aldersgate Street, E.C.

Tbis useful work is evidently accomplishing the purpose for wbicb it was intended, judging only by the fact that it now enters upon its fourth edition and twentieth thousand copies. It was originally written for tbose wbose time permits them to indulge in gardening for the pleasure and recreation it affords, but is too limited to enable such amateurs to digest a more bulky and technical volume sucb as would meet tbe requirements of members of tbe profession.

As it is, tbe book runs to 300 pages, and contains a great variety of information on the subjects alluded to on its title page. As is frequently the case witb books intended for amateurs, a large proportion of its pages are devoted to the various pbases of plant culture for ornamental purposes, sucb as bulbous plants, flowering and ornamental plants, ornamental grasses, Ferns, Orcbids, Cacti, rockwork, fernery, alpinery, &c. Several chapters on seed sowing and the management of seedlings under glass and in the open air, sowing annuals in tbe autumn, and on kindred subjects will supply many a useful bint to those interested, and such people are getting more numerous every year. All the plant descriptions are written in alphabetical order, so that stove, greenbouse, and bardy plants are mixed together, but in the text all are properly located. The descriptions consist of general information, simply worded, and tersely written, so as to supply such particulars as the novice and beginner would require in embarking in gardening operations on his own account, simply for pleasure, instruction, and recreation. Cultural matters receive tbe fullest consideration, particularly with regard to tbe metbods of propagation, wbether by seeds or otherwise, and tbe soils or compost needed by the different kinds.

The portion of tbe book devoted to vegetables goes into the matter with commendable fulness, dealing with the best kinds to grow, the time or times of sowing, tbe cultural treatment necessary to secure a given result, including digging, manuring, feeding with special manures, protection for certain kinds, and other details whicb the inexperienced may require. Independently of all the better known and generally useful vegetables, other kinds are included witb wbich tbe amateur can bardly expect to be so familiar. Among tbese latter, Celeriac, Chervil, Cbicory, Lamb's Lettuce, American and Australian Cress, Ice Plant, Borage, Indian Corn, Salsafy, Scorzonera, Sorrel, Rape, Rampion, and Potato Onions may be mentioned. A useful calendar of garden operations for every month of tbe year is given at tbe end of the book.

Seldom do we see books on gardening intended for amateurs so well illustrated; in fact, the illustrations constitute a leading feature of the book, all tbe sections of gardening being well represented. At tbe beginning are two pages of designs for flower beds, such as amateurs frequently desire to copy and transfer to tbeir lawns and grass plots, particularly in front of villas or cottages, as the case may be. In passing we may point out that tbe illustration intended to represent Couve Troncbuda or Sea Kale Cabbage would be more correctly written as Chilian Beet. The editing is well done generally, and the printing and paper leave nothing to be desired. The lotb binding is also substantial.

GARDENING MISCELLANY.

CLEMATIS DAVIDIANA.

A CASUAL observer on first glancing at this plant would scarcely take it for a Clematis at all, for its flowers resemble nothing so much as a common Hyacinth with a very large perianth. The flowers are of a delicate blue colour and very pretty and attractive. The plant was introduced from China about the year 1865 and is very closely allied to C. tubulosa, also a Chinese species. According to the Index Kewensis it is also known as C. heracleaefolia. Messrs. Laing & Sons, of Forest Hill, S.E., exhibited it in fine condition in a collection of hardy cut flowers sent by them to the Catford and District Flower Show held in St. Dunstan's College grounds on Wednesday, July 31st.

TWO DWARF ASTERS.

WHEN speaking of perennial Asters most people run off with the idea that they are all tall rampant-growing subjects that call for a considerable amount of space in order to develop properly. This is, however, a mistake; for included in the genus are several very dwarf-growing plants that are well worthy attention. One of them, A. glaucus, a native of Northern America, reaches but little more than a foot in height, and is usually sturdy enough in habit to support itself without artificial aid. The flowers are deep lavender in colour, about three-quarters of an inch in diameter, and very freely produced. Much like this species in point of habit is A. sibiricus, which, as tbe name denotes, hails from Siberia. The flowers, bowever, are somewhat deeper in hue, and, if anything, rather larger tban those of the former species, whilst it is of slightly more vigorous growth. Both, however, should find a place in the herbaceous border. We recently noted them flowering in the herbaceous ground at Kew, and were very favourably impressed by their exceeding dwarfness and floriferousness.

INDIGOFERA GERARDIANA.

A CIRCULAR bed, some eighteen feet in diameter, filled with healthy and vigorous examples of this hardy and useful plant is, at tbe time of writing, one of tbe most conspicuous features in the Leguminosae collection at Kew. The long racemes of pale rosy-red flowers, togetber witb the by no means unornamental foliage, form a pleasing combination. Altbough I. Gerardiana does exceedingly well when planted in this way, and treated as a dwarf sbrub, its long growths render it very suitable for growing against a wall, in whicb possibly it appears to the best advantage. The plant is a native of tbe Himalayan region, and is sometimes known in gardens as I. floribunda. It is dealt witb in tbe *Botanical Register* under tbe name of I. Dosua.

TOMATOS.

THESE from tbeir vigorous babit of growth, in some seasons wben growing outside, grow too rank. There is little danger of tbis taking place this season up to the present time; but care must be taken during an unusually dry time to keep them well watered, or the plants will cease to grow, and the fruit will not swell to the proper size. Neither should they be suffered to get crowded witb superfluous growth, but kept well trained and exposed to the influences of sun and air.—*W. B. G.*

RASPBERRY VEITCH'S SUPERLATIVE.

IN spite of tbe fact tbat the drought of 1895 has been very unfavourable to the production of heavy crops of this much esteemed fruit, where the plants have been well looked after Superlative has done splendidly. Mr. McLeod, the gardener at Dover House, Roehampton, thinks very highly of this variety, which has with him borne exceedingly heavily. Much of the success of this year's crops, however, is doubtless due to the liberal treatment the plants receive during late autumn. The canes are planted in rows and trained to wires. A trench is opened out on either side of the rows, a good dressing of cow manure given, and the soil returned to its place again. Needless to say the roots take to this witb avidity and produce as a result strong stout growths, which are never allowed to flag for want of water during dry weatber. It is this kind of culture that pays; for thoroughness in everytbing should be the gardener's motto. The days for slip-shod gardening, as for slip-shod farming, have gone by, and it is scarcely probable that they will return.

GIANT PEACHES.

VISITING Brougham Hall, Penrith, last week, I was conducted through the plant and fruit houses by Mr. Taylor, who is a young gardener of exceptional ability, and takes a great delight in his occupation. In a quiet modest manner Mr. Taylor asked me a question, namely, "What is the heaviest Peach you bave ever seen?" I said from ten to twelve ounces, but that I had often heard of them weighing fourteen ounces, although it bad never been my lot to see tbem. He said, "Come along with me and I will show you a dozen." Out of the dozen, five turned the scales at sixteen ounces, and one giant weigbed over seventeen ounces. The variety grown is Sea Eagle; the tree was planted eighteen montbs ago, and it carried this season upwards of two dozen Peacbes.—*J. McNab.*

A VARIEGATED CARNATION.

IF this heading applied to the flowers only, there would be nothing uncommon in such a Carnation, but the note refers to a plant with variegated foliage, and which was raised by Mr. Wm. Thomson, Princess Helena College, Ealing, about four years ago. Only some of the sboots are variegated, so that the plant remains vigorous enough to flower well every year. The variegation is not confined to the foliage but runs up the flower stem and into tbe calyx. It may be described as a fancy Carnation, variously striped and lined with purple on a white ground, perfectly double, and useful for cut flower purposes, as for garden decoration.

BOUGAINVILLEA GLABRA.

THIS lovely plant has still many admirers, and it well deserves their admiration, for when well grown it makes a brilliant display. I saw it growing in a fernery recently at Blacklow House, Roby, Liverpool. A finer sight I have seldom seen. What with the different sbades of green in the various Ferns, interspersed with beautiful Rex Begonias, and the Bougainvillea a sheet of bloom overhead, it was a sight not soon to be forgotten. Mrs. E. Banner is very proud of her garden, taking a tborough interest in all gardening pursuits. In this she is ably assisted by ber intelligent gardener, Mr. Pennington.—*J. McNab.*

DOUBLE ZINNIAS.

THERE frequently is a scarcity of showy, gay flowering things for conservatory use late in autumn. Althougb these are rarely seen grown as pot plants, they are both valuable and amenable for the purpose, and will make a fine display long after the wet weather and damp nights of the autumn have destroyed the beauty of those planted outside. Plants left over from the planting out, may have the flower buds nipped out, and potted up at once keeping tbem in tbe shade for a few days, then placed out in an open situation—*W. B. G.*

SEVENOAKS FLOWER SHOW.

THE twenty-eightb exhibition of this flourishing Society was held in Knole Park and Gardens by kind permission of the Right Hon. Lord Sackville, on Wednesday, August 7th. The show was quite equal to any previously held in the park, except perhaps in the fruit classes. There was a scarcity of Apples, Pears, and Plums owing to the lateness of the season, and the fact that the show was a week earlier.

PLANTS.—For six exotic flowering plants distinct, Mr. A. Gibson, gardener to T. F. Burnaby Atkins, Esq., Halstead Place, was first with medium-sized plants of Dipladenia brearleyana and D. amablis, Eucharis amazonica, and a good Anthurium Scherzerianum. Mr. A. Hatton, gardener to Mrs. Swanzy, The Quarry, was second, his best plants being Ixora Williamsii, and I. Pilgrimii, both of which were nicely flowered. Mr. J. Mason, gardener to H. J. Ward, Esq, Boundes Hall, Tunbridge Wells, was third with a nice even half-dozen, but small. For a specimen flowering plant, Mr. C. Sutton, gardener to Earl Stanhope, Chevening, was first witb Dipladenia insignis, superbly flowered. Mr. G.

Fennell, gardener to —. Cazelet, Esq., Fairlawn, Tonbridge, was second with a well-flowered Stephanotis floribunda; Mr. J. Mason was third, but for six ornamental foliage plants he led with good specimens of Seaforthia elegans, Kentia australis, Latania borbonica, Alocasia sanderiana and Croton Countess. Mr. A. Hatton, who had Croton Williamsii and Cycas revoluta in good form, was second; and Mr. A. Gibson was third. Mr. A. Hatton had the best half-dozen exotic Ferns; and Mr. Talmage, gardener to Miss Hodgson, Hernewood, the best six hardy Ferns. Mr. J. Mason had the specimen foliage plant followed by Mr. G. Fennell, and Mr. A. Hatton, respectively. Fuchsias were again well shown by Mr. S. Huntley, gardener to the Rev. S. Curtier, and by Mr. Heath, gardener to Mrs. Petley, Riverhead. The latter was to the fore with six Begonias, also in the class for six Pelargoniums. Groups of plants arranged for effect were again a grand feature, the competition both in the flowering and the Fern group being wonderfully keen. In the former class Mr. A. Hatton was first; Mr. S. Cooke, gardener to De B. Crawshay, Esq., Rosefield, was second, and Mr. G. Fennell was third; Mr. C. Sutton was fourth, and Mr. Hough, gardener to Mr. Lambarde, Esq., Beechmont, was fifth. In the Fern group Mr. Hatton again led with a beautiful exhibit, the bright colouring of the young fronds of his Adiantum macrophyllum being very effective. Mr. F. Webber, Quarry Hill, Tonbridge, was second with an artistic arrangement representing a gipsies' tent; the tripod and basket Fern suspended over a highly coloured Davallia being wonderfully realistic. Mr. H. Heath took the third position. In the second division, too, the groups were excellent, Mr. Francis, gardener to A. Laurie, Esq., Rochdale, being first; Mr. Martin second; and Mr. Ulist, a prominent amateur of Ightham, third.

Table Decorations.—There were six entries for separate tables 9 ft. by 4½ ft., all of which were excellent; Mr. R. Potter, gardener to Sir Mark Collett, was first with a light and tasteful arrangement. Mr. R. Edwards, Beechy Lees, was second with a pleasing combination of Carnations and Fern fronds; Mr. S. Cooke was third, yellow and bronze being used with telling effect; Mrs. Searing, Swanley, was fourth. Mrs. Ernest Cronk, Seal, was highly commended for one of the prettiest tables I have ever seen, but why it failed to get a prize is a thing no fellow can understand. It was done entirely with wild flowers and bronze foliage, and presented a real object-lesson, as there was not a single thing used in the way of flowers, but what could be gathered from the hedgerows, including pretty little blue Harebells, wild Parsley, bronze tips of young Oak shoots, bits of Honeysuckle, etc., all charmingly blended and most artistically arranged.

Fruit.—For a collection of six distinct varieties, Mr. J. Snow Wadhurst, was easily first, his Nectarines and Peaches being grand. Mr. C. Earl, gardener to Sir Julian Goldsmid, whose Grapes were very good, was second; Mr. R. Potter was third, his Peaches, Grapes and Melon being very good. For three bunches of black Grapes Mr. W. Taylor, gardener to C. Frazer, Esq., Forest Hill, led with good bunches, Mr. T. Robinson, gardener to W. Lawrence, Esq., Hollingbourne, took the second place, Mr. C. Earl being third. For three bunches of white Grapes Mr. T. Osman, Chertsey, as usual had a splendid exhibit, followed by Mr. C. Sutton. For a collection of Grapes Mr. Snow was first, Mr. C. Sutton and C. Earl, respectively, following. Mr. A. Gibson had the best Peaches, Mr. C. Sutton being second, and Mr. Robinson third. Mr. A. Divers, Stamford, had the best Nectarines, and Mr. Gibson the best Melon. The star of honour offered by Messrs. H. Cannell & Son, Swanley, together with money prizes for the best twelve dishes of fruit, twelve varieties of vegetable and twelve varieties of cut flowers was easily won this year by Mr. R. Edwards, Beechy Lees, with a grand lot of fruit, vegetables, and flowers; he was followed by Mr. A. Hatton, and Mr. A. Gibson, respectively.

Messrs. Cutbush & Son, Messrs. Cannell & Sons, Messrs. Peed & Sons, Mr. F. Webber, Messrs. J. Laing & Sons, Mr. T. W. Edmunds, and Mrs. W. Seale had excellent groups not for competition, and which were greatly admired by a large concourse of people. The committee and their hard working secretary, Mr. A. Fenner, deserve the thanks of the Sevenoaks townsfolk for the admirable way in which everything was carried out; nothing was left undone that could be done to make the show what it was, a great success.

SOCIETIES.

Waltham Horticultural, *July 25th.*—Marred by the uncertain state of the weather the fifteenth show of flowers, fruit, and vegetables, promoted by the above society, was held at Waltham Grove. It was a thousand pities that a fixture, valued by so many Grimsby people for its pleasant drive and out-door attractions, was to a considerable extent spoiled by the succession of rain showers which fell after the judges had left the stalls at the disposal of the public. Disappointing as such a circumstance is to those who interest themselves in shows of this character, it is doubly so to the executive of a society like that established at Waltham, which necessarily depends upon its yearly exhibition for the means by which to encourage competitors to make the best of their gardens and their time, at the same moment providing for a show which has many interesting and picturesque features to those who reside in a town like Grimsby. The show was held, however, and a good show it was too. There was a record entry of about 600, representing 122 individual competitors. Some of the classes, however, were not overcrowded, for intending exhibitors at a distance could not make up their minds to bring their produce on account of the fickle state of the weather. To the ordinary classes have this year been added two for honey, a step in the right direction, and one which brought up close upon twenty entries. These consisted of extracted and comb honey, one class being open, another confined to cottagers. Half the prizes were given by the Lincolnshire Bee-keepers' Association, and the remainder by the Society. Mr. H. O. Smith, of Louth, was the judge, and this gentleman, during the afternoon, gave an instructive lecture on bee culture with practical experiments with a colony of these busy workers. Mr. Seamer, of Grimsby, had an exhibition hive on view. The general features of the show were well marked. Its strongest point was the array of vegetables, which in all classes were good in quality, being staged in a clean, fresh manner. The show of hardy fruit, though not formidable, was fair, the slight falling off being mainly due to the non-appearance of a number of entries booked. The ornamental portions of the exhibition were in good character, and bore very favourably with former displays, G. A. Carr, Esq. (gardener, Mr. J. Walker), being successful with large specimen Ferns and stove and greenhouse plants. Few people who are in the habit of exhibiting at the Grove can equal Mr. Carr in the matter of Grapes, and he gained first place easily for black and white kinds. He also obtained first prizes for four and one stove and greenhouse plants, a collection of vegetables, a collection of fruit, &c. Other successful prize winners were W. Marshall, Esq. (gardener, Mr. Johnson), Bargate, Grimsby; H. Norton, Esq.; Mr. Wilkin, Grimsby; W. Hall, Esq., Grimsby; W. M. Wright, Esq., Wold Newton; Mr. Smith, St. James' College, Grimsby, and G. Meedham, Esq.

Arnold and Bestwood Horticultural. *July 29th.*—Another of those complete country flower shows, which do so much to foster and direct the local enthusiasm in matters horticultural was opened on the above date at Arnold, when the thirty-fifth annual two days exhibition of plants, flowers, fruits, and vegetables begun under a sky which, if spread with hazy summer clouding, was ever and anon illuminated by sunlight, which augured well for the clerk of the weather's quotum being contributed toward the success of the show. The honorary subscriptions to the society's funds have been encouragingly maintained this year, when an essential alteration in the rules binding exhibitors has been made. In former years, competitors, though amateurs, were not restricted as to the source whence their exhibits were obtained, and the practice became somewhat too usual for the entrants to purchase choice stock in any particular line from recognised professional gardeners and to show this produce in competition with the bona fide results of legitimate amateur gardening. This year the committee have altered the regulations to the effect that all exhibits must be grown by competitors, and the better to ensure the due compliance with this arrangement a committee of inspection has been formed with the function of inspecting the gardens and stove houses of intending exhibitors, and by attaching perforated tallies to the foliage of produce to establish its identity on show day as genuine amateur stock, cultivated by the exhibitor himself. It is a fact which shows the vigour of the society that this restriction has not been detrimental either to the quantity or indeed quality of the display in any of the departments of the show. Another circumstance which demarks this year's effort from preceding ones is the lack of produce from Bestwood. The show this year is practically an Arnold flower show exclusively. The most noticeable feature in the tent was the choice and large collection of exotics, plants, and Ferns lent, not for competition, by Mr. J. Acton, Redhill, and Mr. E. Godby, St. Alban's-road, Arnold. Among the most remarkable exhibits the judges had to discriminate between was Mr. T. Mellor's collection of fruit which gained the first prize. The varieties he showed were Apples, black, red, and white Currants, Gooseberries, and Raspberries. The most noticeable exhibit in what was perhaps the strongest and best part of the exhibition—the vegetables—belonged to A. Atherley, and gained the first prize for six specimens of Beet, Carrots, Parsnips, and Turnips.

Royal Horticultural, *August 13th.*—The larger exhibits of Tuesday last consisted of Crotons, Ferns, Gladioli, Lilies, and herbaceous plants in great variety including some remarkably well-grown varieties of Chrysanthemum coronarium. The tables were all well filled, and Orchids monopolised the usual space devoted to them. Hardy fruits were well represented by Apples, Pears, Plums, and Cherries. An interesting group of Orchids consisting of numerous well-grown specimens of Odontoglossum Harryanum, was exhibited by T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate. These were arranged in two banks set up and backed with Cocos Weddeliana and Maidenhair Fern. His plants of Miltonia vexillaria were notable for the size of their flowers. A mixed and very varied group of Orchids was staged by Messrs. F. Sander & Co., St. Albans. Beautiful and interesting were Odontoglossum Wattianum, Dendrobium Phalaenopsis Schroderianum in a great variety of colours, also Cattleya aurea, C. Kienastiana, C. Leopoldii Sander's var., and numerous finely coloured varieties of Miltonia vexillaria, including M. v. rubecens. Messrs. B. S. Williams & Son, Upper Holloway, exhibited a group of Cypripediums, including well-flowered specimens of C. Morganiae, C. Ashburtoniae expansum, C. Seligerum and others, set up with Palms and Maidenhair Ferns. An interesting lot of cut flowers of Orchids, was exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. Amongst others, Cattleya Hardyana Clarke's var., Cypripedium Stonei platytaenium, Mormodes luxatum eburneum, Aerides Sanderiana, and Saccolabium coeleste were charming and well done. A group of Orchids was also staged by Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, showing a huge piece of Saccolabium coeleste, also Laelia monophylla, Dendrobium longicornu, Aerides Lawrenciae Sanderiana, and many interesting subjects, including the pretty and exceedingly curious Polycycnis Lehmannii. Messrs. Heath & Son, Cheltenham, showed a small group of Dendrobium Phalaenopsis Schroderianum. in several varieties. Laelio-Cattleya Elstead Gem was shown by Chas. Ingram, Esq. (gardener, Mr. T. Bond), Elstead House, Godalming. A Cultural Commendation was awarded to T. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester, for a spike of Laelia crispa superba, bearing nine flowers. He also had a massive Cypripedium named C. Massaianum superbum, with handsome flowers. F. Hardy, Esq. (gardener, Mr. Stafford), Ashton-on-Mersey, showed some cut flowers of Cattleyas. S. G. Lutwyche, Esq. (gardener, Mr. S. Patterson), Beckenham, showed Cypripedium Godefroyae leucochila, and C. G. l. aurea. A spike of Vanda caerulea was shown by E. H. Woodall, Esq., in magnificent condition and colour. Flowers of Odontoglossum crispum and O. Pescatorei were shown by R. B. White, Esq. (gardener, Mr. Roberts), Gareloch Head, N.B. Vanda caerulea Fowler's var., was shown in grand condition by J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Woodford. He also had several other Orchids including Catasetum Bungerothii. A group of Orchids was also set up by Messrs. Hugh Low & Co., Upper Clapton, including several fine pieces of Saccolabium coeleste, Cypripedium Charlesworthii and Cattleya Eldorado crocata.

A superb group of exotic Ferns was contributed by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, for which a Silver Gilt Flora Medal was deservedly awarded. Adiantums, Aspleniums, Pterises, Nephrolepises, Davallias, and Polypodiums were present in endless variety, and displayed an exceedingly wide range in texture and cutting of fronds. The plants, moreover, were all aglow with the rich hue of health that attests so unmistakeably to the excellence of the cultural treatment they receive. Messrs. Kelway, of Langport, Somerset, were the first in the field with Gladioli this season, staging ten dozen splendid spikes of bloom. A large number of fine sorts was forthcoming; among them we noted C. T. Ritchie, Col. Welby, Mr. Fowler, Orme, Duke of Devonshire, Mrs. Gorton, and Mr. Steianger (Silver Gilt Banksian Medal), Sir Trevor Lawrence (gardener, Mr. Bain), also sent a nice little group of cut spikes of Gladiolus. Messrs. John Laing & Sons, Forest Hill, staged a collection of splendidly-coloured Crotons, enlivened by a few hybrid Streptocarpus, pots of Adiantum cuneatum and Isolepis gracilis (Silver Banksian Medal). Messrs. Barr & Son, King Street, Covent Garden, contributed a very bright and pretty group of hardy cut flowers. Amongst them a number of perennial Phloxes made a brave show (Bronze Banksian Medal).

Dahlias made a first appearance at the Drill Hall for the season in excellent form, Mr. J. Walker, of Thame, Oxon, staging upwards of eight dozen blooms of the show, fancy, and Cactus sections in which much that was praiseworthy was to be seen. Maud Fellowes, John Neville Keynes, S. Mortimer, Purple Prince, Arthur Rawlings, Arthur Acock, and Miss Cannell were especially good (Silver Banksian Medal). Messrs. J. Cheal & Sons also exhibited some fine blooms of the Cactus section in excellent order. The exhibit of Cactus Dahlias made by Mr. S. Mortimer, Rowledge, Farnham, Hants, was especially good. Good blooms of Matchless, Apollo, Bertha Mawley, and Lady Penzance were very noticeable here (Bronze Banksian Medal). A like award was made to W. Robinson, Esq., East Grinstead, for a bowlful of large Water Lilies, arranged with their own foliage. A comprehensive collection of hardy cut flowers that came from Mr. T. S. Ware's Nurseries, at Hale Farm, Tottenham, was marvellously showy, a Silver Banksian Medal being awarded in recognition. Splendid bunches of Dahlias, both single and pompon, Liliums in variety, Phloxes, Veronicas, and Achilleas were the special features of this exhibit. An uncommon and highly interesting exhibit was that made by Mr. Henry Brownhill, Seed Stores, Sale, Cheshire, of single Chrysanthemums, and very beautiful they were.

Messrs. R. Wallace & Co., Colchester, fully sustained their reputation as growers of Liliums, by contributing a group of cut flowers, in which they played a principal part. Gladioli, Monthietias, and Tigridias were also very bright here (Silver Banksian Medal). Well grown samples of Fuchsia Pride of South London, came from Mr. Wittey, Nunhead Cemetery, S.E., whilst a neat group of Liliums and Bamboos was contributed by Mr. McArthur, Maida Vale, W. (Bronze Banksian Medal).

The exhibits of fruit were much more extensive than usual, and formed a very important feature of the day's show. Upwards of thirty splendid dishes of Apples were sent by Messrs. G. Bunyard & Co., Maidstone, amongst them large well-developed samples of Duchess of Oldenburg, Sugar Loaf, Lady Sudeley, Beauty of Bath, White Transparent, and Cardinal (Silver Knightian Medal). A number of dishes of Apples, Pears, Plums, and Cherries were sent by Messrs. T. Rivers & Sons, Sawbridgeworth, the fruit in all cases being well cultured, and apparently of excellent quality (Silver Knightian Medal). Messrs. J. Veitch and Sons were well to the fore with dishes of Apples, Pears, Plums, and Cherries. Of the first named, Peter the Great, Beauty of Bath, Red and White Astrachan were specially good. Pears were well represented by such sorts as Beurré Giffard, Fondante de Bihorel, and Jargonelle, and Plums by Early Golden Drop, The Czar, Early Transparent Gage, and Peach (Silver Knightian Medal). Mr. Empson, gardener to Mrs. Wingfield, Ampthill House, Bucks, showed fine bunches of Grapes, Muscat of Alexandria and Madresfield Court; also dishes of Apricots, Apples, Pears, Plums, and Cherries (Silver Banksian Medal). A collection of Plums was sent from the Royal Horticultural Society's Gardens at Chiswick, comprising ten varieties in all. Two good samples of Melon Hero of Lockinge came from Mr. J. Hudson, gardener to the Messrs. De Rothschild, Gunnersbury.

QUESTIONS AND ANSWERS

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see We shall be greatly obliged by their so doing.*

NAMES OF PLANTS.—*Omega*: 1, Common Loosestrife (Lysimachia vulgaris); 2, The cut-leaved Rudbeckia (Rudbeckia laciniata); 3, The African Sparmannia (Sparmannia africana) as far as we can judge from a leaf.—*J. Brown*: The Carnation, we believe, is George Cruickshank; the other plant is Gypsophila paniculata.—*D. D.*: 1, Cypripedium Curtisii; 2, Cypripedium barbatum; 3, Cypripedium selligerum, a hybrid; 4, Cypripedium Lawrenceanum; 5, Rhynchostylis retusa, generally called Saccolabium Blumei in gardens.—*D. Mackie*: The scarlet-berried Elder (Sambucus racemosa) *Anxious Peter*: 1, Seems a small leaf of Calathea zebrina; 2, Alocasia Lowii; 3, Hemitelia Smithii; 4, Cyathea dealbata; 5, Davallia hirta cristata, also called Microlepia hirta cristata; 6, Hippeastrum reticulatum; 7, Aphlexis humilis rosea, also called A. macrantha rosea in gardens; 8, Dicsonia squarrosa; 9, Cordyline indivisa; 10, 11, and 12 are varieties of Coleus which we do not recognise.

GALVANISED ROOFING.—*G.S.*: We have frequently seen this material used, and have had some experience with it. It is very durable, but must be covered with fine gravel or ashes before standing plants upon it, otherwise the plants will not give satisfaction, being liable to get killed. Another thing to be remembered is that if the staging is to be of any width, the galvanised roofing is unable to carry the plants without warping or bending, so that the pots cannot be stood level; this objection will disappear if the staging is not to be very wide. In the latter case, ordinary roofing slates have been found to answer well when supported on a light iron framework. Of course the galvanised roofing could be supported in the same way.

PACKING BEGONIAS.—*G. G.*: The Asparagus plumes would no doubt answer admirably, while the plants are at rest; but we are of the same opinion as yourself, that under the influence of the jolting of a waggon they would sway to and fro, chafing the blooms upon the material meant to protect them. You cannot do better than tie the stems and heavy blooms to stakes, actually inserted in the pots in which the plants are growing. Plants, stakes, pots, flowers and tying material then sway together, and there is, accordingly, less danger of the flowers rubbing against some other body. Instead of using cotton wadding, you might employ strips of white tissue paper, sufficiently wide to place beneath and around the whole flower to be protected. The free ends of the paper could then be tied to the stakes with matting.

MARSH MARIGOLD.—*Omega*: Should the weather continue moist and showery as it has been for some time past you could transplant the Marsh Marigold now. In any case you could do it some time next month—say towards the end, because the ground would then be sufficiently moist or could be made so by one or two waterings after planting, till the roots take fresh hold of the soil. It will succeed on a north border very well, provided it is not overhung by bushes or trees to obstruct light and the rainfall.

SHIRLEY POPPIES AND THE WINTER.—*Omega*: This race of Poppies has been derived entirely from Papaver Rhaeas, a common corn-field weed, and is therefore perfectly hardy in any part of this country. Nature sows the seeds at any time when ripe, and you can do the same. Choose an open position for them, well away from trees if possible.

INSECTS ON CHRYSANTHEMUMS.—*R F.H.*: Of the specimens sent, the small grubs are the only ones likely to do harm to your Chrysanthemums by destroying the buds. The fly has a sucker mouth and cannot gnaw foliage; possibly it is a parasite on other flies or insects there. The beetle on the pin was a small ladybird (Coccinella), and feeds upon aphides; it should be encouraged rather than destroyed. Most of the quick-flying insects of the kinds you send are parasites on other insects, not plants. The ladybirds constitute an exception. Some years, and in some districts, the caterpillars of a small moth are very troublesome by eating their way into and destroying the crown buds. In such a case the plants can only bloom from the terminals, which are generally too late to be attacked. You might examine the buds and see whether they have been bored into.

MARGUERITE CENTAUREA, &c.—*John Baxter*: Seeds of the Marguerite Centaurea may be obtained from Messrs. Sutton & Sons, Reading. The price is not yet catalogued, being a new thing, but we do not think the cost would be prohibitive. The spineless Gooseberries are not yet in the trade, but they will be put into commerce by Messrs. Letellier & Son in the coming autumn. We have no information about the price yet.

COMMUNICATIONS RECEIVED.—J. Scott, next week.—W. B.—J. D.-D.—R. D.—W. L.—C. B. G.—H. C. & Sons.—J. H.—A. C.

TRADE CATALOGUES RECEIVED.

VILMORIN ANDRIEUX & Co., 4, Quai de la Mégisserie, Paris.—Catalogue of flowering bulbs and Strawberries.

JAMES VEITCH & SONS, Royal Exotic Nursery, Chelsea.—Catalogue of bulbs.

LONDON SEED TRADE.

August 12th, 1895.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow trade for all autumn seeds, owing to the continued wet weather preventing lands being cleared. Good supplies English and foreign Trifolium. New Rape shows poor quality. Dry samples new Winter Tares being scarce command good prices. Large offers of white Clover and Trefoil, but no speculative demand.

COVENT GARDEN MARKET.

August 14th, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples..... per bnshel		
Nova Scotia Apples per barrel	1 6	3 6
Cob Nuts and Filberts, per 100 lbs.	45 0	
Cherries, half sieve		
Currants, Black...half sieve		
Currants, Red... half sieve		
Grapes, per lb.	0 6	1 6
Pine-apples, —St. Michael's each	2 6	6 0
Strawberries		
Peaches ..... per doz.	1 0	6 0
Tasmanian Apples, per case		

VEGETABLES.—AVERAGE RETAIL PRICES

	s. d.	s. d.
Artichokes Globe doz.	3 0	6 0
Asparagus, per bundle		
Beans, French, per lb.	0 4	
Beet..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers.....doz.	3 0	6 0
Celery.....per bundle	1 6	2 0
Cucumbers .....each	0 3	0 6
Endive, French, doz.	2 6	3 0
Herbs .....per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ...per dozen	2 0	
Mushrooms, p. basket	1 0	1 6
Onions.....per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes... per dozen	1 6	
Seakale...per basket		
Small salad ing, punnet	0 4	
Spinach .....per lb.	0 6	
Tomatos..... per lb.	0 6	
Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Asters (English) doz. bunches	3 0	6 0
French Asters per bch.	0 9	1 0
Arum Lilies. 12 blms.	2 0	4 0
Asparagus Fern, bun.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations doz. blms.	1 0	2 0
Eucharis ...per doz.	1 6	2 6
Gardenias ...per doz.	2 0	3 0
Geranium, scarlet, doz. bunches	4 0	6 0
Lavender doz. bnchs.	6 0	9 0
Lilium lancifolium per doz.	1 0	2 6
Lilium longiflorum per doz.	2 0	4 0
Marguerites, 12 bun.	1 6	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Orchids, doz. blooms	1 6	12 0
Pansies, doz. bun.....	1 0	2 0
Pelargoniums, 12 bun.	4 0	8 0
Primula, double, doz. sprays	0 6	0 9
Pyrethrum doz. bun.	2 0	4 0
Roses (indoor), doz.	0 6	1 0
" Tea, white, doz.	1 0	2 0
" Niels	3 0	6 0
" Yellow, doz. ...	2 0	3 0
" Safrano (English), doz. ...	1 0	2 0
Red Roses.....	0 9	1 0
Pink Roses	1 0	2 0
Roses, mixed, doz. bhs.	3 0	6 0
Smilax, per bunch ...	4 0	5 0
Stephanotis, doz. sprays	1 6	2 0
Tuberoses, doz. blooms	0 3	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0
Aspidistra, doz.....	18 0	36 0
" specimen		
Asters .....per dozen	3 0	6 0
plants	5 0	10 6
Calceolaria, per doz.	4 0	6 0
Coleus .....per dozen	2 6	4 0
Dracaena, various, per doz.	12 0	30 0
Dracaena viridis, doz.	9 0	18 0
Euonymus, var. doz.	6 0	18 0
Evergreens, In var. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	6 0
Ficus elastica, each	1 0	5 0
Foliage Plants, var., each	1 0	5 0
Fuchsia, per doz.....	4 0	6 0
Heliotrope, per doz.	4 0	6 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums, per doz.	4 0	6 0
Lobelia, per doz.....	3 0	4 0
Lycopodiums, doz.	3 0	4 0
Mignonette, per doz.	4 0	6 0
Marguerite Daisy doz	6 0	12 0
Myrtles, doz.	6 0	9 0
Palms in variety, each	1 0	15 0
Palms, Specimen ...	21 0	63 0
Pelargoniums, per doz.	9 0	12 0
Rhodanth, per doz.	4 0	6 0
Scarlets, per doz.....	3 0	4 0

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FLOWER SHOW FIXTURES, 1895.

AUGUST.

21.—Kingswood, St. George and West Gloucestershire Flower Show.
21,22.—Shrewsbury Floral Fete.
22, 23, 24.—Manchester Lily and Grape Show.
23.—Knaresborough Flower Show.
23, 24.—National Co-operative Flower, Fruit, and Vegetable Show at the Crystal Palace.
27.—R.H.S. Drill Hall Meeting.
27, 28.—Brighton and Sussex Summer Show.
28, 29.— Bath Autumn Show.
29.—Sandy Flower Show.

SEPTEMBER.

3, 4.—Dumfries Flower Show.
5, 6.—Stirling Flower Show.
6, 7.—National Dahlia Society's Show at the Crystal Palace.
7.—Dumfries Autumn Flower Show.
14.—Galashiels Flower Show.
19.—Cambridge Horticultural Society's Show.
26, 27, 28.—R.H.S. Fruit Show at the Crystal Palace.

OCTOBER.

8, 9, 10.—National Chrysanthemum Society's Show at the Royal Aquarium.
15.—R.H.S. Drill Hall Meeting.
29 —R.H.S. Drill Hall Meeting.
29, 30.—Havant Chrysanthemum Show.
30.—Teignmouth Chrysanthemum Show.
30, 31.—Royal Jersey Chrysanthemum Show.
31.—Highgate Chrysanthemum Show (2 days)

NOVEMBER.

1, 2.—Chrysanthemum Show at the Crystal Palace.
4, 5.—Battersea Chrysanthemum Show.
5, 6, 7.—National Chrysanthemum Society's Show at the Royal Aquarium.
5 6.—Brighton and Hove Chrysanthemum Show.
5, 6.—Southampton Chrysanthemum Show.
6, 7.—Brixton Chrysanthemum Show.
6, 7.—Bromley (Kent) Chrysanthemum Show.
6, 7.—Coventry Chrysanthemum Show.
6, 7.—Wolverhampton Chrysanthemum Show.
7. 8.—Exeter Fruit and Chrysanthemum Show.
12.—R.H.S. Drill Hall Meeting.
12, 13.—Croydon Chrysanthemum Show.
12, 13.—Sevenoaks Chrysanthemum Show.
12, 13.—West of England Chrysanthemum Society's Show at Plymouth.
12, 13, 14.—Bristol Chrysanthemum Show.
13.—Cranbrook Chrysanthemum Show.
13, 14.—Birmingham Chrysanthemum Show.
13, 14.—Bournemouth Chrysanthemum Show.
13, 14.—Banbury Chrysanthemum Show.
13, 14.—Barnsley Chrysanthemum Show
13, 14.—Hull Chrysanthemum Show.
13, 14.—Rugby Chrysanthemum Show.
14, 15.—Lincoln Chrysanthemum Show.
14, 15.—Bradford Chrysanthemum Show.
14, 15, 16.—Edinburgh Chrysanthemum Show
15, 16.—Stockport Chrysanthemum Show.

FLOWER SHOW FIXTURES.—*Continued.*

NOVEMBER.

16.—Bacup Chrysanthemum Show
16.—Barnet Chrysanthemum Show.
16.—Batley Chrysanthemum Show.
20, 21, 22.—York Chrysanthemum Show.
20.—Chesterfield Chrysanthemum Show.
21, 22.—Warwick and District Chrysanthemum Show.
21, 22, 23,—Norwich Chrysanthemum Show.
22, 23.—Manchester Chrysanthemum Show.
6.—R.H.S. Drill Hall Meeting.
9, 30.—Alderley Edge and Wilmslow Chrysanthemum Show.

DECEMBER.

3, 4, 5.—National Chrysanthemum Society's Show at the Royal Aquarium.
10 —R.H.S. Drill Hall Meeting.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER F.L.S.

SATURDAY, AUGUST 24th, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, August 26th.—Trade sale of Dutch Bulbs at Messrs. Protheroe and Morris' Rooms.

TUESDAY, August 27th.—Royal Horticultural Society; Meeting of committees at 12 o'clock. Brighton and Sussex Summer Show (two days). Sale of the Wilson Collection of Orchids at Messrs. Protheroe and Morris' Rooms.

WEDNESDAY, August 28th.—Bath Autumn Show (two days). Sale of the Wilson Collection of Orchids at Messrs Protheroe and Morris' Rooms.

THURSDAY, August 29th.—Trade sale of Dutch Bulbs at Messrs. Protheroe and Morris' Rooms.

FRIDAY, August 30th —Sale of Orchids at Messrs. Protheroe and Morris' Rooms.

HARDY BAMBOOS AND THEIR DECORATIVE VALUE.—There are something like 175 species of grasses belonging to the tribe Bambusae, and distributed through 22 genera; but for garden purposes they may all be regarded as Bamboos, though only some two dozen of them belong to the genus Bambusa. Of all that number we are at present concerned only with those that prove hardy in one or other part of the British Isles. Until quite recently, people in this country regarded them as tropical plants, unsuitable for outdoor gardening, and unmanageable for indoor work on account of their huge proportions. This would have been the case had all the Bamboos been like Arundinaria gigantea, growing to a height of forty to sixty feet or more, as seen in the Palm House at Kew and in the tall conservatory at Syon House. More familiar perhaps to British gardeners was the dwarf Arundinaria Fortunei variegata and the golden-leaved form, usually about twelve to fifteen inches in height as cultivated in pots and used for decorative purposes in greenhouses. Many gardeners had a dim suspicion that Fortune's Bamboo was hardy or nearly so in certain parts of the country. Discoveries in this direction seemed for a long time to be accidental rather than made as a result of direct experiment.

For several years past, Bamboos have been grown more or less extensively in the Channel Islands, but particularly in Guernsey; but those instances of cultivation were not accepted as proof of hardiness by gardeners in Britain proper, because the climate of those islands is always much

milder in winter than ours. Thanks to Mr. Freeman-Mitford and other pioneers who have been placing matters in their true light with regard to the hardiness or otherwise of Bamboos in England. While reading a paper on this subject at the last meeting of the Royal Horticultural Society, Mr. Mitford mentioned over forty species and varieties that are suitable for outdoor cultivation in this country. Of course the more tender ones require to be planted in favourable situations. Shelter from winds both in summer and winter, but especially the latter, is highly conducive to their welfare and one of the principal conditions to be observed. A good supply of moisture at the root is also necessary while growth is being made, both because, like most other grasses, Bamboos do not root very deeply, and make very rapid growth in summer. We refer of course to the strong suckers which annually arise from the horizontal rootstock, and run up at an amazing rate.

An abbreviated report of Mr. Mitford's paper is given on another page, so that we refer our readers to it for further information on a subject which that enthusiastic amateur has made peculiarly his own for many years past, and whose statements may be regarded as authentic. A few more cultivators of his stamp would not only render Bamboo culture popular, but would clear up many obscure facts in relation to the natural history and science of those noble grasses. For the past few years a fine collection has been got together in the Bamboo garden at Kew, and we now proceed to mention some of the observations we have made upon the same. Near the west end of the Rhododendron dell a space was cleared of the tall Beech, Oak, and other trees growing there, and the soil prepared for Bamboos. The plants are now well established, and the severity of the past winter put their hardiness to a severe test. Just after fresh growth commenced in the early part of summer, we noted the amount of injury caused by the frost. Wind could not have exercised a great amount of influence, as the Bamboo garden is a little below the general level of the garden, and completely surrounded by tall deciduous trees. Several of the species showed little or no injury at all; while the upper branches of others looked rather naked. Since then, however, even those naked shoots have mostly clothed themselves with foliage of beautiful and delicate tints of green, such as are hardly to be met with amongst other classes of plants. For slender gracefulness and elegance we venture to state that no other class of shrubs in British gardens can equal several of the Bamboos represented in this collection.

Many large bushes of Phyllostachys viridi-glaucescens are eight to ten feet high, and of compact habit, owing to the number and fineness of the greenish-yellow twigs. The lance-shaped leaves are small and also numerous. The species is a native of North China, and does not seem to have suffered in the least from last winter. The Japanese P. aurea has green and greenish-yellow straight stems and branches, rather thinly disposed, but all the more characteristic and graceful for that. The upper twigs only appeared hurt in spring, but hardly show it now. The leaves are two to four inches long. The stems of P. nigra grow six to ten feet in height, and though green in the younger stages they ultimately become black and conspicuous by contrast with the green and yellow-stemmed kinds. The leaves are small, and the habit is moderately dense. It is a native of Japan, as is P. mitis, which early in the year appeared considerably injured, but now shows little trace of it. The stems vary from ten to eighteen feet in height, and must therefore be much more exposed to cutting winds than the dwarfer species.

The prettiest and most graceful of all we have noted is Arundinaria nitida, a native of China, and here growing to a height of 3 to 8 ft., with numerous, slender and much branched stems, giving the plant a dense and bushy appearance of surpassing beauty and elegance. The stems are black, the leaves lance-shaped, glaucous and 2 to 3in. long. Planted in several positions, even under trees, it is evidently perfectly hardy, and grows as freely in shade as in more open situations. A. japonica is better known in gardens, perhaps, than any of the above, but chiefly as Bambusa Metake. It forms a dense-habited bush about 3 to 9 ft. high, and has large dark green leaves which give the plant a massive appearance. The taller plants are the most ornamental, because the more slender of the branches then assume a drooping habit. A. Simonii towers up to a height of 10 or 15 ft., and though a native of Japan gets quite as much hurt by severe winters like the past as Phyllostachys mitis does. At this time of the year, however, one is liable to forget the fact owing to the recuperation it undergoes by the putting forth of fresh leaves on the naked branches. The dwarf Arundinaria Fortunei aurea appears to carpet the ground by comparison with its giant congeners. A mulching of manure over the ground and around the plants serves not only to retain the soil moisture, but to feed the plants.

We cannot overlook the value of Bamboos for pot culture and conservatory decoration. They might be largely used for the same purpose as Palms are at the present day. Many charming effects could be produced by them. Even those who cannot well afford them houseroom in winter might grow them in sheltered places in the reserve garden, and lift and pot them before growth commences in spring. They are amenable for forcing even when they have been lifted from the open ground in this way. Gardeners and owners alike would do well to largely extend the cultivation of Bamboos, planting them in sheltered situations and along the sides of water courses, where they would be beautiful from association and more ornamental than the most graceful of our Willows.

A white Canna has been raised by Mr. Antoine Wintzer, of West Grove, Philadelphia. It is not so white as this paper but nearly so.

Royal Horticultural Society.—The next fruit and floral meeting of the Royal Horticultural Society will be held on Tuesday, August 27th, in the Drill Hall, James Street, Victoria Street, Westminster. At three o'clock a paper by Mr. C. F. Bause, on Crotons and Dracaenas, will be read.

Royal Botanic Society.—As the Gardens have only been open to the public for some six Mondays since June last, it is, perhaps too early to say whether the new departure will be a success or not, but the cheering report presented this year—the most satisfactory one for some years past—gives every encouragement to persevere.

Window Garden Society.—The eighth annual flower show of this society was held on the 8th inst. in the churchyard of St. George's-in-the-East. That its existence had not been in vain was shown by the fact that no fewer than 400 people, adults and children, had entered the various competitions. Mr. Chaplin had expressed his surprise and delight that such flowers could be grown in a part of London where flowers were almost unknown.

Bulbs for the Parks.—Messrs. James Carter & Co., High Holborn, have again been honoured with the commands of Her Majesty's First Commissioner of Works to supply the bulbs for the Royal Parks of London, and have also received a similar favour from the London County Council for the Parks, Gardens, and open spaces under their control.

Shipley Hall, Derby.—The many friends of the able and popular gardener at this establishment will be rejoiced to learn that the doctors are expecting to get Mr. Elphinstone's sight restored in the course of a few days, and that his general health will not be permanently injured from the serious accident of last week.

Sales of growing fruit.—At a hard fruit sale just held at Paddock Wood, over 600 acres of Apples, Pears, Plums, Damsons, and nuts were put up to public competition. Almost all of the eighty-two lots offered were sold, while the auctioneers have since succeeded in disposing of most of the few that were not sold under the hammer, bringing the total amount realised up to about £8,000. £50 an acre was made, while several large plantations fetched £40. A twenty-seven acre piece in the "old hay" growth sold for £700.

Champion Vegetable Growers.—Mr. J. H. Busbridge, Secretary to the Ridmersham (near Sittingbourne), Horticultural Society, who holds the Champion Vegetable Grower's Belt for Kent and Sussex, and challenges all similar societies, has fourteen entries and fees; so it is confidently anticipated there will be a tremendous fight for the championship on the 28th and 29th August next, and without doubt there will be the finest vegetables there perhaps ever seen. Those that are desirous of seeing such in perfection should pay a visit.

Tree set on fire by lightning.—During the thunderstorm of Saturday night the 10th inst. the lightning struck a large Elm tree in Hyde Park by the side of the Serpentine and near the Serpentine Bridge and set it on fire. When your correspondent visited the spot on Monday about 4 p.m. the tree had been cut down and lopped and workmen were busy sawing it into sections. The inside of the tree was quite hollow and rotten near the base and the fire in it was still burning—in fact inside the bottom section it was as hot as an ordinary oven—the marks of the electric current where it had entered the earth were clearly visible, and the sight altogether was a curiosity and one not to be easily forgotten.—*J. D. D.*

Sheffield Chrysanthemum Society.—The August meeting of the society was held at the Museum, Orchard Street, on Wednesday, the 14th inst., under the presidency of Mr. F. W. Littlewood. There was a good attendance of members. The exhibits were Tomatos for professionals, and cut Roses for amateurs. The judging and staging were satisfactory. The chief interest centred in a capital paper by Mr. Welch, of Retford, on "Renovating old Vines." It was clear, practical, and entertaining, and a long discussion ensued on the various points dealt with. Mr. Welch, who repeatedly answered questions, was at the close accorded very warm thanks, and after a vote to the chairman, the meeting was brought to a close.

The Fruit Harvest.—The Greengage harvest will probably commence in a fortnight in Cambridgeshire and, so far, it promises well. A drive through some plantations a day or two ago in the neighbourhood of Histon revealed numbers of heavily laden branches bending to the ground with their weight of fruit. Fruit growing has largely increased in this district of late years, and within ten miles of Histon railway station there are now some 3,000 acres of fruit, about 2,000 of which have been planted within the last twenty years. Some growers, such as Messrs. Chivers, boil their fruit into jam on the spot; others send it to market. Down at Histon they laugh at the idea that only Kent can grow Strawberries, for there are broad acres of them at Histon, and acres of Raspberries also. Worthing will have to look to its laurels in the

matter of Tomato-growing, for both under glass and in the open the red "Love Apples" are thriving in this Cambridgeshire village. The fame of the Apple, known as the Histon Favourite, is already spreading far and wide, and colonies of bees store honey by the ton, and scores of hens lay eggs in the neighbourhood for market.

Flower Show at Abergwilly.—Under the patronage of the Bishop of St. David's and the gentry of the district, the third annual show was held on Thursday, the 15th inst., under the auspices of the Abergwilly Horticultural and Agricultural Society. The affair was a great success, the entries being more numerous than those of the two preceding years.

Pelargonium Exhibition—The Wakefield Paxton Society held its annual exhibition of Pelargoniums on Saturday the 10th inst. at the Woolpacks Hotel. Mr. Corden presided and Mr. Pitts occupied the vice-chair, whilst a paper was read by Mr. W. Hudson, gardener at Sandal Grange. The essayist dealt more especially with the raising of seedlings, referring to the fact that their chairman that evening had raised some of the best under cultivation. He touched upon the cultivation of the different sections of the family, including the ordinary, zonal, ivy-leaved, and fancy Pelargoniums. There was a liberal display of plants and flowers, including seedlings raised by members of the society from seeds given them by Mr. Corden. Some of them were very fine, and the largest and best of them was named "Lord Milton." The exhibitors and essayists were thanked on the motion of Mr. W. Webster, and seconded by Mr. Spencer.

The Bournemouth Right of Way Case.—We are requested to state that the announcement that the road referred to in this case was altered by the Mayor of Bournemouth is incorrect. Sir George Meyrick, the lord of the manor and ground landlord, reduced the width of the road, although he did not close it, in consequence of its unauthorised use during the summer season for carts and barrows belonging to costermongers. Sir George Meyrick considered it to be a private road on his estate, and always had a permanent barrier across it. The road has never been used except as a footpath. With the alteration the Mayor had nothing to do, but in carrying it out Sir George Meyrick threw the strips into the adjacent property, which is leased by the Mayor. The latter, in agreeing to this being done, did not doubt Sir George's legal right to act in this manner, and thus came into conflict with some members of the council.

EXTENSION LECTURE AT DOBCROSS.

The meeting for the study of horticulture on the 15th ult., was, by permission of Mr. B. Bent, held at Briarfields, Dobcross. There was a good attendance.

Dr. Clark said he intended that night to deal with grafting. In grafting there was one very important point to observe. If they were to cut a branch across they would find that between the wood and the bark there was a dark line. That line was known as the cambium, and it was the most important thing they had to do with in grafting. That was really the growing part of the stem, and it was absolutely necessary that the cambium of the branch to be grafted should touch the cambium of the branch to be grafted upon. This rule was often overlooked by professional as well as amateur gardeners, and the result was that their attempts to graft ended in failure. The part of the tree they grafted upon was known as the stock, that grafted as the scion. The whole secret of grafting lay in getting the cambium of the scion against the cambium of the stock. There were sixteen or eighteen ways of grafting, but all were done on the principle laid down.

The simplest way to graft would be to get a scion of equal thickness with the stock, cut off the ends of each, and bind together. It was, however, best to make a notch in each part to prevent slipping. Another way of grafting, and one most extensively practised in regard to Apples and Pears, was to cut off the ends of the stock altogether, cut slits in the bark in a downward direction, and then lifting up the flaps put in the scion. When they lifted the bark one-half of the cambium stuck to the wood and the other part to the bark, so that it was an easy matter to get the cambium of the scion against the cambium of the stock. In all cases it was necessary to bind up the point of the graft, for the air killed the cambium if there was any great amount of exposure. In the last system if the stock were thick any number of small scions might be grafted to it. Another way, and one specially applicable to Rose trees, was to get an English Brier, cut two rings round the bark about an inch apart, and remove the bark between. The next thing was to get a branch of the tree which they wished to graft of equal thickness with the stock, and treat in the same way, taking care that in the ring of the bark removed there was a leaf bud. This ring of bark they must fit round the stock where the bark had been removed, taking care of course that the bark exactly fitted the blank place. In a few weeks the two would have joined together, and the scion would begin to grow at the leaf bud. This system was known as flute grafting, and was looked upon with favour by the ladies. The commonest mode, and the worst, was to cut off the end of a branch, make a slit down the middle of the branch, cut the scion wedge-shaped, and insert into the slit, taking care that the cambium of each touched. The fault of this system lay in the fact that they could not tell how far the slit in the branch would go, and if there was any exposure to the air the graft would be spoiled.

Budding was really a kind of grafting. They got the Brier, made a cut across and a second down, then raised the bark on both sides and put in the bud. The wood behind the bud they ought to remove so that the cambium of each part would not be prevented getting together. When they made a graft they must be sure there were some buds on the scion. A useful way for all Rhododendrons and evergreens was to cut a notch into the side of the branch, cut the scion wedge-shaped, and insert into the notch. The greatest care was needed when the bark of the scion was not of equal thickness with the bark of the stock. The best time for grafting was in the spring when the sap was flowing quickest. Passing from the subject of grafting, which had proved to be of the greatest interest to the audience, Dr. Clark touched upon Beans, pointing out that the best Beans could be identified by their leaves. If the leaves were pointed it denoted a good quality; if they were blunt it denoted a poor quality. In the case of the Pea, if the young leaf was dark it denoted that the plant was getting plenty of nitrogen; if it was not dark the plant was not getting sufficient of this food. When the end of the young leaf was drawn together it showed that the plant was weak and phosphate was required.

The usual vote of thanks was accorded at the close.

SUTTON'S BULBS FOR 1895.

This annual most opportunely reminds us that the present wealth of colour in gardens, greenhouses and conservatories will shortly wane, and that to insure a succession of flowers during the dreary winter days and the opening months of spring the potting and planting of bulbs cannot long be deferred. As adornments for the house and garden the flowers of Dutch bulbs increase in popularity every year, and they are certainly unrivalled in purity, splendour and variety of colouring. Not only are they capable of producing brilliant displays in smoky towns where many other flowers cannot be successfully cultivated, but the delight of growing them may be enjoyed by those who are destitute of horticultural skill and appliances. If properly planted or potted in the autumnal months they will almost take care of themselves, and in due time produce a show of bloom unmatched in beauty by the most elaborate summer bedding designs. Yet these bulbs will bear a forcing temperature, and yield an ample reward to those who wish to have them as decorative subjects in advance of the usual blooming period.

In the lists of Hyacinths, Narcissi, Tulips, and other subjects, each variety is briefly but accurately described, so that the task of making a selection, whether for exhibition purposes, the decoration of greenhouses, conservatories and drawing rooms, or for planting in beds and borders, is rendered easy. For simultaneous flowering any desired combination of colours can be ensured—a point of considerable moment in many gardens, and for those who wish to have an effective show of bloom, either under glass or in the open, carefully selected collections of bulbs are offered which entirely dispose of the difficulty of making choice among so many good things.

As an annual "Sutton's Bulbs for 1895" possesses features of unusual interest, especially to those who closely follow the continuous developments of all that appertains to horticulture. The cultural notes are practical and easy to follow; the illustrations are admirable examples of the latest pictorial art; the work is well printed on good paper; and a comprehensive index renders the contents accessible. Two striking pictures embellish the cover; one is a Daffodil garden in Scilly; the other a realistic representation of bulb culture in Holland. In both, the artist has given evidence of an intimate acquaintance with the surroundings, and the illustrations are produced with unusual care and fidelity. The photographic reproductions of Hyacinths, Tulips and other flowers are extremely beautiful, and the series of charming illustrations showing the growth, on a large scale, of popular varieties of Daffodils will interest the admirers of this fashionable flower.

EARWIGS AND HOW TO CATCH THEM.

Now that earwigs are in full force, doing irreparable damage to Dahlias and other flowers, it may interest some of your readers to hear of a simple but thoroughly effective method of thinning their numbers very considerably. Take some large pieces of brown paper (about two feet square is a good size), crumple them up so as to make a nice lot of hiding places, and place a piece in the centre of each plant. Go round in the morning with some water in a pail, and turn out the contents. I have caught 200 in three pieces of paper in one night. This plan puts all the pots on sticks and beanstalks (which I have frequently seen recommended) completely in the shade. Caterpillars, slugs, snails, and daddy-long-legs will also be found in the papers.—*A. Porter, Stone House, Maidstone.*

DOBBIE'S SEED FARM IN KENT.

A few years ago, when we were familiar with the district, not a house was in the hollow of the valley on the north side of the railway bridge at Orpington, Kent, if we except the water-works a short distance off. New dwelling houses now give the place the appearance of the commencement of a village. The old village is some distance away and scarcely visible from the railway bridge. Just behind these dwelling houses are the seed drying premises of Messrs. Dobbie & Co., whose headquarters are in Rothesay, N.B. The seed farm extends up the slope and over the top of the hill, so that there is a considerable amount of variety, both in the character of the soil and in exposure. The farm consists of some sixty acres, of which forty are under cultivation with seeds. This says much for the energy of the firm and its employees, considering the waste, weed-choked, and ruinous condition under which the farm has been lying for many years past. Some of it in the process of cleaning appeared to be a solid and interlacing mass of couch grass. It will be excellent ground for seed farming, however, when brought into proper working order.

Cockscombs.

On our way to the grounds we stopped to examine a collection of Cockscombs assorted in colours, occupying some fifteen lights, and grown purposely for the seeds. We were particularly struck with the dwarf character of the plants, the heads of which in many cases were almost resting on the soil. They are planted out upon a shallow bed of fermenting manure covered with soil. The plants are named according to colours, which are yellow, lemon-yellow, golden-yellow, copper-bronze, crimson, purple-crimson, glowing crimson-bronze, light rose, rose, and rich golden-bronze. Many intermediate shades were noticeable, and there were but few bad ones amongst them, the greater proportion being absolutely necessary to make a collection anything like complete while a mixture of them would render a conservatory very gay indeed. They have been grown from seeds without any special treatment beyond that mentioned. Close by was a collection of Ten Weeks Stocks, selected according to colour, and also some Mimulus.

Pansies.

These are extensively grown expressly for the production of seed. Fancy Pansies are largely in

demand judging from the breadth of them grown. Something like 30,000 were planted, and it was interesting to note the vigour of some as compared with others of more weakly constitution under the same conditions. The best-named varieties only are employed for this particular purpose so as to secure quality in the progeny. Highly prized varieties are Mrs. Wm. Grant, white with violet blotches, Mrs. Mark, light yellow with purple-violet blotches, another clear yellow with gold lacing and violet-brown blotches, Neil McKay, with velvety brown blotches on golden yellow, and vigorous, Robert Mitchell, velvety brown on a golden ground, Kenneth Broddie, almost mahogany on a golden ground, Julia Goodfellow, violet on a white ground, and Lord Rosebery, a rich claret with blackish-violet blotches. Harry Ball has deep chocolate blotches and a golden lacing. The blotches of Allan Ashcroft are dark velvety violet on a yellow ground. On the contrary the blotches of Lord Hamilton are violet, shaded with bronze. Many or all of the above have distinct colours for the upper petals.

About 3,000 seedlings of the Peacock strain are grown, and the amount of variety to be found amongst them is simply marvellous, for scarcely two of them are exactly alike. Several of them have been selected for perpetuation by cuttings. Some of them are of a rich blue with a rosy and white margin; some have a Pansy centre and others have not; many are of a bright blue and very handsome; while others are self coloured and dark velvety crimson. The Silver Y. Moth is doubtless responsible to a large extent for this variation in tints and markings. The strain known as Bath's Empress is notable for size and showy colours but little refinement. Continental strains of Violas are very unsatisfactory in the matter of refined and distinct colours and marking. Show Pansies are grown to some extent but are anything but vigorous in droughty seasons.

VIOLAS.

About 10,000 of these are grown for the production of seed, including some 10,000 of Violetta, which is wonderfully floriferous, effective, and deliciously fragrant. All are grown in widely separated patches to test whether they will come true to name, and free from variation. Other varieties doing exceptionally well are Wm. Neil, True Blue, Duchess of Sutherland, J. B. Riding, Blue Cloud, Lavrock, Countess of Kintore, Favourite, Bullion, Lord Elcho, Archibald Grant, Ardwell Gem, Lilias, Lady Dundonald, Quaker Maid, Rosine and other standard and well known varieties, which need no description. The floriferous character of all, is sufficiently noteworthy considering the droughty season they have just passed through.

Some 35,000 Marigolds, including about 12,000 French Marigolds of several strains, 17,000 African Marigolds (orange and lemon), and a large quantity of the common or Scotch Marigold in several named varieties all attest the demand for them, especially in Scotland, where they are grown for exhibition purposes. Amongst Candytufts we noted the Iberis umbellata and Iberis amara Dobbie's Spiral with spikes 4 in. to 6 in. long, and large pure white flowers. About 30,000 China Asters, including Victoria, Quilled, Paeony, Comet and Dwarf, were making a brave display when we saw them. All are grown in colours. Ten Weeks Stocks are also grown to greater or less extent. The Opium Poppy exists in a great variety of colours. Sweet Peas are largely grown in separate and named varieties. Amongst Tropaeolums we noted Beauty, bright scarlet, Empress of India, fiery scarlet, Tom Thumb, scarlet, and Golden Queen, an orange-scarlet self. Centaurea Cyanus Victoria is noted for its extremely dwarf habit and floriferous character. Chrysanthemum coronarium in several named varieties has made a grand display.

DAHLIAS, &c.

Antirrhinums are cultivated in quantity and variety including selfs, dwarf and tall, used for bedding, also striped sorts in refined form as grown for exhibition in Scotland. A collection of early Chrysanthemums is now flowering freely, and the plants are also dwarf. About 700 Carnations, including Raby Castle and all the leading and best varieties, have given great satisfaction. Something like 600 species and varieties of herbaceous plants are cultivated, independently of Phloxes, Pyrethrums, etc. Seedling Hollyhocks are fine though only 2 ft. to 3 ft. high. There are 3,000 to 4,000 Phloxes in 200 varieties which should be sufficient to satisfy the most fastidious. Thirty to forty thousand Manetti stocks have taken up a great amount of time in budding.

All the popular types of Dahlias, including the best of the new varieties, are now making up for time lost during the drought. We were considerably interested in the new section known as single Cactus Dahlias and which are finding many admirers throughout the country. They are far less formal than the single sorts, distinct, and grown to the extent of 7,000 for the production of seed. Pompon varieties are not neglected, and amongst them we noted the beautiful primrose Mary Kirk, and the orange-scarlet Phoebe. The show Dahlias are numerous. New varieties of great neatness are Cherub, buff yellow, Gladys Valentine, flesh, with purple tips; Novelty, a fancy sort of a pale pink, striped with rose, and Crimea, rose, striped dark crimson, belonging to the same class. Baroness is a neat form, and yellow tinted with buff. John Walker is well known. Cleopatra, brilliant crimson, and Willie Fife, clear yellow, striped and mottled scarlet, are single varieties. The best of the Cactus types are kept in stock including the beautiful Gloriosa, scarlet, Countess of Radnor, salmon, Delicata, soft rosy-pink, Kynerith, glowing scarlet, and St. Catherine, buff yellow. Cannell's Favourite is a remarkably beautiful decorative Dahlia, well built, and of a handsome buff orange hue. Space forbids us going into detail concerning these useful and showy autumn flowers.

VEGETABLES.

Near the houses is a plantation of Onions that had been sown under glass in January and afterwards planted out. Fine samples were Dobbie's Golden Globe, Inwood Favourite, Somerset Hero, Ailsa Craig, &c. Dobbie's Selected Parsley is an extremely finely-curled sort, and has been subjected to the process of selection for the last forty years. A plantation in rich soil served to show the character and beautiful habit of the strain when plenty of space is allowed each plant. That grown expressly for seed was grown upon hard ground, aud consisted of small plants to stand the winter. A trial of various sorts of Turnips, Radishes, Beet, Parsley, and other vegetables was also interesting and instructive. Leeks sown in April were being transplanted on the occasion of our visit, and will be transplanted again in spring. Amongst popular and useful vegetables were sowings of Dobbie's Model White and Dobbie's Golden Ball Turnips, also Dobbie's Purple Beet, Altrincham, Dobbie's Selected, Intermediate, and Stump Rooted Carrots. Good breadths of white and red Turnip-rooted, French Breakfast, and Long-rooted Radishes, were in seed, and though only half their usual height, looked good.

The Brassica tribe is extensively grown for the production of seed, including Brussels Sprouts Dobbie's Selected, Borecoles or Kales, green, finely curled and variegated. Cabbages are very extensively grown in various parts of the ground, and amongst them we noted Winningstadt, Large York, some very fine types of the same carefully selected, Red Cabbage, Dobbie's Perfect Gem, a neat little Cabbage and the earliest to turn in here, Perfect Gem Savoy, small and particularly dwarf, Ellam's Early, Wheeler's Imperial, Drumhead Savoy, and Drumhead Cabbage, many of which have been specially selected by the firm for many years past. The last comes into use after the early Cabbages are finished and before the Savoys are in season. In other parts of the ground are crops of Veitch's Red, Dobbie's Purple, and other varieties of Beet. Canadian Wonder French Bean is dwarf and fruitful. Amongst Peas we noted Telephone, also remarkably dwarf. Bunyard's Exhibition Long Pod Bean seems a fine kind, but had been hardly dealt with by the long-continued drought. In a fine plantation of Onions for seed it was interesting to note how diligently the flowers were being worked by the bees. Leeks are also grown in quantity alongside of the Onions. These vegetables in special selections and strains are well known to northern exhibitors.

The National Chrysanthemum Society's Year Book for 1895.—Edited by Mr. Harman Payne F.R.H.S. Price 1s. post free, 1s. 1½d. from the Publisher of the GARDENING WORLD, 1, Clement's Inn, Strand, W.C.

Hardy Ornamental Flowering Trees and Shrubs, by A. D. WEBSTER. A valuable guide to planters of beautiful trees and shrubs for the adornment of parks and gardens. Price, 3s.; post free, 3s. 3d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

THE ETYMOLOGY OF "KEW."

SPECULATION as to the derivation of words has always been a favourite pastime with some people; and, although I have read much about Kew, in THE GARDENING WORLD, as a botanical establishment, I do not remember to have seen anything appertaining to the etymology of the place. It would seem, however, that the orthography of the word has not always been so simple or so short as the present form; for I find by an old work that it has been variously rendered as Kayhough, Kayhoo, Keyhowe, Keye, Kayo, and Kewe.

Kew, then, is evidently in some way connected with key, quay, or French *quai*, a landing place or wharf projecting into a stream. So that if we accept the above cue—no *jeu d'esprit* intended—as a guide we shall not, perchance, be very wide of the mark. At any rate I think it is very curious (*sic*) that words should undergo such remarkable changes in comparatively recent times; and this word can hardly have a very ancient origin. It is true there is in China a town called Kew-Keang-Foo, but this can in no wise be related to our "Imperial Kew, by Thames' glittering side."

If, however, there be any doubt as to the origin of the name, there can be none whatever as to the value of the gardens; for Kew has obtained a special celebrity, which is entirely due to its beautiful gardens and arboretum. The gardens were really originated by George III., his Queen, Charlotte, and his good gardener, William Aiton, in 1760. In 1840 Victoria, by presentation, made them national property. They are, therefore, now maintained by the national purse, and, although they cost something like £20,000 a year, the privileges which they confer, and the information which they afford, are more than adequate to the sum expended.—*Le Vert.*

TURNIPS.

Now that the long-wished-for rain has come in copious showers no time should be lost in making a good sowing of this useful vegetable. The Turnip Beetle, which has been a sad trouble up to the present time this season, will not be so destructive after this time. Ground cleared of Potatos and Peas will be available and can scarcely be put to a better use, and unless the soil is of a very strong and hard nature there is no necessity to dig it for this crop. Indeed, if the soil is too light and rich, the digging of it often proves a drawback by inducing the over-production of foliage. Just hoe the ground over two inches in depth, and rake off and remove all weeds and rubbish. Sow the seeds in drills one foot apart, giving them a coating of red lead where birds are troublesome, and sow thickly, for do what you will—short of netting—the greenfinches will take some.—*W.B.G.*

THE KITCHEN GARDEN.

CELERY.—The earliest plantation of Celery will now require partly earthing up, and some care is necessary that the soil does not reach the centre of the plants while the work is in progress. It is well to clear away all superfluous growths, and tie stalks together with a piece of matting before going further. If the trench is in any way dry give a good soaking of liquid manure water, as there is little chance of the rain reaching the roots after the earthing takes place. The ground should be thoroughly broken up and heavily coated with lime as a preventative to the ingress of worms, &c., which often wholly disfigure the sticks and render them next to useless. Unless required very early it will be best to earth the plants at two different periods as growth is not so likely to be retarded as when the work is completed at once. Place the soil moderately firm round the stems selecting a dry day when the soil is not in a sticky state as the best for the work. Where a few heads are required for exhibition the best method is blanching with paper instead of soil. Take strips of strong brown paper and bind round the stems not too tight, but just sufficient to allow the plant to swell out. Give frequent watering with liquid manure from the farmyard, and if earwigs are troublesome (as they are in many places), place a number of beanstalks amongst the plants examining them frequently, and destroying those collected therein.

CABBAGE, if sown as advised will now be ready

for pricking out into beds, and if time can be spared as many as are required should be pricked off.

LETTUCE.—For the supply of winter and spring salad a sowing of Lettuce should now be made and another ten days later. Of varieties, All the Year Round and Stanstead Park are very hardy and reliable.

ASPARAGUS.—There is still time to give Asparagus another dressing of salt; nothing that I am acquainted with can equal this. Throughout this last summer we have given sufficient salt to the Asparagus at different times to keep down the weeds, and the effect on the colour and growth is most apparent, and gives much promise for next season's crop.

MUSHROOMS.—If not already started, everything must now be got in readiness for a constant supply of Mushrooms. Collect manure for that purpose without delay, and place it in any dry position to dry if at all too moist. When sufficient has been collected for a bed throw it in a heap to ferment, adding a third of good loam. Place this latter over the top of the manure, and as fermentation goes on the loam will absorb the ammonia which would otherwise be lost in the atmosphere. Turn the heap over as it requires, never allowing it to become too hot and of a burning character. The exact state to know when this should be done can only be learned by experience, but it is always well to err on the safe side and not wait until the damage is done before turning over. See that shelves (if any) and houses where they are grown inside and everything is in good repair before a commencement is made.—*James Gibson, Devonhurst, Chiswick.*

FRUIT UNDER GLASS.

LATE GRAPES.—In order that the berries should be well coloured and possess a full flavour, it is imperatively necessary that a brisk buoyant atmosphere should be maintained. Of course through the day fire-heat will not be needed, but during the night a little heat may be suffered to circulate in the pipes with great advantage both to the fruit and to the wood of the plants. Air will be admitted through the night by both top and bottom ventilators as advised in a previous calender. Keep a watchful eye on the condition of the borders, and on no account suffer them to get dry. A moderate extension of the laterals may be allowed, but they must not be suffered to crowd upon each other to any extent.

RIPE GRAPES.—It may be necessary in order to preserve the bunches from the attacks of wasps, flies and small birds, to enclose them in bags of muslin, as it is distinctly provoking, and eminently calculated to make the gardener use language more expressive than polite to find his finest bunches mutilated by one or other of the above-mentioned pests. In cases where only a few bunches remain on the vines, it is a good plan to cut and bottle them, as they keep in a dry dark room quite as well as upon the vines, and the latter are thus relieved of the burden. The house, moreover, can be thrown open more widely, and the ripening process thus facilitated in a proportionate degree.

PEACHES.—As the fruits in the later houses commence to colour, carefully push aside the leaves that are shielding them from the sun. A Peach or a Nectarine shaded closely right up to the time of ripening never possesses the exquisite sweetness or flavour of one that has enjoyed the benefit of some of the sun's rays, neither can it compare to it with regard to appearance. Continue to apply the syringe with no illiberal hand upon all the trees that are stripped of fruit, the houses, of course, being kept open day or night. A little extra trouble will now be needed to keep things tidy in the earliest house where some of the leaves are commencing to fall.

MELONS.—Every advantage must now be taken of the ensuing month to push on the later crops of these, for the Melon is essentially a sun-loving plant, and it is useless to expect even a fair measure of success in dealing with it unless the all-important sun works in conjunction with the cultivator. The plants should be dewed over lightly with the syringe, and the houses shut up shortly after two o'clock in the afternoon. No matter if the temperature does rise a little bit higher than usual, the plants, if healthy, will stand it. Give constant attention to the pinching out of laterals so as not to allow them to go too far before they are operated on. It is a great mistake to let things take care of themselves, so to speak, for a week or two, and then, just as the growth has become thick and crowded, to cut out a lot at once. Plants treated in this way are really subjected to a series of checks that cannot fail to be harmful to them in the first degree.

WOODLICE.—In most Melon houses these increase to a tremendous extent, a fact not to be wondered at when we consider the amount of congenial refuge they have behind the pipes, and in the crevices of the house, as well as in the fermenting material itself. The harm they do, moreover, is by no means inconsiderable, as they are extremely fond of biting the stems and branches of the plants, as well as later on having a go at the fruit, particularly if the latter happens to be cracked a little, a stroke of luck for the Woodlice. We have found potatos cut in halves, hollowed out slightly, and laid here and there over the bed to be excellent traps. Indeed, by persistent attention in looking these over twice or thrice a day, and destroying their contents, it is wonderful how many lice may be got rid of, although sooth to say there seems to be a well-nigh unlimited supply.—*A. S. G.*

THE FLOWER GARDEN.

AT this season of the year the gardener is naturally planning how and to what extent he is to make preparations for a supply of spring and early summer flowers wherewith to enliven and beautify the outdoor garden. Most experienced gardeners will have made out their bulb order two or three weeks ago and will have sent it in to their favourite nurseryman, but to those who have not yet done this it is imperatively necessary that they should do so without any further delay, as those who, like the cow's tail, are all behind will find that they will most likely have to put up with inferior material, those earlier in the field having naturally taken the best.

TULIPS.—It is impossible to overlook these in any preparation, however small, that are being made for the procuring of spring flowers. The Tulip is as well known and as highly thought of in the cottager's garden as it is in the garden of the peer. For planting in bold conspicuous masses nothing can be better, each bed being filled with one variety, whilst dotted here and there in the mixed border they help to add a touch of colour and a taste of beauty of the greatest value. A good selection should be grown so as to extend the flowering season over as long a period as possible. Commencing with the earliest kinds, such as T. Greigi with its flaming red flowers, we have a host that will keep up the succession for a considerable length of time. A few that are well worth growing are the scarlet and the yellow Duc Van Thol; Artus, bright scarlet; Bacchus, crimson; Joost Van Vondel, rosy-crimson; Comte De Mirabeau, white; Rosa Mundi, white, shaded with rose; Yellow Prince, rich yellow; Keizer Kroon, crimson-scarlet, beautifully margined clear yellow; Pottebakker, scarlet; Queen of the Violets, light violet, very distinct; Royal Standard, white, feathered with rosy-crimson; and Proserpine, rich dark rose. For later work the Darwin Tulips are very useful, comprising as they do so many and various shades of colour, whilst the curious and often grotesque shapes of the members of the Parrot section, which moreover exhibit some of the most brilliant and varied markings to be seen in the genus, are exceedingly showy and valuable.

NARCISSI.—Scarcely inferior to the Tulips in decorative value are the Narcissi. Although it is better to wait until the end of October or beginning of November before commencing to plant out the Tulips, the beginning of September should see some of the Narcissi transferred to their permanent quarters. If the spring proves anything like favourable N. obvallaris and N. pallidus praecox will be in flower early in February, a fact which renders them of especial value. Among other good and reliable kinds the following should find a place wherever Daffodils are in favour, although this list may be greatly extended according to the circumstances in which the gardener is placed.

Of the single yellow Trumpet Daffodils, Countess of Annesley, Madame De Graaf, Glory of Leiden, Emperor, Achilles, Shirley Hibberd and Shakespeare; whilst of the bicoloured section, Empress, Mrs. W. T. Ware, Dean Herbert and J. B. M. Camm will be found excellent. Double Trumpet Daffodils will be worthily represented by Pseudo-Narcissus Plenus, Telamonius Plenus, Capax Plenus and Cernuus Flore Elegantissimo Pleno. Of hybrid Narcissi the following should be given a trial: N. Barrii albidus, General Murray, N. B. conspicuous, N. incomparabilis Leedsii, Sir Watkin, C. J. Backhouse and Magog.

CROCUSES.—Appended is a list of a few of the best of these lowly but none the less beautiful plants which appear to such great advantage when grown in clumps in the mixed border, utilised as edging material for flower beds, or naturalised in the grass in various parts of the flower garden or pleasure grounds. For the last-mentioned purpose quantities of corms of Large Golden Yellow, Large Blue and Large White may be obtained at a very small cost and produce as good effects as can be desired. For bedding purposes King of the Blues and Othello, both dark blue; Purpureus grandiflorus, dark purple; Marie Stuart, Queen Victoria and Koningin der Nederlanden, whites; Alfred Tennyson, Comtesse de Morny, La Majesteuse and Sir Walter Scott among the striped varieties may well be grown.—*A. S. G.*

HARDY FRUIT GARDEN.

WALL TREES.—The present is an exceedingly good time to regulate the growth of trees trained to walls from which the crops of fruit have been removed. It may be that too much wood has been laid in, a proceeding that is sure to be attended with evil consequences. It should be seen, therefore, that each branch that is left is allowed sufficient room to mature itself properly, and this necessary ripening can only be obtained by thorough exposure to sun and air. Pay attention likewise to the training of young trees that were planted during the late season. Keep the garden engine at work upon all wall trees that have been relieved of their burden of fruit, at least two or three times a week.

GOOSEBERRIES AND CURRANTS ON WALLS.—The nets that have been placed over these for purposes of protection must receive careful attention. They should hang at a distance of at least ten inches from the trees and must be kept in that position by means of forked sticks, for if allowed to hang too closely to the tempting fruit the birds will take advantage of the fact with all speed. We have noticed trees that, to all appearances, have been securely protected from these feathered visitors have daily showed a manifest diminishing of the fruit, and were puzzled to account for it, until we saw birds alighting on the nets and forcing them in by their weight until they were able to reap the reward of their ingenuity by reaching the coveted fruit.

EARLY PEARS.—Such varieties as Jargonelle, Beurré Giffard and Fondante de Bihorel will now be ripe, and must be gathered without delay. Take care to avoid bruising, for although the fruit is apparently hard enough it will not stand rough handling. If suffered to lay for a few days upon a shelf in a warm dry room before using, the flavour will be much improved.

EARLY APPLES.—A considerable number of these will also be fit for gathering, and as soon as they are ready, steps must be taken to remove them from out of reach of their manifold enemies by transferring them to the shelter of the store-room. The shelves of this house will be far better loaded than they have been for some years past, for throughout the country the Apple crop is usually a pretty heavy one.

EARWIGS.—These are proving a great pest this season, and if good fruit would be obtained, as many of them as possible should be trapped. Dry Bean-stalks, inserted here and there among the branches are of great service, although it will be necessary to look these over every morning, when by blowing through the stem the earwigs which are found inside in considerable numbers may be dislodged and destroyed.—*A. S. G.*

The National Chrysanthemum Society's Catalogue.—Centenary Edition. Containing 1,000 new varieties. All the novelties. A history and complete bibliography of the Chrysanthemum by Mr. C. Harman Payne. Price, 1s.; post free, 1s. 1½d. Publisher, GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

HINTS FOR AMATEURS.

Autumn Potting.

In the spring of the year, when everything is commencing to burst out into life and beauty, and nature is giving evidences on all hands that a new season of growth is upon us, it seems natural enough for the gardener's thoughts to fly to the consideration of his plants, and he says to himself, and it may be to friends around him, ah! my plants want potting, the primary reason for his vouchsafing this remark being that it is usual to pot in spring. The advanced amateur gardener goes a little further than this, and agrees that where the roots of various plants have been growing in the same soil for a twelvemonth or thereabouts, and where possibly owing to the vigorous growth on the part of the plant the root-room is somewhat restricted, that it is essential to give more room and fresh soil.

But while this is true with regard to potting in spring, it may also be applied with equal force to potting in autumn. Indeed, for very many plants a shift into fresh quarters as the season advances is the surest way of keeping them in health. Perhaps, from some cause or other, injudicious watering very likely, the soil in the pot has become sour and sodden, and totally unfit to support plant life. We might also add that insufficient drainage is a fruitful cause of sour soil, particularly if rather fine compost has been used. This, it may be, has been washed by repeated waterings into the drainage, which is thereby clogged up to a greater or less degree. The water given cannot obtain free egress, and the mischief commences. Again, as soon as the warm weather bursts upon us in the spring, many favourite greenhouse plants have been stood out of doors, the bottoms of the pots resting upon garden soil, or other places where worms are to be found in greater or less numbers. These little pests have worked their way through the hole in the bottom of the pot, and have proceeded to literally turn things upside down.

Here we are reminded of the story of an amateur who, on learning from some source or other that worms were great fertilisers of the soil, and as such very important and necessary agents in the economy of nature, proceeded to take advantage, as he doubtless thought, of the information thus gained by wending his way to the rubbish heap, and making diligent researches therein until he had procured a stock of large healthy worms. These he proceeded to distribute among his pot plants, under the mistaken idea that as worms are such good things for the soil outside they must be good for that contained in the pots in which his plants were growing. A substantial illustration this of the old saw that "a little knowledge is a dangerous thing."

It may be taken for granted that wherever worms are observed to have taken up their abode in pots that the drainage will be in anything but a satisfactory condition, and that remedial measures of some sort will be necessary. Other plants that are growing all the year round may need a shift into new quarters, for no other reason than the boy does who wants a new pair of knickerbockers, viz., that he has outgrown his old ones, or if we carry the simile a little farther, either worn them out or split them for want of room. As the summer begins to draw to a close, and the long days begin to visibly decline, then is the best time to make a thorough inspection of plants that are in need of it. Of course, in the case of Fuchsias, Gloxinias, etc., that are in a state of partial or complete inactivity during the winter months it is not necessary to interfere with them now. Balsams, Celosias, Coleuses, etc., that are grown for the season only, and raised from seed or cuttings each year as required, will also give no trouble, as they may be pitched away as soon as their allotted task is fulfilled. It is with the permanent subjects, such as Ferns and foliage plants, that are growing more or less the whole of the year round, that the precaution of seeing that all is right within the pot is so abundantly necessary. If this plan were adopted instead of allowing the plants to remain undisturbed through the dull days of winter, with the result that by far the greater proportion of the living roots are killed, many delicate constitutioned plants that now succumb might be saved, and others would not look so miserable as they often do by the time spring has arrived.

Where it is necessary to pot, no time must be lost in seeing about it, for if delayed too long the plants will not have time to establish themselves before winter. In order to make the check sustained by the plants from the potting process as little as possible, care must be taken not to disturb the roots too much. The shift given should also not be any larger than is absolutely necessary, for it is very injurious to the roots to have a lot of cold, wet, unoccupied soil lying around them during that part of the year when plant life with us is at its lowest ebb. The soil, moreover, must be carefully worked all round the sides of the ball by means of a thin lath or potting stick.

Subsequent Treatment.

Plants that have been potted at this time of the year will need the same kind of treatment for a few days following the operation as those that have been similarly served in the spring. The house or pit must be kept fairly close and shaded from the direct rays of the sun, whilst the syringe should be used several times a day to give the plants a gentle dewing over.

Palms and Foliage Plants.

As it is necessary in order that these should be of the greatest possible use to keep them in very small pots, and as these soon exhaust the soil in which they are growing, steps must be taken to make up for the deficiency of nourishment contained in the soil by occasional supplies of manure water. For the purpose cow manure is the very best stimulant that can be obtained, although for plants in windows, or in cases where the conservatory is a part of or in close proximity to the dwelling house, it is obvious that its unpleasant smell renders it unsuitable stuff to use. A light dusting of nitrate of soda is an excellent, and in cases like the foregoing a suitable stimulant to use as it is perfectly inodorous and at the same time most efficacious in its results, yellow starved-looking leaves recovering their pristine depth of verdure under its agency as if by magic. A word of caution as to the way it is used is, however, essential, for the smallest pinch is sufficient for a thirty-two sized pot, and it is better to err on the side of giving too little than of applying too much. These remarks will apply to the generality of foliage plants with equal force as it does to Palms, for where care is taken to feed well, the plants may be kept in very small pots indeed without spoiling their appearance. The drainage should however be examined and freed from any soil that may be found amongst it by means of a pointed stick.—*Rex.*

A RAMBLE FROM MAIDENHEAD TO HENLEY-ON-THAMES.

(*Concluded from page* 809.)

Resuming our ramble we now pass Lady Place—a place in name only—and give a casual glance at the old Norman church, some picturesque old barns, which were evidently put up before the modern jerry-builder had made his *debut*; some good specimen Cedars of Lebanon, and some fine, straight, stately trees of Pinus sylvestris. Here also is an old mill, which may, or may not, be picturesque, according to the social status of the observer; but it is, at least, useful, and will, in consequence, commend itself to those admirable persons who can see no good in anything that does not contribute to the public purse. But, as our object to-day is pleasure and not business, we pursue our way regardless of sordid motives, and with the intent of extracting as large a share of natural enjoyment from our visit as circumstances will permit. So then we soon leave the pretty village of Hurley in the rear, and becoming absorbed in the flora of the river forget, for a time, those cankering cares and petty worries which are so largely responsible for that dreadfully pessimistic query, "Is life worth living?" To-day, at any rate, no doubt shall exist, for there is the great Purple Loosestrife (Lythrum Salicaria) inviting us by its richness of colouring to make an inspection. It is a stately plant with tall spikes of magenta, rather than purple, flowers; aye, there is also some red in them, hence the difficulty of description. But every riverman knows it, and every artist adores it. It is not, however, a Loosestrife, it belongs to another order. Its generic name is derived from *lythron*, blood, in reference to the colour of the flowers.

Ah! here is the true Loosestrife (Lysimachia vulgaris), which is designated "yellow" to distinguish it from the spurious one above. Lysimachia is an exact counterpart of "Loosestrife," hence this plant (or class of plants) is the only one which is entitled to have the power of suppressing those evil passions which sometimes predominate in men as well as animals.

However, *names* are not much to go by, for if the older botanists were not exact enough, the modern ones, perhaps, are too particular. But to our Yellow Loosestrife. It is a noble plant, 2 ft. to 4 ft. high, and bears bright, deep yellow, rotate flowers in cymose clusters. Its ally and well-known and much-respected sister, the Creeping Jenny (Lysimachia Nummularia), is also here, trailing its pretty primulaceous blossoms over the banks of the great stream as well as on the sides of those smaller rivulets which contribute to its volume. It is a sweet and lowly plant, and yet it might well be called "London Pride," for it is, perhaps, more in request in the modern Babylon than any other. It is certainly very accommodating, but how many Londoners have seen it growing in its native wilds?

But we have not exhausted the yellows. Here is the lovely Nuphar luteum, or Yellow Water Lily; while yonder in a quiet nook its fairer, because more beautiful, sister, the White Water Lily (Nymphaea alba), floats, placidly awaiting that admiration which, it is presupposed, all nymphs demand. So, while the latter is indicative of virginity and loveliness, the former is suggestive of a spirituous compound, for the blooms decidedly emit an odour resembling brandy. Later on, as the fruit becomes globose or flagon-like, this circumstance, taken in conjunction with the other, has earned for the flower the quite unmerited sobriquet of "Brandy-bottle." The common Flea Bane (Inula, or Pulicaria dysenterica) has large yellow flowers arranged in corymbs, with rough, heart-shaped leaves, which embrace the stems. It has a peculiar scent, and is asserted by Linneus "to have cured the Russian army, under General Keith, of dysentery." If, then, this plant —which takes its specific name from this fact or fiction—is capable of performing such a service to the human family, it is doubly interesting, and not only worth going out to see, but of extensive cultivation.

Just above Hurley there is a grand sweep round of the river before it reaches Medmenham, while on the opposite shore the steep chalk hills and wooded slopes combine to present a picture of the most beautiful character. It appears to be as suitable to the lover of the rod as it certainly is to the rambling botanist, for the river may be aptly described as—

"Though deep, yet clear; though gentle, yet not dull;
Strong without rage; without o'erflowing, full."

Here we found more plants, and perhaps more interest than in any other similar locality along the silver stream.

The great Water Plantain, with panicles of rosy flowers; the elegant Rush, with "crowns" of purple and white; the sweet-scented and feathery plumes of Spiraea Ulmaria; the great, white, umbelliferous Hemlock; the tall, strong-growing, pubescent Willow Herb (Epilobium hirsutum), with rosy-purple flowers; the smaller round-stalked one (E. palustre), with rosy-lilac flowers; the pale pink-flowered Cat's Valerian; the Water Horehound, or Gipsywort, with Mint-like whitish flowers in dense whorls; the Marsh Woundwort, a member of the same family; the lovely little Skull Cap, with purplish-blue labiate flowers in leafy spikes; the Hemp Agrimony, with dense heads of pale purple; the common Comfrey, with nodding, yellowish-white or purple, bell-shaped blossoms; the true Forget-me-Not (Myosotis palustris), "the most elegant of plants," and a host of others. But why go into details? Why attempt to exhaust the river flora? No amount of detail it is true can possibly convey an adequate idea of the lavish loveliness which everywhere abounds—the lights, the shades, the colours, the rich luxuriance, the prismatic hues—but there is still a hope, a philanthropic hope, that what appeals so strongly to temperaments like ours may perchance find a responsive echo in the thoughts of those who, like us, believe that nature is able to supply us with an inexhaustible source of pleasure and delight. The river just here is full of queer bends and eyots, or little islands, and has thus been aptly called the "Archipelago."

But here is Medmenham Abbey. Hi, there! The ferry-boat man soon responds; and we are now on the opposite bank of the clear-flowing river. The Abbey is now but a ghost of its former self, and

the associations in connection therewith may well be let alone in the face of so much sylvan and aquatic beauty, which more concerns us in our present mood. We, therefore, again give our attention to the flora of the river, and notice at once a plant which might be expected to occupy a different site to this, namely, Linaria vulgaris, the Common Toad Flax. There is a fine little group of these Snapdragon-looking yellow flowers, with deep orange-tinted palates, and curious basal spurs. One expects to find their gaping mouths at higher elevations than a river's bank; but some plants are very easily accommodated and this is one. Another subject which gave us more trouble to define was Nasturtium sylvestre, a pretty little Cruciferous plant with yellow petals. We secured a "specimen," and my friend has since written that, after some little trouble (*re* identification) I am persuaded that ours was N. sylvestre. What a misnomer! As the specific term is indicative of "woods" one would hardly expect to find it growing in the water, especially as there is a similarly habited species (N. palustre) which affects wet places. However, the nomenclature of plants is admittedly difficult, and the more one goes into the matter the more one becomes aware of it. So, as perfection seems impossible, we will accept the inevitable, and make the best of our blunders. But there is always much to admire about the fathers of botany, they were so earnest.

There were several other water "weeds" we commented on, such as Galium palustre, Thalictrum flavum, Polygonum amphibium, Carduus palustris, Rumex Hydrolapathum, Sparganium ramosum, etc., etc.; but time and space forbid particulars. The lovely Blue Geranium (G. pratense), however, ought not to be omitted; for its bright flowers, Crane's-bill fruits, and laciniated leaves, stamp it as a subject fit for garden culture; hence one of the party bagged a bit for that purpose.

While we are taking stock of the Willows, the Alders, and the Poplars, we have travelled as far as Hambledon Lock and Weirs, over which we cross, thus passing out of Bucks into Berks once more. Whilst passing one of the aforesaid weirs, we came across the Water Speedwell (Veronica Beccabunga), a plant which we had not hitherto seen, but whose glossy leaves and blue flowers are common enough in certain places.

Continuing our route once more on the right bank of the river, we soon come to Greenlands, the summer residence of the Viscountess Hambledon, the widow of the late Right Hon. W. H. Smith. The term "Greenlands" is in excellent accord with the surroundings; for although the past season has been one of the exceptional dryness, the gardens and water-meadows about here remind one of the Emerald Isle. The bedding-out at Greenlands is very fine and bright, but this is toned down to some extent by the sombre hues of the Cedars, whose spreading branches lend an air of grandeur to the scene. So we come to Temple, or Regatta Island, from which there is a fine, broad, straight bit of old father Thames right up to Henley Bridge.

We were, however, reminded long before we came to this point that something unusual had recently occurred; for in the recesses of the river and among the water-weeds, champagne bottles—empty, of course—bits of paper, swollen corks, &c., told a merry tale. But how uncivilised it seems to throw all this unsightly *débris* upon the fair bosom of the Queen (King?) of the island rivers!

Yes, it is all due to the Regatta; where others besides those who may justly be termed the rank and fashion assemble on these occasions to participate in the pleasures of the hour. It is, however, a delightful bit of water, this Henley mile; and doubtless many a fair damoiselle has experienced the promptings of love for the first time during one of these celebrated annual gatherings. In the days of Horace Walpole there were planted here a row of Lombardy Poplars; they, like that notable character, have long since departed. But in the place, thereof, some fifteen or sixteen years ago the Black Poplar was substituted. These have now grown into fine specimens; and although they may not be so elegant, from an artistic point of view, as their predecessors they produce a fine effect from the handsome bridge, on which we have at last arrived. Here we take a last fond look at the charming views, both up and down that lovely river of which old "Peter Petersham" is reported to have said in answer to a statement that there were finer rivers, "*show 'un.*" Thus we bring to a close a most agreeable ramble of about twelve miles; the notification of a few wild flowers; the acquisition of a bit more philosophy; and the record of a reminiscence which will never be forgotten.—*C.B.G., Acton, W.*

Aquilegias in Kent.

AQUILEGIAS IN KENT.

Away back about the end of June it was our pleasure and good fortune to see a large breadth of Columbines or Aquilegias grown on the seed farm of Messrs. H. Cannell & Sons, at Eynsford, Kent. Whether our native Columbine, which grows wild there, suggested the idea to Mr. Cannell we cannot say; but the idea that a chalky soil would suit Aquilegias was certainly a happy one, as the issue proved. We have never seen them grown in greater quantity (about half an acre) nor more floriferous. The statement that you "cut and come again" is hardly expressive enough to convey an impression of the enormous quantity of bloom that might have been used in various ways for decorative purposes. Few hardy flowers are more graceful in their way, and seeing that they can be had in thousands from seed, none are more easily managed. We can offer no plainer suggestion than that these Aquilegias, which consist chiefly of A. chrysantha, more or less intermingled

with A. caerulea by hybridisation, should be treated as biennials. These Rocky Mountain Columbines are liable to die off after the second year, more especially when grown in heavy clay land, though strictly perennial in suitable soils; but by sowing a box of seeds every year and transplanting them like Sweet Williams, any gardener who requires a large supply of cut flowers can raise them in quantity sufficient to meet all demands at a merely nominal cost and a minimum expenditure in the shape of labour. The petals of these flowers are mostly of some shade of yellow, creamy-white, or sometimes pale blue; but the sepals and long spurs vary from pale to dark blue and deep purple. These shades of colour intermingle, blend and harmonise with one another in the most charming way. They can be cut with any length of stem, so that they can be put to an endless variety of purposes and never appear lumpy or heavy. Those who have the devising of floral decorations, in which the principal shades of colour are yellow, utilise Columbines very largely and on frequent occasions. We are obliged to Messrs. Cannell for this opportunity of illustrating the Rocky Mountain Columbines.

APPLES AND PEARS AT DEVONHURST.

While there is ample evidence on every hand that it is decidedly an Apple year, while the last was more especially notable for its enormous crop of Pears, yet we cannot overlook the fact that the latter have done admirably in some places, as at Devonhurst, Chiswick, the town residence of E. H. Watts, Esq., where the Pears are an admirable crop, while we have never seen the Apples more abundant. Bushels of fruit have been taken off the trees, not merely for the purpose of lightening them, but to ensure that the remainder of the fruits will be of good size. The effect has been very marked, for since the accession of rain the Apples have swelled up to enormous size. Many of the trees are grown upon the Paradise and in pyramidal form; they are about 6 ft. high, and comparatively young, so that they are still in their prime, and were the position better and the exposure fuller they would fruit even more abundantly than they are doing. There are something like sixty to seventy varieties, and the number reached eighty before the rooting up of an old plantation. Amongst those now bearing large and fine fruits are Emperor Alexander, Cellini, Warner's King, Lady Henniker, New Hawthornden, The Queen and others.

In a more open situation and surrounding the walks in the kitchen garden are half standards, which are even more heavily laden. Thinning has been most extensively done here, yet the branches in many cases are being borne down by the weight of the fruit. This is particularly the case with Lord Suffield, the trees of which are perfect pictures, and the fruit clean-skinned, and without spot or blemish. About equally heavy are the crops of Duchess of Oldenburg, King of the Pippins, Golden Noble, and Baumann's Red Winter Reinette; the fruits of the latter are smaller but very numerous. Those half standards which are notable for size of fruit as well as heaviness of crop are Emperor Alexander, richly coloured; Ribston Pippin, Golden Noble, Duchess of Oldenburg, Lord Suffield, Beauty of Kent, Golden Pippin, Stirling Castle, Landsberger, Reinette, Gravenstein, and several others. Cox's Orange Pippin as a pyramid has been allowed to grow more upon the extension system than formerly, and the results have more than warranted this proceeding. The trees are now bearing heavily, and the fruits are of large size, clean, and later on will be highly appreciated as one of the most toothsome Apples in existence.

Pears have done remarkably well, both as espaliers upon walls, and grown as half standards. Amongst those upon walls, Doyenné du Comice has fruited best; but no fault can be found with William's Bon Chrêtien, Easter Beurré, and White Doyenné. In the case of half standards the branches of the trees of Beurré Bosc, Marie Louise, and several unnamed ones are being borne down by the weight of the fruit. Souvenir du Congres, even when grown under these conditions, is notable for the size and fine appearance of the fruits. Others are equally good, but what need is there to specify? The trees in this town garden certainly show that Pears may be expected to fruit well for two or more years in succession so long as the conditions are favourable. The trees in many cases have been started into a second growth by the heavy rains, but we do not surmise that this will be greatly detrimental to their welfare. The trees, both on walls and in the open are kept in excellent condition by Mr. James Gibson, who is an enthusiastic and very practical gardener in the several branches or departments of his profession. The vegetables constitute a silent witness to his ability. He pulled up a Parsnip, which measured 3 ft. in length, though the tip had been broken off, and was as straight as a gun barrel. Onions, Leeks, Carrots, Celery, and Potatos are equally noteworthy examples to be imitated by brothers of the craft

PLANTS RECENTLY CERTIFICATED.

The undermentioned certificates were awarded by the Royal Horticultural Society on the 13th inst.:

FLORAL COMMITTEE.

Gladiolus Mrs. Beecher.—This handsome variety is allied to G. Saundersii, of which it has the large and widely expanded flowers. They are brilliant scarlet with crimson centre, and the two lower segments of the inner series are heavily overlaid with milk white. Award of Merit. Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

Montbretia Soleil Couchant.—The flowers of this hybrid are of good size and of a uniform golden yellow. Award of Merit. Sir Trevor Lawrence, Bart.

Anthurium Mariae.—Great improvements continue to be made in the section of Anthuriums represented by A. ornatum and the hybrid A. ferrierense, to which the hybrid under notice belongs. The heart-shaped spathe is of great size, firm in texture, and white with a faint indication of pink veins. The large spadix is rosy, and contrasts well with the spathe. The leaves are also heart-shaped, of great size, and pleasing light green colour with a glossy surface, so that the plant is sufficiently ornamental even when not in flower. First-class Certificate. Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

Brunsvigia Josephineae.—Few of the Cape Bulbs are holder or more striking than this one, even if some are more showy. The bulbs are large and throw up a flower scape 3 ft. or more in height, bearing a widespreading umbel of flowers of moderate size. The rays of the umbel are 12 in. to 14 in. long, and bear each a solitary crimson and irregular flower with a bent tube, and altogether singular in appearance. The size of the umbel and the number of flowers are a special feature of this noble bulb. First-class Certificate. Earl Brownlow, Great Berkhamstead, Herts.

Tigridia grandiflora aurea.—The outer sepals of this fine variety are orange-yellow or golden, lightly washed with bronze, and blotched with crimson on the basal portion. The inner three segments are blotched with crimson on a golden ground. Award of Merit. Messrs. R. Wallace & Co., Colchester.

Tigridia grandiflora immaculata.—The three inner segments of this distinct variety are faintly tinted with yellow on the lower half; the rest of the flower is pure white, and entirely without spots as the varietal name indicates. Award of Merit. Messrs. R. Wallace & Co.

Dendrocalamus membranaceus.—A plant of this Bamboo, shown in a pot by A. B. Freeman-Mitford, Esq. (gardener, Mr. J. Garret), Batsford Park, Moreton-in-Marsh, was 3 ft. high, and bore linear-lanceolate light green leaves, furnished at the base with a tuft of horizontal bristles. It is a graceful plant for pot culture. Award of Merit.

Sorbus Aucuparia fructu luteo.—The bright red berries of the ordinary form of the Mountain Ash are familiar to everyone, but a golden-yellow fruited variety, such as this, is not half so well known as it ought to be, considering the ornamental value of the fruit especially by contrast with the type. Award of Merit. Messrs. Geo. Bunyard & Co., Maidstone.

Gladiolus Earl Cadogan.—The flower stems of this variety attain a great length bearing numerous blooms of a bright salmon-red, flaked with crimson. Award of Merit. Messrs. Kelway & Son, Langport, Somerset.

Gladiolus Duke of Devonshire.—The densely arranged flowers of this Gladiolus are bright scarlet with a white throat and three white lines running along the three lower segments for two-thirds of their length. There were twenty flowers and buds upon the spike, testifying to the vigour of the variety and good cultivation. Award of Merit. Messrs. Kelway & Son.

Gladiolus Don Jose.—This is described as Kelway's new hybrid, and whatever it be, it is remarkably distinct. The three outer segments of the flower are purple, striped with crimson, and the three inner ones are intense crimson-purple. Seldom do we see flowers of this class so nearly uniform in hue, and the colour itself is altogether unusual. The flower spike is of great length. Award of Merit. Messrs. Kelway & Son.

Chrysanthemum coronarium Sunshine.—As grown by Henry Brownhill, Seed Stores, Sale, Cheshire, the flowers of this annual are of huge size, single, and golden yellow, both rays and disc. Like the others hereafter mentioned, it was grown on from cuttings and grows to the height of 3 ft. Award of Merit.

Chrysanthemum coronarium elegans.—In this case the flowers are white with a golden zone round the yellow disc and very attractive. Award of Merit. Mr. Henry Brownhill.

Chrysanthemum coronarium Princess May.—The flowers of this variety are the largest of any, with very broad, white rays, and a yellow zone encircling the golden disc. Some of these varieties give one a suspicion that there has been some crossing between C. coronarium and C. carinatum, judging from the character of the bracts beneath the flower head. Award of Merit. Mr. Henry Brownhill.

Chrysanthemum carinatum Chieftain.—There can be little doubt but that this is a pure-blooded C. carinatum, so to speak; but the variety is really charming though not so large as the rest. The rays are golden yellow and the disc violet, ultimately changing to chocolate as the florets expand. All of the four, together with several others attracted a great amount of attention. Award of Merit. Mr. Henry Brownhill.

Dahlia Mrs. E. Beck.—In this we have a Cactus variety of great merit, with flowers of good average size for this class, and bright orange-scarlet with long pointed florets, revolute at the sides, and greatly enhancing the charm of the bloom. Award of Merit. Mr. T. S. Ware, Hale Farm Nursery, Tottenham.

Dahlia Arthur Cheal.—The flowers of this Cactus variety are of good size, and rich scarlet, tinted with vivid crimson in the centre. It is one of the true Cactus type and an acquisition to its class. Award of Merit. Messrs. J. Cheal & Sons, Crawley, Sussex.

FRUIT AND VEGETABLE COMMITTEE.

Apple White Transparent.—The fruits of this variety are of large size, great depth, and strongly five-angled. The skin is remarkably pale, yellowish white, minutely speckled with green, and sub-transparent in appearance. The eye is closed and deeply set in an angular and generally corrugated basin. Award of Merit. Messrs. Geo. Bunyard & Co., Maidstone.

Dwarf Bean, Extra Dwarf Early.—This variety is dwarf as the name implies and very prolific. The pods are now ripening, and are curved, very thick, and somewhat constricted between the seeds. Three marks had been given to it at Chiswick, and an Award of Merit on this occasion. Messrs. Vilmorin-Andrieux & Co., Paris.

Dwarf Bean Golden Butter.—The pods in this instance are 4 in. to 6 in. long, and similar in shape to those of Extra Dwarf Early. It is of excellent flavour when cooked, and one of the best of its class. Award of Merit. Messrs. Vilmorin-Andrieux & Co.

Dwarf Bean Longfellow.—The pods in this case are flattened, nearly smooth, green, straight or slightly curved, 6 in. long and abundantly produced. This belonged to Mr. Henderson of New York, but had been grown at Chiswick, where three marks had been given it, and this being confirmed by the Committee, it received the customary Award of Merit.

Melon Middlesex Hero.—The parentage of this variety was Hero of Isleworth crossed with Syon House. The good-sized fruits are oval, green,

shining and copiously netted with gray. The flesh is dark green, of great depth and rich flavour. Award of Merit. Earl Percy (gardener, Mr. G. Wythes) Syon House, Brentford.

STRAWBERRY ROUGE AMELIORE.—Here we have an Alpine or Quatre Saison, Strawberry, narrowly conical, deep red, of very good flavour for this type and ripening up till a late period. Award of Merit. Messrs. de Rothschild(gardener, Mr. James Hudson), Gunnersbury House, Acton.

CHERRY GHENT D'HEDELFINGER.—The fruits of this Cherry are of great size, black and shining. The pulp is likewise almost black, firm and juicy, and of rich and exquisite flavour. It is another acquisition to the class of stone fruits which has either been raised or brought into notice by Messrs. T. Rivers & Son, Sawbridgeworth. It well deserved the First-class Certificate it received.

PLUM RIVERS' EARLY FAVOURITE.—The fruits of this valuable Plum are small and purple, with a soft, juicy and deliciously flavoured flesh. The variety is grown upon a west aspect wall at Chiswick where it ripened on the 19th July. It is a freestone. First-class Certificate. It is another of Messrs. T. Rivers & Son's acquisitions.

GARDENING MISCELLANY.

PENSTEMON BARBATUS.

THIS Penstemon, known also as Chelone barbatus, although one of the oldest in cultivation is by no means the least useful and desirable of this genus. Its light, graceful panicles of light-red or carmine flowers, freely produced, are invaluable where many flowers are wanted, being especially suited for tall glasses and vases when cut their full length. I sowed seed last spring, and not being certain whether they would survive the winter, I lifted the plants in autumn, and placed them close together in a cold frame, and planted out in early spring. It ranks among the most useful border flowers.—*A.P.* [It is perfectly hardy, even in the north of Scotland. —ED.]

ARNEBIA CORNUTA.

THE specimens of this hardy annual exhibited at the Drill Hall, on July 9th, could give no idea of the beauty of the plant as seen in the open ground. We saw it again on the 3rd inst., growing on the seed farm of Messrs. Dobbie & Co., Orpington, Kent; and, though it had been flowering freely for several weeks previously, it was still in excellent condition, and seemed good enough for some weeks longer. The plants are upright in habit, branching freely and producing flowers in succession as the crozier-like cymes develop and expand. The flowers are golden yellow with five velvety black blotches that disappear like those of the Prophet Flower as the individual blooms get old. The lower portion of the plants was carrying a quantity of seed, though the the upper showed no diminution of vigour. A bed consisting of 160 plants was very gay indeed, and altogether compactly filled.

STATICE BONDUELLI.

A YELLOW Statice is a rare occurrence, in cultivation at least, the bulk of them being of some shade of blue or pink with white corollas. In this case the calyx is pale yellow and the corolla deep yellow and sufficiently numerous to be conspicuous even at some distance away. The leaves are runcinately lobed like those of some of the annual species, and mostly lie close upon the ground. The branching stems are erect, mostly leafless, and rise to a height of 2 ft. to 2½ ft., and have curious bracts forming wings to them around and in the vicinity of the flowers. It is a native of North Africa, from whence it was introduced in 1859, and was considered a greenhouse plant. The specimens in the herbaceous ground at Kew are sufficient to convince any one that the plant succeeds in the open ground quite as well as S. Suworowi, and have every appearance of being as easily managed.

CAMPANULA PUSILLA.

WHAT a contrast this beautiful plant bears to its tall growing and stately relative, and yet how beautiful it is. Little patches of it in corners of the rockery or in the front rank in the mixed border never fail to arrest the attention of even a casual observer. The pendulous relatively large flowers so freely produced are scarcely lifted off the soil, so dwarf and carpet-like is the habit of the plant. The very lovely position it occupies is not at all in its favour, for being so close to the ground it is sure to get splashed with soil and the beauty of its flowers thus spoilt by heavy rains. The flowers are of a bright blue shade when first open, but gradually become lighter in colour with age. Both C. pusilla and its varieties, alba and pallida, which only differ from the type in the colour of the flower, are well worthy a place in the garden. As edging material, indeed, they are of great value. They are not very particular as to soil, as they will grow almost anywhere, although they prefer it when it is somewhat sandy. They are decidedly impatient of stagnant water at the roots, and therefore the positions in which they are to be placed must be thoroughly drained beforehand.

CHAMAEPEUCE DIACANTHA.

IT is sometimes questioned whether this useful Thistle is hardy. A number of plants I left out last autumn survived the winter, and have now ripened a quantity of seed.—*A.P.*

A PRETTY WINDOW.

ALTHOUGH the number of plants which may be grown successfully and well within the limits of a cottage window is perforce limited enough, more especially when that window is not very far removed from the smoke and dirt of our great city, we now and again come across striking illustrations of what may be accomplished if only a little intelligent enthusiasm is thrown into the work. In a cottage window at Kew a remarkably pretty effect has been produced by a few plants of the well known Campanula isophylla and its not less well-known variety, C. i. alba. We have before had occasion to remark on the splendid qualities of which these two plants are possessed and their great suitability for growing in windows, whilst we have had our sense of the beautiful delighted by the sight of them in more or less good condition in cottage windows from time to time, but we have never seen them looking gayer or more healthy than in the window in question, which, by the way, has a western aspect and possesses no particular advantages. The pots are suspended about mid-way between the top and bottom of the window, and the long, graceful, profusely-flowered growths allowed to hang down as they please, the blue and white flowers intermingling in a really charming manner.

TRACHELIUM CAERULEUM.

To the majority of gardeners this plant is an utter stranger, a rather regrettable fact when we consider what a really pretty and valuable subject it is, and how useful it is for decorative purposes in the cool conservatory during the summer months. A bright little batch of it has been greatly admired by visitors to the greenhouse at Kew, where for the last few weeks it has most decidedly been one of the features of the house. The flowers are small, bright blue in colour, and produced in large graceful corymbs, which, despite the fact that they contain so large a number of blooms, yet lose not a whit of elegance and lightness. The leaves are ovate in shape, acute, with deeply serrated margins and shortly petiolate. The white-flowered form, T. c. alba should also be grown for the sake of variety. Both are exceedingly easy of culture. They may be propagated readily either by seeds or cuttings. The young plants should be grown on in a gentle heat during the earlier stages of their existence, although later on they will stand a perfectly cool temperature with the best of good nature.

SEDIUM ACRE AND LYSIMACHIA NUMMULARIA.

WE have recently had our attention drawn to these two old, common, every-day favourites from seeing them in combination in a small front garden, whether designedly or not, we are unable to say; but the effect produced was most beautiful when they were in flower together. The Sedum was a little in advance of the Creeping Jenny, as it is commonly called, thus prolonging the floral display by about two weeks. Owing to the habit of the two plants they seem to go well together, and dwellers in towns in particular may copy this plan to advantage.—*W. B. G.*

RATE OF GROWTH IN PLANTS.

PLANTS grow faster between the hours of four and six in the morning than at any other time during the day. Can any practical gardener substantiate this from actual observations?

EDIBLE PODDED PEAS.

To those in search of an additional vegetable the Edible Podded Pea is worth a trial. I saw it for the first time in the gardens of the Hon. A. P. Allsop, Batterstall Mount, Worcester, where, along with other culinary Peas, Mr. Fox, the gardener, has it in a flourishing condition. There is nothing uncommon in its appearance, its pods of a pale green colour are of a good length, and freely produced. When cooked they are tender and agreeable. The flavour resembles that of Asparagus, which has commenced to run (sprue cooks call it, I believe), and the strings so evident in ordinary pods are entirely absent.—*A.P.*

HARDINESS OF THE OVAL-LEAVED CHERRY LAUREL.

THE intense frost experienced during the early part of this year played havoc with several varieties of the Cherry Laurel, the older and most familiar form of it especially. We frequently pass some villas, in the grounds of which, in two instances, the oval-leaved variety predominates, and passed through the frost almost unscathed, whilst the adjoining gardens, where the Cherry Laurel is planted, look quite unsightly at the present time from the dead and still dying branches of the Laurels. The contrast is most striking, the one set of places looking everything that can be wished for, whilst the others so far as the shrubberies are concerned are perfect wrecks. There is nothing else to account for the difference beyond the superior hardiness of Prunus Laurocerasus rotundifolia.—*W.B.G.*

HARDY AUTUMN FLOWERS.

A NOTE in time may assist those lovers of autumn, winter, and spring flowers in making their selections for blooming during the coming season. It is unfortunately the fault of many to leave or put off the planting of such bulbs, etc., as Colchicums, Sternbergias, Crocuses, Zephyranthes, Scilla autumnalis and others, until the season is almost past. To ensure strong plants and well-developed flowers early planting must be adhered to, as nothing is more conducive to the production of successive flowers from bulbs like Colchicums and Crocuses, as planting early in the season, when bulbs and corms are in their best condition. The time to plant is as early in the present month (August) as practicable; and it is always important to secure the largest and finest in preference to the cheaper and smaller ones, as the largest always give satisfaction.

Flowers of any kind are most welcome during the dull days of October, November and December, and the plants should have found for them favourable and prominent places in all gardens. The Colchicums (Meadow Saffron) are amongst the first to flower, and just when the freshness of the summer-blooming plants have lost their beauty. It is surprising to find how few grow these beautiful and attractive autumnal and winter-flowering plants, their cultivation being so simple, and they are quite hardy. The common Colchicum autumnale is found wild in many parts of England, and presents its pale purple flowers in abundance without any leaves in early autumn as its name indicates. The varieties of C. autumnale are most beautiful and attractive, but not generally-known. C. a. album, pure white; C. a. roseum, flowers large and of a beautiful rose colour; C. a plenum, large lilac flowers, very double; C. a. atropurpureum, purple, striped pink; C. a. album plenum, a great beauty, flowers large, and snowy white; C. Parkinsoni, flowers beautifully chequered rosy-lilac and white, the petals being gracefully reflexed; C. speciosum rubrum, a grand flower and of good substance, colour, dark ruby-crimson; C. byzantinum, flowers of a beautiful rose, a very free bloomer, a good plant to border a shrubbery; and C. Sibthorpi, flowers very large, rosy-purple chequered, are some of the best. Colchicums naturalise admirably in grass, where they produce a beautiful effect.

Some of the most beautiful of the autumn-flowering Crocuses are zonatus, flowers rose-lilac with conspicuous scarlet zone; speciosus, brigh blue. This is

amongst the handsomest of autumn Crocuses, and remarkably effective; Salzamanni, lilac, dark feathered; ochroleucus, creamy-white, with orange throat, very free; pulchellus, lavender, with yellow throat; nudiflorus, violet-purple. This is one of the most free of autumn Crocuses, and grows and flowers luxuriantly in almost any situation; cancellatus, white, purple base: asturicus, purple-lilac, very showy; iridiflorus, large purple, very handsome; Medius, purple; longiflorus, rose-lilac, sweet-scented; and sativus "The Saffron Crocus," purple.

The winter-flowering kinds succeed the autumn species, and are extremely decorative on the rockery, etc., but flowering as they do during November, December and January, a cold frame is preferable, as they are so liable to be damaged by the rains and frost. C. alatavicus, is a white, feathered purple, very pretty and distinct; dalmaticus, a very pretty lilac, outer segments shaded fawn; chrysanthus, rich orange; Imperati, a very distinct and beautiful species, with flowers of violet, fawn and black, amongst the finest of all species; Etruscus, white, veined purple and Korolkowi, flowers yellow, outer segments splashed purple.

The spring-flowering species are all very effective, growing in grass or on the rockery, are quite distinct, and flower earlier than the C. vernus varieties. Amongst the finest of these are C. carpetanus, with its delicate pale purple flowers, and very pretty; C. Olivieri, bright orange flowers, and fragrant; C. Tommasinianus, a beautiful pale lavender, and very free bloomer; C. biflorus argenteus, snow-white, with feathered outer segments; C. b. Leichtlini, pale blue; C. b. Weldeni, in which the flowers vary from pure white to mauve, stained blue, a very interesting variety; C. Malyi, white, with orange throat; C. reticulatus, lilac, feathered purple; C. stellaris, a bright coloured orange, with purple feather, very striking; C. vernus leucorhynchus, very handsome and distinct, flowers white, feathered purple; and C. v. Leedsii, rich purple, with white tips on each segment, very effective. There is such a wealth of these beautiful Crocuses that we can enjoy them in our gardens with scarcely a break from September until March and April. They are amenable to an endless number of ways of arrangement, and I may suggest that instead of planting in lines, to make irregular clumps or patches in the grass, or where they are not at the mercy of the fork.

Iris stylosa, with standards and falls of a beautiful light blue, also the var. alba, pure white, are both very pretty winter-flowering Irises for a warm and dryish border, where they flower for a long period.

It is to be regretted that the hardy Cyclamens are not more frequently found in gardens than they are. They are perfectly hardy, and require only very simple management. They are adapted for planting on rockeries, old walls, and beds where they will not be overgrown by tall plants. For autumn-blooming, Cyclamen europaeum, flowers crimson, sweet-scented; C. hederaefolium, flowers rosy-pink, with beautifully shaped leaves, and similarly veined to the Anaectochilus, and its variety album, pure white, also very pretty, are very useful; while for winter blooming, C. Coum, bright crimson, and the pure white and the rose varieties are very handsome. C. ibericum and its varieties go on flowering for a long period, and are very handsome; while C. repandum, bright crimson, and C. r. album flower in spring.

Other autumn-blooming plants are Zephyranthes candida, a very pretty Crocus-like pure white flower. It requires a warm sunny situation. Scilla autumnalis, purple, and the var. rosea, nice bulbous plants for rockeries or flower borders, and quite hardy. Leucojum autumnale is a slender-growing plant with small white flowers, delicately striped pink. This requires a warm sandy soil and sunny situation, and is a gem for the rock garden. Sternbergia lutea has a bright yellow Crocus-like flower, with tufts of deep green foliage, and is very showy. Schizostylis coccinea, is a most accommodating plant, either for indoors or out. It is hardy, and thrives best in a warm, dry, sheltered situation. Its flowers are bright crimson-scarlet in colour. Anemone Japonica and varieties are very handsome border flowers during autumn. The new variety Lady Ardilaun is a grand thing, and a distinct improvement on Honorine Jobert, pure white.—*W. L.*

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d Publisher GARDENING WORLD, 1, Clement's Inn, Strand, London, W.C.

CARNATIONS AT EDENSIDE.

BEARING in mind the great name that Mr. James Douglas has made for himself, both as a cultivator of existing varieties of Carnations and Picotees and as a raiser of new ones, we confidently expected that a visit to the Edenside establishment would be time well spent. Nor was our confidence misplaced, for, although we were rather too late to see the cream of the flowers, those that were left sufficiently indicated the high degree of cultivation and the large share of skilful attention bestowed upon that brightly-hued democrat—the Carnation. The nursery, which, by the way, has only recently been started, is situated in one of the most sweetly rural districts of Surrey, and is within easy distance of the L. B. & S. C. R. Company's station at Bookham. As the ground has only lately been broken up no extensive trials of out-door cultivation have so far been made, although where plants have been put out they are growing in an exceptionally vigorous style that speaks in a sufficiently decisive manner for the suitability of the soil, and augurs well for the prosperity of the undertaking.

Mr. Douglas' large stock of plants and extensive collection of varieties are at the present time wholly grown under glass. The houses, four or five in number, are light commodious structures, well glazed, and ventilated on the most approved plan. With regard to dimensions they are about a hundred feet in length, and vary from fourteen to twenty feet in width. All these are filled to overflowing with fine healthy plants, most of them in eight-inch pots and all in the pink of condition. No dishudding whatever is done, as the primary and most important object is the procuring of seed, and it is found that more and better seed is obtained from the smaller side blooms than from huge terminal ones, to assist in the production of which all side buds have been mercilessly removed. From this it must not be inferred, however, that nothing but small blooms were to be seen; for on the contrary although produced from side buds, the size, form, and colour of the flowers were remarkable—the latter being all the more noteworthy from the fact that no shading whatever is given. At the time of our visit layering was actively in progress and we were most favourably impressed with the strong healthy appearance of the grass, for no "miffy" doers are tolerated at Edenside. The habit of bursting the calyces, so great an evil in many of the older varieties has received special attention at Mr. Douglas' hands, with the result that after an infinite amount of painstaking and unintermittent labour he has given to the Carnation-loving public a large number of sorts embracing all sections of the popular flower and every conceivable colour (excepting of course blue) that do not burst their pods—in itself a no mean tribute to his skill as a florist. The number and excellence of standard varieties which owe their existence to the painstaking efforts of Mr. Douglas are sufficiently illustrated by the fact that when the National Carnation Society assembled in council at the commencement of the present year to determine the relative merits and positions of all the varieties at that time in cultivation, the thirteen varieties highest on the list were raised from seed saved by him, Mrs. Robert Sydenham, a fine yellow ground, and Countess of Jersey, a heavy rose-edged Picotee, heading the poll with seventeen votes. Fourteenth in order of merit came Stadraith Bail (Benary) and then the next six or seven sorts were also obtained from Mr. Douglas' seed.

Amongst the numerous fine sorts contained in the Edenside collection the following seemed to us the most worthy of mention as representing the highest degree of merit to which the Carnation has so far been raised—varieties that from their grand all-roundness of good habit, form, size, and profusion of bloom, brilliancy of hue with distinctness of marking, and last, but by no means least, freedom from pod-bursting, are thoroughly deserving a place in every representative and up-to-date collection. Of self-coloured flowers Britannia is the best yellow that we have yet seen, and is, moreover, of large size and excellent form. This is one of the novelties which may be trusted to make a sensation when it becomes better known than it is at present. Mrs. Audrey Campbell is another good yellow, having many excellent points. It is somewhat lighter in hue than Britannia. The blooms of Miss Ellen Terry reach a tremendous size, being under favourable conditions quite as large as Malmaisons, and, moreover, of fine form and great refinement, added to which is a strong and yet most agreeable perfume—a fine sort this for cutting from. King Arthur is a distinct acquisition. The foliage is strong and vigorous, the flowers very large and rich crimson-scarlet in hue. Braw Lass is a fine bright rose, very strong and free, whilst in Sadek we get blooms of a deep rose hue almost similar to those of Ruby, but exhibiting a much better form. Miss Eric Hambro, also a recent introduction, is one of the best whites in cultivation. Waterwitch, a lovely blush white variety is a gem of its kind, whilst the creamy-white flowers of Lady Ridley, borne erect upon stout foot-stalks are exquisite. In The Hunter we find a flower that reminds us very forcibly of Mrs. Reynolds Hole, which created such a *furore* when first sent out, and was for some time the best of its kind. Still, between it and The Hunter we find a good deal of difference, and, it may be remarked, a difference all on the side of improvement, for the lovely Apricot hue is deeper, the flowers instead of drooping are erect, the footstalks being stronger, and the objectionable habit of calyx-bursting is entirely obviated. The Pasha is also a charming variety, bearing blooms of the much-sought-after apricot hue, but the beauty of the flower is much enhanced by the charming way in which the petals are fringed. Hayes Scarlet is as yet unapproachable, for no other scarlet self yet forthcoming boasts of such a finely-formed and richly-hued flower, whilst in habit it is above suspicion. In Bendigo we find the nearest approach to a blue Carnation we have so far seen, for its flowers are of a lovely violet-purple, at once pretty and distinct, and, withal, large and of good form. Very noteworthy is Mephisto, which resembles the Old Clove in colour, but is of a richer and deeper shade, and is certainly a great improvement.

Amongst the much-sought-after yellow-ground section, Cardinal Wolsey takes a foremost place. Somewhat similar to Victory, the flower is greatly superior in form and brilliancy of hue. The large well-shaped flowers of The Dey invited inspection as we passed them. Here we get a rich buff ground-work, charmingly striated and suffused with bright rose—a very desirable variety. George Cruickshank is a truly handsome flower, with large, well developed flowers streaked with crimson upon an orange-buff ground.

Of yellow-ground Picotees there was an abundance, and certainly this beautiful section of a gorgeously showy class of plants never appeared in our eyes to better advantage than at Edenside. Florrie Henwood, a rich, clear yellow, has a well-defined edge of bright rose. Ladas, a large full flower with an exceptionally clear yellow ground colour, has petals of remarkably good substance, with a well-marked scarlet edge. President Carnot is of not less excellent form than those previously mentioned, and has a heavy margin of scarlet. Other good sorts are Mrs. Alfred Tate, a heavy rose-edged variety, much later in flowering than the majority of its kind, and especially valuable on that account; Mrs. Douglas, medium rose-edged; Mrs. Dranfield, light rose-edged; Mrs. Gooden, medium scarlet-edged; and Cowslip, bright rose-edged.

Several Malmaison varieties are grown, but as we were too late to see these in flower we can only give testimony to the sturdy growth and splendid habit of the plants. Churchwarden, which bears flowers of a bright crimson-scarlet shade was especially conspicuous, the size and substance of the leaves and the strength of the shoots bespeaking a first-class constitution. Princess May, a rich rose-coloured variety, has also done great things this year, whilst Sir Evelyn Wood, a handsome striped sort, in which the ground colour is salmon-pink, is a pleasing departure from the usual run of Malmaisons.

It would occupy a deal too much space to properly describe even a fair proportion of the varieties of the Carnation and the Picotee which find a home at Edenside, but those to which reference has been made must serve as an example of the kind of stuff to be found in a collection which can scarcely be too highly praised for comprehensiveness and for real and intrinsic merit.

Vines and Vine Culture.—The best book on Grapes. By Archibald F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick; Secretary of the Fruit Committee. Demy 8vo., Handsomely bound in Cloth. Price, 5s. post free, 5s. 3d., from GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C.

HARDY BAMBOOS.

A MOST interesting and instructive paper was read on this subject by Mr. Freeman-Mitford at the meeting of the Royal Horticultural Society held on August 13th, Sir Alexander Arbuthnot presiding. In his opening remarks, the essayist said that many times during the past winter he had had grave doubts as to whether the paper would be written at all, for the simple reason that he was sorely afraid there would be no Bamboos to write about that would be hardy enough to withstand the exceptional rigours of the winter. Such plants as Gorse and Ivy had succumbed; large Portugal Laurels cut to the ground and clumps of Pampas Grass of thirty years' standing destroyed. In the face of this bitterly Arctic experience, was it not almost useless to entertain hopes that Bamboos, which up to within two or three years ago were regarded as tender exotics, and as such wholly unfitted to withstand the severities of our winters, should stand the climate where other robustly hardy subjects had gone under. Still, this was the case, for out of the forty-two kinds which he would enumerate presently, not one had failed to preserve vitality in its roots, and all had, after the passage of the frost, commenced to break forth once more into beauty, regardless of dead stems and branches. Where plants had been killed outright it was more attributable to errors committed in planting than to lack of inherent hardiness in the plants themselves.

During the last two or three years in which the planting of hardy Bamboos has been carried on in this country, the seasons have been anything but favourable to their chances of establishing themselves. In the summer of 1893 we experienced a remarkable period of drought, and subsequently a more than ordinarily cold winter. The summer of 1894 was, on the other hand, remarkable for its wetness and lack of sun—indeed, the rainfall for the whole of the year exceeded thirty-one inches as against fifteen in 1893. Last autumn, too, was a most exceptional one, for the weather continued mild right up until well into December, with the result that at the beginning of the present year the culms were still green and unripened, and wholly unfit to withstand the sudden outbreak of severe and continued frost that characterised January and February. Still, in spite of all these untoward occurrences the plants lived, and were at present a mass of verdure, having experienced nothing worse than a severe check. In order for Bamboos to make really luxuriant growth, they must have plenty of heat and plenty of moisture, and when these conditions were obtainable nothing could exceed the beauty of the plants, with their strong culms eighteen to twenty feet in height, well furnished with branches, thickly clothed with tropical-like foliage.

In planting, the essayist went on to say, it was necessary to have some good background against which the graceful curves of the branches and leaves would appear to the best advantage. For the purpose he had found clumps or hedges of Hollies the most suitable. More depended upon the matter of background than some people were aware of, for only recently he had seen in one of the London parks, a row of plants in close proximity to the iron railings; and anything more melancholy than the appearance of the plants flogging the air with their long branches would be difficult to imagine. The season at which to plant was also a point of the utmost consideration. When first he started Bamboo culture in the open, he made the mistake of consigning his plants to their permanent quarters as soon as they arrived in the autumn, but, although every care was taken in the planting out, the leaves began to shrivel within a day or two, and ultimately turned brown, whilst the plants, if they did not die outright, at best eked out a miserable existence. Now he had learned better; for experience had taught him that it was useless attempting to put out the plants until they had recovered from the effects of the journey. As soon as he received them, therefore, he soaked the roots in water for twelve hours, afterwards potting them up and keeping them under glass through the winter, during which period but little water was needed, although an occasional sprinkling with the syringe was of service. They were then carefully hardened off and planted out in the open about the end of May or the beginning of June. It was a great mistake to tread the soil about the plants with a view to giving it the necessary degree of firmness, as the points of the culms were very brittle and might easily be damaged. It was a far better plan to give a good heavy watering, as this served the double purpose of settling the soil about the roots, and of supplying the requisite moisture.

Mr. Freeman-Mitford next went on to speak in glowing terms of the elegance of habit of which the Bamboo was possessed, and stated how rampantly the various kinds grew in their several habitats. In Japan, for instance, according to Professor Serjeant, in his Forest Flora of that country, many of the other plants owe their climbing habit to the fact that several species of Bamboos have formed such impenetrable and extensive thickets that the only chance left to other plants to reach the light, and thus preserve their existence, was to put on a climbing habit. Here, in this country, we saw no such luxuriant clumps as these. The essayist concluded by enumerating the whole of the Bamboos, which, so far, had proved to be hardy with us, together with concise descriptions of their habit, appearance, and the country from which they hailed.

NATIONAL CARNATION AND PICOTEE SOCIETY.

(NORTHERN SECTION.)

THE annual exhibition of the above society was held on Saturday, August 10th, at the Royal Botanical Gardens, Old Trafford, Manchester. The number of exhibits was not so good as last year, but this deficiency was amply compensated for by the quality of the flowers, many of which were exceptionally fine specimens. Mr. T. Lord, Todmorden, was again the chief winner, and for the thirteenth time in succession carried off the prize for twelve Carnations, in addition to winning a great number of prizes in the classes for single blooms. In the classes for self and fancy Carnations and Picotees also Mr. Lord was awarded premier honours. Mr. J. Edwards, Moston, was well to the fore, and was placed first in twelve Picotees with some very beautiful flowers. Messrs. Shaw & Brocklehurst, Moston, also exhibited fine blooms; as also did Mr. Crossley Head, Hebden Bridge; Mr. W. Kenyon, Bury; Mr. J. Beswick, Middleton; and Mr. C. F. Thurstan, Wolverhampton; the latter gentleman and Mr. A. R. Brown representing the Midlands, and considering the lateness of the show they staged some fine blooms. The premier Carnation was Bruce Findlay, a remarkably well-marked flower of the crimson bizarre class, exhibited by Mr. Lord, and the premier Picotee was a beautifully edged Mrs. Gorton, shown by Mr. C. F. Thurstan. The judges, as usual, were the exhibitors, judging, of course, the classes in which they were not competing. The following were the awards:—

For twelve Carnations (dissimilar) Mr. T. Lord, Todmorden, led the way with grand blooms of Duke of York, Bruce Findlay, Arline, Edith Annie, Lady Mary Currie, Tom Macreath, Thaddeus, Mrs. May, George, Ed. Rowan, Magpie and Admiral Curzon. Mr. J. Edwards, Moston, Manchester, was a good second with J. S. Hadderley, Ellis Crossley, Mrs. Rowan, Albert Whitham, Agricola, Squire Llewellyn, Edward Schofield, Ed. Rowan, Gilbert, Sporting Lord, Feron and Robert Houlgrave. Mr. E. Shaw, Moston, Manchester, took the third position; Mr. J. W. Bentley, Castleton, Manchester, was fourth; Mr. J. Brocklehurst, Moston, Manchester, was fifth; and Mr. B. Simonite, Sheffield, was sixth.

For twelve Picotees (dissimilar) Mr. J. Edwards took the leading award with Brunette, Nellie, Mrs. Sharp, Polly Brazil, Mrs. Burnett, J. B. Bryant, Thomas William, Edith Dombrain, Miriam, Favourite, Mrs. Openshaw, and John Smith. Mr. T. Lord succeeded him with Mrs. A. Chancellor, Mrs. Coleridge, Esther, Morna, Lady Louisa, Thomas William, Nellie, Mrs. Sharp, Brunette, Ann Lord, Campanini, and Mrs. Dodwell. Mr. J. Brocklehurst took the third award; Mr. E. Shaw was fourth; Mr. H. Geggie took the fifth place; and Mr. J. W. Bentley was sixth.

For six Carnations (dissimilar) Mr. Crossley Head, Hebden Bridge, took the leading prize with Othello, Arline, Lily Cannell, George, Edward Schofield, and Thaddeus. Mr. J. Beswick, Middleton, was second with Master Fred, Billy Henderson, Cooper, Duke of York, Teddy, and Robert Houlgrave. Mr. C. F. Thurstan, Wolverhampton, took the third award; Mr. W. Kenyon, Bury, Lancs., was fourth; Mr. G. Thornley, Middleton, took the fifth place; and Mr. A. R. Brown, Birmingham, was sixth.

For six Picotees (dissimilar) Mr. W. Kenyon led the way with Mrs. Sharp, Favourite, Mrs. Gorton, Esther, Zerlina, and Nellie. Mr. Crossley Head took the second award with Morna, Zerlina, Thomas William, Nellie, Lady Louisa, and John Smith. Mr. A. R. Brown secured the third place; Mr. C. F. Thurstan came in fourth; Mr. J. Beswick took the fifth place; Mr. G. Thornley was sixth, and Mr. D. Walker, Kilmarnock, N.B., was seventh.

In the class for twelve selfs (not more than two flowers of one variety) Mr. T. Lord again took the place of honour with Lady Agnes, Mrs. R. Hole, Mrs. Gascoigne, President, Nero, Mrs. Muir, Matilda, Uncle Tom, Germania, Eunice, Joe Willett, and Mrs. Lee. Mr. J. Edwards succeeded him with Seedling (108), Ruby Improved, R. Houlgrave, Teddy, Annie Lakin, Seedling, Germania, Seedling, Seedling, Mancunian, Rob Roy, and Feron. Mr. A. R. Brown took the third position, and Mr. E. Shaw was fourth.

For six selfs (not more than two blooms of one variety) Mr. C. F. Thurstan took the leading award with Germania, King of Scarlets, Gladys, Blushing Bride, Negress, and Germania. He was followed by Mr. W. Kenyon with Germania, President, Seedling, King of Scarlets, Mary Morris, and Mrs. Muir. Mr. J. Brocklehurst secured the third award.

In the class for twelve fancy Carnations and Picotees (not more than two blooms of one variety) Mr. T. Lord was again the most successful competitor, taking this honour with Victory (2), Stadrath Bail, Nisbet Hall, London, Almira, Georgina Brown, Mrs. Palmer, Soudan, Annie Ross, Mrs. R. Sydenham, and Mrs. W. C. Atkinson. Mr. A. R. Brown took the second position with Cardinal Wolsey (2), Agnes Chambers, Janira (2), Ladas (2), Mrs. Dranfield, Stadrath Bail, Mrs. Gooden, Mrs. R. Sydenham, and Mrs. Douglas. Mr. J. Edwards was the third prize winner.

For six fancy Carnations and Picotees Mr. W. Kenyon came to the front with Stadrath Bail (2), Maud, Seedling, A. W. Jones, aud Unicorn. Mr. B. Simonite took the second place, but his blooms were unnamed, and Mr. C. F. Thurstan was third.

The premier Carnation of the whole exhibition was Bruce Findlay, shown by Mr. T. Lord. The premier Picotee was Mrs. Gorton, exhibited by Mr. C. F. Thurstan.

The class for single blooms of Carnations brought numerous entries. Scarlet Bizarres.—First and second, Mr. T. Lord with R. Houlgrave and Duke of York; third, Mr. J. Beswick with R. Houlgrave; fourth, Mr. E. Shaw with George; and fifth, Mr. C. F. Thurstan with R. Houlgrave. Crimson Bizarres.—First, second, and third, Mr. T. Lord with Arline, Bruce Findlay, and Arline, respectively; fourth, Mr. J. Edwards with Stanley (Seedling); and fifth, G. Thornley with Master Fred. Pink and Purple Bizarres.—First, second, and third, Mr. T. Lord with Edith Annie; he was fourth with Wm. Skirving and fifth with Edith Annie. Scarlet Flakes.—First and second, Mr. C. F. Thurstan with Alexirova; Mr. T. Lord was third with Ivanhoe; Mr. G. Thornley came in fourth with Herbert; and Mr. Crossley Head was fifth with Dan Godfrey. Rose Flakes.—First, Mr. T. Lord with Mrs. May; second, Mr. J. Edwards with Mrs. Rowan; third, Mr. A. R. Brown with the last-named variety; fourth and fifth, Mr. T. Lord with Crista Galli and Lily Cannell. Purple Flakes.—First and second, Mr. T. Lord with Gordon Lewis and Squire Whitbourne; third, Mr. J. Edwards with Billy Henderson; and fourth, Mr. A. R. Brown with Gordon Lewis.

Single blooms of Picotees were also represented. Heavy-edged Red.—First and second, Mr. T. Lord with Brunette; third, Mr. Crossley Head; fourth, Mr. C. F. Thurstan; and fifth, Mr. W. Kenyon, all showing Brunette. Light-edged Red.—First and second, Mr. T. Lord with Thomas William; third, Mr. J. Edwards with the same variety; fourth, Mr. C. F. Thurstan with Mrs. Gorton; and fifth, Mr. T. Lord with Thomas William. Heavy-edged Purple.—First, Mr. W. Kenyon with Zerlina; second, Mr. J. Edwards with Polly Brazil; third, Mr. W. Kenyon with Zerlina; fourth, Mr. J. Edwards with Polly Brazil; and fifth, Mr. G. Thornley with Mrs. Openshaw. Light-edged Purple.—First, Mr. W. Kenyon with Seedling; second, Mr. T. Lord with Ann Lord;

third, Mr. G. Thornley with Esther; fourth, Mr. A. R. Brown with Somerhill; and fifth, Mr. E. Shaw with Esther. Heavy-edged Rose, Scarlet or Salmon.—First, Mr. W. Kenyon with Little Phil; second, Mr. B. Simonite with the same variety; third, Mr. A. R. Brown with Mrs. Payne; fourth and fifth, Mr. C. F. Thurstan with Edith Dombrain. Light-edged Rose, Scarlet or Salmon.—First and third, Mr. T. Lord with Nellie; second and fourth, Mr. J. Edwards with the same variety; and fifth, Mr. W. Kenyon with Favourite.—*W. Smethurst, Hon. Sec.*

QUESTIONS AND ANSWERS

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

MARKET GARDEN IN THE ISLE OF MAN.—*R. M.*: For general purposes the Isle of Man would no doubt be suitable for the cultivation of market garden produce. The climate is mild and equable, but rather moist at times we should imagine, and good land could no doubt be had at a reasonable rent. For ten acres you would require about £300, but that would all depend upon what you would require the first year to put everything in fair working order, to fence it if necessary, to work and clean the land, for labour, seed, implements, &c. Then you have to count the cost of keeping yourself for a year or till such time as you could get a return in produce. The above money would not allow for the building of forcing pits. By advertising for an already established business you could more readily get at details about the cost of carrying on the same. This would no doubt be cheaper than starting an entirely new place. Unless you intend developing or carrying on an already established and local business we do not think the project a very tempting speculation The carriage of vegetables to the mainland would be costly. Fruit culture from that point of view would prove more suitable and be more likely to pay. The local trade, we have no doubt, is already well supplied, though a good business man might greatly improve an already established trade.

CUTTINGS OF GOOSEBERRIES.—*J. S. W.*: You could prepare and insert the cuttings now by taking off firm and well-ripened shoots, removing the eyes from the lower 6 in. or 8 in. as well as all the leaves. The removal of the leaves will prevent too great a loss of moisture by evaporation, and the cuttings will be rooted by spring, and ready to grow, thereby gaining nearly a year in advance of those inserted in winter or spring.

BORDEAUX MIXTURE.—*A. L. M.*: The ordinary and typical formula for this preparation is six pounds of sulphate of copper, four pounds of lime, and twenty-two gallons of water. The lime is intended to neutralise the free acid of the sulphate of copper, which would injure the foliage. Dissolve the sulphate of copper separately by suspending it in a bag, dipping into a tub or barrel of water. Add water to the lime till of the consistency of a thin paint, and then put both ingredients into the twenty-two gallons of water.

HEATING A GREENHOUSE.—*W. B., N.*: Heating apparatus are now manufactured by various firms, and consist of a compact arrangement of galvanised iron piping, which may be heated either by means of a paraffin lamp or gas. Frequent mishaps occur with the paraffin lamps when they are not kept in proper working order. When badly managed they give off a great deal of smoke, which injures or kills the plants. The same apparatus heated by gas are much more cleanly, safe, and satisfactory, as they can be left without attention for a considerable length of time. The initial cost of the apparatus and the fitting of a gas-pipe to feed it should not be great. There is also the old-fashioned method of heating with a brick or earthenware flue, taken round the sides of the house. If there are large coal yards near you a supply of the small coals or refuse could be bought cheaply, and would answer satisfactorily in keeping up the requisite temperature.

NURSERYMEN IN NEW YORK, &c.—*J. W. M. L.*: The following have nursery establishments in New York, and from whom you might get the information you desire:—Messrs. Siebrecht & Wadley, Rose Hill Nurseries, New Rochelle, N.Y.; Messrs. Wood Brothers, Fishkill, N.Y.; Messrs. Peter Henderson & Co., 35, Cortland Street, New York; Messrs. Ellwanger & Barry, Mount Hope, Rochester, New York; and Messrs. Zimmerman & Sons, Buffalo, New York. These are not all situated in the town of New York, but that may suit your purpose just as well. Nurserymen in Baltimore, Maryland, are Messrs. Wm. Corse & Sons, 200, N. Calvert; Messrs. Davis, Franklin & Co., 426, W. Baltimore St.; and Mr. Robert J. Halliday, 111, N. Charles St.

NAMES OF PLANTS.—*J. Scott:* 1, Erigeron glabellus; 2, Bupthalmum salicifolium; 3, Eryngium planum; 4, Hieracium aurantiacum; 5, Rudbeckia laciniata.—*A. B.*: 1, Amaryllis Belladonna; 2, Dendrobium chrysanthum; 3, Rubus odoratus (the Purple-flowering Raspberry).

COMMUNICATIONS RECEIVED.—T. H.—N. McF.—Sutton & Sons.—Norwoodense.—H. Cannell & Sons.—J. R. C.—W. Shrives.—A. Letellier et Fils.

TRADE CATALOGUES RECEIVED.

SUTTON & SONS, Royal Seed Establishment Reading.—Bulbs for 1895.

JOHN LAING & SONS, Forest Hill, S. E.—Bulbous Roots, Fruit Trees, Shrubs, Roses, Begonias &c., 1895.

JAMES CARTER & Co., High Holborn, London.—Carter's Bulb Catalogue 1895.

FISHER, SON & SIBRAY, LTD., Handsworth Nurseries, Sheffield.—Catalogue of Bulbs and Flower Roots.

COVENT GARDEN MARKET.

August 21st, 1895.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples.....per bushel	1 6	3 6	Grapes, per lb.	0 6	1 6
Nova Scotia Apples per barrel			Pine-apples.—St. Michael's each	2 6	6 0
Cob Nuts and Filberts, per 100 lbs.	45 0		Plums per half sieve	1 6	2 6
Cherries, half sieve			Strawberries		
Currants, Black...half sieve			Peaches ..... per doz.	1 0	6 0
Currants, Red... half sieve			Tasmanian Apples, per case		

VEGETABLES.—AVERAGE RETAIL PRICES

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Asparagus, per bundle			Lettuces ...per dozen	2 0	
Beans, French, per lb.	0 4		Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers.....doz.	3 0	6 0	Seakale...per basket		
Celery.....per bundle	1 6	2 0	Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach .....per lb.	0 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asters (English) doz. bunches	3 0	6 0	Maidenhair Fern, 12 bs.	4 0	6 0
French Asters per bch.	0 9	1 0	Orchids, doz. blooms	1 6	12 0
Arum Lilies, 12 blms.	2 0	4 0	Pansies, doz. bun.....	1 0	2 0
Asparagus Fern, bun.	2 0	3 0	Pelargoniums, 12 bun.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, doz. sprays	0 6	0 9
Carnations doz. blms.	1 0	2 0	Pyrethrum doz. bun.	2 0	4 0
Chrysanthemums doz. blms.	1 0	2 0	Roses (indoor), doz.	0 6	1 0
Chrysanthemums doz. bchs.	3 0	6 0	,, Tea, white, doz.	1 0	2 0
Eucharis ...per doz.	1 6	2 6	,, Niels	3 0	6 0
Gardenias ...per doz.	2 0	3 0	,, Yellow, doz. ...	2 0	3 0
Geranium, scarlet, doz. bunches	4 0	6 0	,, Safrano (English), doz. ...	1 0	2 0
Lavender doz. bnchs.	6 0	9 0	Red Roses.....	0 9	1 0
Lilium lancifolium per doz.	1 0	2 6	Pink Roses	1 0	2 0
Lilium longiflorum per doz.	2 0	4 0	Roses, mixed, doz. bhs.	3 0	6 0
Marguerites, 12 bun.	1 6	3 0	Smilax, per bunch ...	2 0	4 0
			Stephanotis, doz. sprays ...	1 6	2 0
			Tuberoses, doz. blooms ...	0 3	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Arbor Vitae (golden) per doz.	6 0	12 0	Ferns, small, per 100	4 0	6 0
Aspidistra, doz.....	18 0	36 0	Ficus elastica, each	1 0	5 0
,, specimen			Foliage Plants, var., each	1 0	5 0
Asters .....per dozen	3 0	6 0	Fuchsia, per doz.....	4 0	6 0
Campanula doz. pots	5 0	9 0	Heliotrope, per doz.	4 0	6 0
Chrysanthemums doz. pots	4 0	9 0	Hydrangea, per doz.	9 0	18 0
Chrysanthemums single plants	1 6	2 0	Liliums, various.....	9 0	18 0
Coleus .....per dozen	2 6	4 0	Lycopodiums, doz.	3 0	4 0
Dracaena, various, per doz.	12 0	30 0	Mignonette, per doz.	4 0	6 0
Dracaena viridis, doz.	9 0	18 0	Marguerite Daisy doz	6 0	12 0
Euonymus, var. doz.	6 0	18 0	Myrtles, doz.	6 0	9 0
Evergreens, in var. doz	6 0	24 0	Palms in variety, each	1 0	15 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	21 0	63 0
			Pelargoniums, per doz.	9 0	12 0
			Scarlets, per doz.....	3 0	4 0

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BULB CATALOGUE FOR 1895

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER F.L.S.

SATURDAY, AUGUST 31st, 1895.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, September 2nd.—Bulb Sales at Messrs. Protheroe and Morris' Rooms.

TUESDAY, September 3rd.—Early Exhibition of Chrysanthemums by the N.C.S. at the Royal Aquarium (3 days). Dumfries Flower Show (2 days).
Bulb Sales at Messrs. Protheroe and Morris' Rooms.

WEDNESDAY, September 4th.—Bulb Sales at Messrs. Protheroe and Morris' Rooms.

THURSDAY, September 5th.—Stirling Flower Show (2 days). Bulb Sales at Messrs. Protheroe and Morris' Rooms.

FRIDAY, September 6th.—National Dahlia Society's Show at the Crystal Palace (2 days).
Bulb and Orchid Sales at Messrs. Protheroe and Morris' Rooms.

SATURDAY, September 7th.—Bulb Sales at Messrs. Protheroe and Morris' Rooms.

MANURES AND THEIR APPLICATION.—It is one of the signs of the times, that amongst the several burning questions being discussed in relation to plant culture, manures are receiving more special attention than formerly. Not only is this the case in Britain, but in America where the land has been greatly exhausted by continuous cropping without the aid of manure, artificial or otherwise. On the Continent the question of manures has been more thoroughly discussed than in this country, except in a few cases where private and individual enterprise has been putting the country under obligation to its exertions. Gardeners themselves are taking a more active interest in the question of manures than formerly. Recent evidence of this is exemplified in the admirable lecture on the subject of manures delivered by Mr. W. Dyke at a meeting of the Cheshunt, Wormley and District Horticultural Society in May last. The gardeners expressed a desire to have it in permanent form, and their generally expressed wish induced Mr. Dyke to re-write his lecture in fuller detail. This he has done and published it in the form of a pamphlet of some thirty-two pages in which he deals with the larger number of subjects at present utilised as fertilisers of the soil.

The aim of the author is to give his readers some insight about the constituents of plants, and the nature of their requirements in the matter of nourishment and stimulants needed to foster the full development of the several kinds in most general cultivation. The information given is concise, and not in any way burdened with

details; but those who thoroughly digest this little booklet on a most important subject will have their appetite whetted, and their desire stimulated to know more of a subject that will at no distant date be placed in the front rank of requirements in a gardener's education. There are many useful and valuable manures in commerce, ready made to the hand of the gardener; and such being the case, he may argue that there is little need for him to study them, and less to know their chemical composition; but the latter has so close a relation to the nature of the crops cultivated, that the gardener cannot afford to ignore it. The proper time to apply certain manures to secure the desired results, is a matter that all too frequently does not enter into the gardener's calculations at all. Certain plants are benefited by certain manures, but when vegetative vigour is desired, such as good growth of stem or leaf, different fertilisers must be employed than when short-jointed wood, flowers or fruit are required.

Gardeners ought to know the why and the wherefore for the application of any given manure; then to reason from that to the results means a liberal education, the far-reaching advantages of which it would be impossible to predict, provided gardeners generally were to follow up their scientific acquirements and apply them to all branches of gardening. Mr. Dyke's little work is not meant as a compendium of the whole subject of manuring but rather as a concise essay dealing with all the elementary principles of manuring with which every good gardener ought to be familiar. The greater part of the essay we have read with interest not from the fact that it contains much or anything that is new to science, but because it treats the subject tersely and correctly. The only statement we have noticed, and to which we should take any serious objection, is that relating to the sources from which plants obtain their oxygen. While the first part of the sentence is correct, the second says:—"but it must be remembered that plants can absorb *oxygen* from the atmosphere." They do absorb that element both by night and by day, but it does not enter into their composition; the free oxygen of the atmosphere is concerned only with destructive metabolism, or in other words with the process of respiration, just as in the case of animals. Only combined oxygen enters into and forms part of the plant body, and this alone would take part in the nutrition of the plant.

The author of the essay well explains that in order to perfectly understand the nutrition of plants, it is necessary to grasp the elementary requirements of the same, and then the relative quantities of such that may be present in any given soil, after which the significance of manuring will become more and more apparent. The relative quantities of any given element of plant food and its activity or solubility in a soil can be ascertained by simple experiment. Soils vary so, and different plants require some particular stimulant more than another, that the diligent enquirer can only arrive at exact or correct conclusions, by studying these things in conjunction and acting accordingly. This could never be done by applications of a complete manure; hence the necessity of cultivating their acquaintance separately. It will then become possible for a gardener to use the various actually necessary ingredients with economy.

All these questions are dealt with by Mr. Dyke in a somewhat lengthy introduction, after which he proceeds to discuss general manures such as farmyard manure, guano, native guano, fowls and pigeon's dung, green crop manuring and cognate matters. To farmers and gardeners generally, farmyard manure is simply dung and nothing more; but the subject is really a very complex one and all concerned would find it to their advantage to enquire into the subject in considerable detail. The more important elements of plant food are liable to be lost when manures are improperly treated, so that their value is greatly depreciated thereby. Special manures include all those which possess a large proportion of one or more particular and valuable elements of plant food, such as sulphate of ammonia, nitrate of soda, blood, soot, hoof and horn parings, dried fish manures, bones, kainit and the various treatments to which they are subjected in order to render the several valuable constituents soluble and fit to supply nourishment to the crops cultivated. The special manures passed under review are really very numerous, and gardeners could do much worse than invest in a copy of this useful, yet unpretentious and inexpensive pamphlet. The table of present prices for certain weights of chemical and commercial manures given at the end of the essay will not only be of interest but prove a useful guide to gardeners who are as yet unfamiliar with the same, but desire to make their acquaintance.

Particulars concerning the first issue of our twelfth volume will be found on the previous page.

Messrs. George Bunyard & Co., we are pleased to learn, have been appointed by Royal Warrant as purveyors of fruit to Her Majesty the Queen.

The Flower Show and Fete of the Prickwillow Horticultural Society, Cambridge, has been an unqualified success. There were 800 exhibits in the large marquee, and 120 competitors in the 105 classes. The show is pronounced as the best that has ever been held.

The seventh annual show of the Pitsmoor Floral and Horticultural Society, Sheffield, was held on the 19th inst., was creditable in every way and proved that beautiful flowers and excellent vegetables can be grown in spite of the smoke from the great manufactories at Brightside. The show improves every year and has greatly outgrown its original humble beginning.

Hailstorm at Harpenden.—A terrific hailstorm occurred at Harpenden, Herts, about 4 o'clock on Thursday morning doing an immense amount of damage to property, some of the hailstones being two inches across. Mr. Phillips, owner of a number of glasshouses, had one side of all of them completely riddled—hardly a sound pane of glass remaining—while Mr. Purrott, who owns about 104,562 sq. feet of glass had also a great amount of it broken, and much damage done to Grapes, Cucumbers and other stock. All the glass broken was twenty-one ounce. Both Nurserymen had wisely insured in the Nurserymen's Hailstorm Insurance Corporation, of 1 and 2 King Street, Covent Garden.

National Chrysanthemum Society.—At a meeting of the General Committee held at Anderton's Hotel, on Monday evening, Mr. B. Wynne, presiding, the Secretary, Mr. R. Dean, announced the recent death of an old member of the Society in the person of Mr. Arthur Wortley, and it was unanimously resolved "That this committee place on record an expression of the sorrow with which it has heard of the recent death of Mr. Arthur Wortley, formerly secretary of the Stoke Newington Chrysanthemum Society, to which office he was elected in 1851, and bears in grateful remembrance his services to the Society in that capacity, and also as an old cultivator and exhibitor of the Golden Flower." In consequence of the retirement of two members of the committee, Mr. G. Walker of Paddington, and Mr. W. Holmes, Hackney, were elected to fill the vacancies, and Mr. McHattie, gardener to the Duke of Wellington, at Strathfieldsaye, was elected to a seat on the Floral Committee. The Jubilee Sub-Committee presented a comprehensive scheme for duly celebrating the jubilee of the Society next year (the main features of which will shortly be announced), which was unanimously adopted, and a special committee appointed to carry out the same. Twenty-three ordinary members and two Fellows were added to the Society's roll of membership.

Stealing from allotments.—We do not think any of our readers will take exception to the exemplary sentence passed by the City Bench, on the 30th ult., upon the purloiner of produce from the allotments at Cripley, Oxford. Robberies of this nature, we are credibly informed, are of very frequent occurrence, and this being so it is a matter of surprise that steps are not taken to discover the depredators. That this is difficult when, as in the case under notice, the offender himself is an allottee, and therefore has justification for being upon the ground, we readily admit, as without very close watching the chances of detection are slight. It is to be hoped that the determination of the magistrates to put a stop as far as lies in their power to these nefarious practices will have the desired effect.

Dahlia Show at the Royal Aquarium, S.W.—The annual Dahlia show to be opened on Tuesday, Sept. 3rd, and continued on Wednesday and Thursday, at the Royal Aquarium, Westminster, will be the only one held in London this year. The entries are most promising, and the show will include Gladioli and early Chrysanthemums. All types of Dahlias will be on view, but special interest is attached to the magnificent new Mexican Cactus varieties, of which there will be a special exhibit. The Gladioli will be more than equal to last year's display, and the National Chrysanthemum Society have arranged for an extensive exhibition of early specimens of the early popular "Mums."

Proposed Testimonial to Mr. A. F. Barron.—A representative meeting of Horticulturists was held at the Hotel Windsor, Victoria Street, S.W., on Tuesday afternoon, Dr. Maxwell T. Masters, F.R.S., presiding, to promote a public testimonial to Mr. A. F. Barron, as a means of expressing in a tangible form the feelings of warm sympathy that are universally felt for him under the unfortunate circumstances of his dismissal from Chiswick, and in recognition of the long and honourable services which he has rendered to the Royal Horticultural Society as Superintendent of its gardens and exhibitions, and to Horticulture generally. It was unanimously resolved that a testimonial fund should be raised, and a general committee was appointed with power to add to their number, Mr. William Marshall, Auchinraith, Bexley, Kent, and Mr. B. Wynne, 1, Danes Inn, Strand, W.C., jointly undertaking the secretarial duties. It is proposed to appoint a President and Treasurer at the next meeting on September 10th, and in the meantime either of the Secretaries will be glad to receive the names of gentlemen who are willing to join the committee, or to otherwise aid in the movement.

Shirley Gardeners' and Amateurs' Improvement Association.—The monthly meeting was held at the Parish Room, Shirley, Southampton, on the 19th inst., under the presidency of Mr. B. Ladhams, F.R.H.S. The lecturer on this occasion was Mr. J. Miles, gardener to Mr. Walter Perkins, J.P., Portswood House, and the subject "picking and storing hardy fruits." Practical hints were given on the proper time for picking, and the most convenient methods of doing the work. Mr. Miles gave a description of his especially built fruit-room, 40 ft. by 12, and also the manner of ventilating it, and the methods adopted to keep the temperature as near forty degrees as possible. Mr. Miles touched but lightly on the debatable ground of "apple colouring," in which, by the way, he is an enthusiastic believer. There was a lively discussion on "packing for market," and at the close a hearty vote of thanks was accorded to the lecturer. A great show of fruit and flowers was made by the members, and a certificate of merit was awarded to Mr. W. H. Rogers, J.P., Red Lodge Nursery, for over fifty varieties of Apples and Pears. Mr. Walter Perkins, gardener, Mr. J. Miles, was also accorded a certificate for thirty varieties of fruit, many highly coloured, and the twelve varieties of

Apples and Pears shown by the president, Mr. W. F. G. Spranger, gardener, Mr. H. Curtis, were highly commended. For a new Heliopsis Mr. B. Ladhams received a certificate.

Ealing and District Gardeners' Society.—The seventh annual excursion of this Society took place on Tuesday, the 20th inst., under very favourable auspices. The weather was all that could be desired; and, although only about forty members and friends availed themselves of the occasion, the excursion, otherwise, was a great success. The party travelled by train from Ealing to Staines, thence by the steam launch "La Marguerite" to Maidenhead Bridge, from which place a short walk to the Dumb-bell Hotel, Taplow, completed the outward journey. Here the party were well entertained, and received every satisfaction at the hands of "mine host." After luncheon, Mr. S. A. Sewell, who occupied the chair, proposed success to the Society, which was duly responded to by Mr. Burgess. Mr. Fountain proposed the visitors, which also received due acknowledgement; while Mr. Cooper initiated a vote of thanks to the Hon. Secretary, Mr. C. F. Harding, for the work of organization, which everybody seconded with acclamation. The return journey commenced at five o'clock, tea being served on board. Ealing Broadway was reached by 9.34 p.m. where the party dispersed after a most enjoyable day of exactly twelve hours.

A RECORD PICOTEE.

An incident of the recent Exhibition of the National Carnation and Picotee Society at the Crystal Palace appears, so far as my observation goes, to have escaped notice. I allude to the fact that a new Picotee, named after the Duchess of York, and exhibited in Mr. Charles Turner's second prize stand of twenty-four Picotees, was awarded the prize as the premier Picotee in the show and also a certificate as a new variety. I do not remember ever noticing a similar occurrence in previous years, and I think Duchess of York is therefore well entitled to rank as a record flower. This new Picotee is an attractive flower and ought to take a front place among the heavy red-edged section. I should class it as medium heavy, and it is all the more valuable for that reason; for when the marking extends too deeply down the petal the purity of the white ground is interfered with, and the whole character of the bloom suffers for lack of ground colour. The petal is of good form with even edge and of good substance; and I was specially gratified to note a good bunch of crown petals in the centre; not too many, but just enough.

I cannot abide your flat flowers, made up of a dozen large petals artificially laid out one over the other, with nothing to support them but the collar. They are as unnatural as they are ugly: but they are the fashion, it seems, now, and florists like everyone else must follow the fashion if they wish to win prizes. Duchess of York is well built up and presents a good outline. The colour is a bright soft shade of vermilion-scarlet, so far as I could judge, and well confined to the edge. It struck me this year that most Picotees were badly spotted and barred. Indeed, I observed, in more than one flower in first prize stands, bars running nearly the full length of the petal. At Oxford I noted Little Phil very much disfigured in this way.

I should like to take this opportunity of expressing a fervent hope that judges will not allow the old line of demarcation between the Picotee in its best developed form and the more modern Fancy to be swept away. Once you allow barred and splashed and blotched and striped flowers to figure in stands under the name of Picotees you may say good-bye to that graceful elegance and refined beauty which has hitherto marked out the Picotee from all other varieties of the Dianthus, and has, I think, placed it upon the highest pinnacle of greatness. At the same time I do not wish to depreciate the value of the Fancy section. They are most beautiful and for decorative purposes invaluable, especially the yellow grounds. I greatly admired the premier Fancy at the Palace, named Primrose League, and was gratified to see it honoured, as I had on a previous occasion (the first time I saw it) prophesied for it a distinguished career. In conclusion I pray you pardon these discursive remarks.—*E. Ranger Johnson.*

Chrysanthemums and their Culture. By Edwin Molyneux. Eighth Edition. By far the best practical work yet written on this subject. Price, 1s.; post free, 1s. 2d. Publisher, Gardening World, 1, Clement's Inn, Strand, London, W.C.

THE PLANT HOUSES.

The Stove.

Musas.—Although it is only in roomy houses that these plants can be grown, on account of the large size to which they attain and the corresponding amount of space they need, still, where the convenience exists for their culture there can be no doubt that they are well deserving a place in the large stove. If a little care is taken not to get the leaves torn and lacerated the plants present a truly noble and imposing appearance, and more than one house that we have seen owes not a little of its attractiveness to the presence of the large, green, gracefully-arched leaves. Then there is the fruit they bear to be taken into consideration, in itself a point of no small importance, for home-grown Bananas are often much-esteemed delicacies and occupy a favoured position upon the dessert table. Any plants that are carrying trusses of fruit must be assisted as far as possible by copious waterings with liquid manure. Of the dwarfer-growing Bananas, Musa Cavendishii is one of the very best, as it will grow freely enough with a comparatively restricted root run, whilst its fruit is of excellent quality. The fruit of M. sapientum is also highly esteemed, although the great height to which the plant grows renders it unsuitable for all other than very large houses. M. s. vittata is very useful for growing in pots as a decorative plant, the characteristic white stripes and blotchings appearing to great advantage upon the bright green ground colour. M. coccinea is also a very ornamental plant. The inflorescence is about a foot in length carrying spathes of a bright scarlet hue charmingly tipped with yellow. The plant reaches a height of about 4 ft., and is thus admirably adapted for pot culture. All need plenty of water, during the summer months particularly.

Pits and Frames.

Nerines.—After the bulbs had completed their growth, they will have been suffered to dry off and to lapse into a state of rest during the last two or three months. The flower scapes should now be showing on the strongest of them, and as soon as these are observed water must be given them. Do not, however, deluge the plants at once, but water them repeatedly until the soil is once more reduced to the necessary moist condition. Those that are not showing any signs of growth may be left a little longer in their quiescent condition as they will thus form a suitable succession to the earlier ones. If it is desired to have the first batch in pretty early, the plants should be placed in a gentle heat and the pots plunged in Cocoanut fibre refuse until the flowers begin to open, when they may be removed to the conservatory. Both N. sarniensis and N. curvifolia, or, to give it its commoner name, N. Fothergilii, are both well worth growing.

Bulbs for Spring Flowering.—Every gardener who has to keep up a show of bloom in the conservatory at all seasons, as well as to supply quantities of cut flowers for miscellaneous purposes, knows full well the value of bulbs during the winter and early spring months. Indeed, in most establishments of any size a large stock of material of this kind is absolutely indispensable. It is now high time that the bulbs were potted off, and to those who have not yet sent in their order for the same we should strongly advise their doing so without further procrastination. Some gardeners prefer dealing directly with Dutch growers, and in that case either Messrs. Ant. Roozen & Sons or E. H. Krelage & Son, both of Haarlem, amongst other well-known cultivators, may be applied to with confidence to supply excellent material at a reasonable price.

Hyacinths.—Every collection should contain the following sorts.—Single: King of the Reds, Sir John Foxbourg, scarlet; Lord Macauley, rose, striped red; Norma, rosy-pink; General Pelissier, orange-red; Etna, carmine; Grandeur à Merveille, Michael Angelo, Princess Amalia, rosy-whites; La Neige, Madame de Stael, Queen Victoria, La Vestale and Mont Blanc, pure whites; Queen of the Blues, Lord Byron, General Pelissier, Charles Dickens and Sir John Lawrence, blues; and King of the Yellows, Ambrose Verschaffelt and General Von Werder, yellows. The double varieties are much stiffer in appearance than are the singles, but a few of them may be grown with advantage. Some of the best are Disraeli, bright red; Princess Louise, scarlet; George Peabody, crimson; Koh-i-noor, salmon; Dagmar, bright rose; and Juno, Miss Nightingale, Flavus, and La Tour D'Auvergne, pure whites.

Tulips.—Pans filled with these come in very useful indeed, and if possible a few bulbs should be treated in this way. Nothing can be better than the red and yellow, white, scarlet, Duc Van Thol varieties, whilst the scarlet, white and yellow forms of Pottebakker are also admirable.

Crocuses.—These are not grown in pots nearly so much as they might be. If properly treated they do quite satisfactorily and may be relied on to give a very good return. They positively dislike hard forcing, however, and therefore this should never be attempted. Five or six corms will be sufficient for a 5-in. pot, or, if larger masses are desired, pans may be brought into requisition. The following will be found good:—Lord Derby, purple; Othello, dark blue; Caroline Chisholm, Mont Blanc, Mammoth and Grand Conquérant, whites; and the Large Yellow.

Polyanthus Narcissi are among the most useful of winter and spring flowers, inasmuch as they force easily and usually bloom very freely, whilst the flowers are of the greatest value for cutting. A number of the paper-white; Double Roman; Aigle d'Or, yellow; and Queen Victoria, white, should be ordered.

Subsequent Treatment.—After the bulbs have been potted up and properly labelled they should be conveyed to the plunging ground and covered with ashes. A word of caution as to these latter may be necessary. By no means should ashes that have been obtained from gas fires be used, or the young tender growths will be sure to be injured by contact with them. Many of the complaints that are heaped upon the heads of the nurseryman for supplying bad stuff are brought about by mistakes made in the direction suggested. It should be arranged, moreover, that the earlier sorts are so placed that they may be removed easily from the bed of ashes as required without disturbing the remainder.—*A. S. G.*

THE ORCHID HOUSES.

Dendrobiums.—The deciduous kinds such as the beautiful D. wardianum, D. crassinode, and the fine hybrid D. Ainsworthii, also the variety D. A. roseum, are finishing up their newly-made pseudo-bulbs, and should therefore be gradually dried off and placed where they can get all the light and air possible; for on the proper ripening up of the bulbs depends the future well-being of the plants; unless they are well ripened their flowering will be unsatisfactory, and the next season's growth small. D. nobile, too, requires similar treatment. I have seen this, the most accommodating of all Orchids, dried to such an extent that it seemed impossible for them to plump up again and produce a good crop of flowers, but such was the case. We ourselves do not carry this drying off system quite to this extent, indeed, we do not care to let the plants shrivel but very little.

Position.—The best place to keep them when at rest is, we think, a vinery where the fruit has just been cut and the Vines are receiving all the air possible; there will be partial shade which will be all the better for a time, when they may and ought to be fully exposed to the sun.

Calanthes.—C. vestita rubra and C. v. lutea, also C. Veitchii, have finished making growths, and like the Dendrobiums should be so placed that they may get the light and air that is so essential to them at this time of the year. Gradually reduce the moisture at the roots, but not so that the bulbs shrivel too much, or the spikes will be small and the flowers poor; this would also be the case if kept too cool. For this reason alone they should be given a place on a shelf near the glass in the stove where they have been growing. Some growers keep them wet at the roots so as to retain the foliage as long as possible, but we have never seen any good result from the practice. The flowers are certainly smaller and the following season's growths decidedly weak. It is a drawback, of course, their not having any foliage on when in bloom, but this can be easily remedied by placing a few Ferns amongst the pots. For winter work they are much sought after and are justly prized.

Scale.—Brown scale is very fond of Calanthes and should be kept under by frequently sponging them with soapy water.

Oncidium tigrinum.—Protect the spikes, which are just pushing with the young growths, from the ravages of slugs by placing some cotton wool, the fluffy side outward, round the base of the spikes; this keeps them at bay for a time and enables one to catch them before any damage is done.—*C.*

HINTS FOR AMATEURS.

FLOWER GARDEN NOTES.

By far the most remarkable feature of the outdoor garden at the present moment is the vigour with which the grass is growing after the long drought. Indeed, we should never imagine from the rich green hue of the sward that September's russet tresses were just beginning to make their appearance, but rather that the month of April was with us still. The lovely rains which we have had of late found the ground hot from the scorching rays of the sun, and these conditions together have produced this state of things. The various flower beds filled with their different occupants appear to all the greater advantage, framed as they are in their surroundings of living green. Still, while the rich verdurous carpet is such a great ornament to, and so marvelously enhances, the beauty of the garden, we must not forget the fact that an increased amount of labour is required to keep this sward well looked after. Be careful, however, to remove all mowings to the rubbish heap at once, for, if thrown up in a heap and left for a day or two, the lawn will be utterly spoilt and disfigured for some time by the ugly brown blotches that will be the inevitable result. The grass that is thus obtained from the lawns may be utilised as fermenting material to keep up the heat of Cucumber or Melon frames, the temperature of which has declined too low. A good lining of it round a frame is often of great service in this way, for although there is no "last" in it, to use a common expression, it heats well for a little time.

TUBEROUS BEGONIAS.—Up to within about six weeks ago these had been having a terribly hard time of it, and plants that had been put out at the end of May or the beginning of June did not appear to make any progress at all. In fact, many of them seemed to get smaller instead of larger, and repeated waterings only served to keep them alive. Now, however, things have improved to a wonderful extent, and the show of bloom is really brilliant. A nice mulching of short stable manure should now be given before the plants have grown too close together. It is very likely that we may get hot, dry weather during the next few weeks, and this mulching now will prove of great value in preventing the too rapid evaporation of water from the soil. Care must also be taken to keep the beds free of weeds which are springing up rapidly everywhere.

CARNATIONS.—In the majority of instances the many-hued flowers of these lovely plants are now over, and the garden will be all the poorer for the lack of their bright faces. Where the old flower stems have been left to allow some of the smaller side buds to develop, they should now be cut away, so as to throw all the strength of the plants into the layers. Seed pods, as soon as they have ripened sufficiently, if it is desired to keep them, may be cut off, wrapped up carefully in paper, labelled with the date on which they were gathered, and the particular variety from which they were obtained, and removed to a dry room to finish the ripening process. The layers will also need a little attention during hot weather, when they should receive a good sprinkling overhead at night time. This freshens them up wonderfully and facilitates the production of roots.

DAFFODILS.—These showy plants have received a good deal of attention at the hands of the florist of late years, with the result that we have now a host of wondrously pretty sorts from which to choose, in addition to the species themselves, many of which will compare favourably in point of excellence with the gorgeous production of the florist. In fact, in looking through a catalogue it often becomes a matter of difficulty for an amateur to decide for himself which is the best to plant among a host of subjects which are all declared to be unsurpassable. We once remember hearing a story about a timber merchant who had no small idea of his own importance and the magnitude of his business, into whose office a small boy walked one day, and with that patronising air that usually distinguishes the person who buys when he addresses the one who sells, asked the big man if he was a wholesale timber merchant, and on receiving an affirmative, asked if he could supply beech wood in any quantities. "Yes," was the merchant's reply, "how much do you want?" "Well about enough to make a bridge for my fiddle," was the answer. The amateur gardener, whose order, like his purse, is on a small scale, is often in the same pickle as the would-be purchaser of beech wood with this important difference, that our nurserymen are always pleased to supply even small quantities to suit the pockets of all classes of purchasers.

Daffodils are splendid subjects for planting in grass in partially shaded positions, and no time should be lost in seeing them snugly ensconced in their new quarters. They may be easily and expeditiously planted as follows:—With the help of a crowbar a hole may be made in the turf to the depth of about 4 in., the bulb dropped in, and covered over neatly with fine soil. A hundred or two of bulbs may soon be planted thus. The one great thing to avoid in this case is planting in straight lines, as nothing looks uglier or more out of place than this rigidity of system. In naturalising plants of any kind the one idea should be to make them look as if they were growing there naturally without man's intervention, and as Nature never plants in straight lines, those persons who do can scarcely obtain anything like a natural effect. The following will be found to be kinds that can be thoroughly well recommended for growing in the manner suggested, and the amateur whose knowledge of Daffodils is of the limited order of things cannot do better than give them a trial: N. pallidus praecox, N. Pseudo-Narcissus, Madame de Graaff, Emperor, Glory of Leiden, Henry Irving among the singles, and Pseudo-Narcissus Plenus, and Telamonius Plenus among the double sorts.—*Rex.*

THAME, OXON.

AWAY on the eastern borders of Oxfordshire is the quiet country town of Thame, on the banks of the river of that name, and which is a tributary of the better known Thames. Here are the several nurseries of Mr. John Walker, who is well known at the London shows in spring by his fine exhibits of Marechal Niel Roses, and in autumn by his stands of show Dahlias. Every exhibitor of the latter knows the value of the white variety, Mr. John Walker. About the end of July we found ourselves in the nurseries at Thame, and were surprised that even then the Dahlias were 3 ft. to 4 ft. high, and had been flowering for some time, notwithstanding the fact that the droughty season had only just terminated. Other collections we had seen were still quite dwarf and retarded by the dryness of the atmosphere. Here the ground was cool, well mulched, and in good heart, thus explaining the earliness of the display. Mr. Walker had an exhibit of Dahlias at Oxford on the 27th July.

DAHLIAS.

On making an examination of the collection, almost the first variety coming under our notice was the finely-shaped and pure white John Walker. Near by was the well-known R. J. Rawlings, of a uniform yellow; J. T. West, with a broad red edge on a yellow ground; Prince Bismarck, crimson-lake; and James Vick, maroon, and of beautifully neat form with compressed florets. Beautiful also was John Bennett, with a broad orange edge to a yellow ground. The crimson-red flowers of Willie Garrat are beautifully built, and well adapted for exhibition purposes. There are those who consider Mrs. Gladstone as one of the finest show flowers extant, and probably they are not far wrong, for the delicate flesh-coloured flowers are charming at all times, and the more so by contrast with the more intensely coloured sorts. Valuable in its way is the neatly formed and red-flowered Bendigo. Many an exhibition stand attests the value of Flora Wyatt, with buff-orange blooms, and the large, dark maroon flowers of Shirley Hibberd are equally well known. A strange thing in its way is the buff-red flowers of Colonist, which is notorious for the fact that a large proportion of the florets come truly double, and have three to five petaloid processes inside larger ones. Composite flowers like the Dahlia and Chrysanthemum, though perfectly full, seldom come double from the botanist's point of view, but here is a case in point. Shotesham Hero is a new variety of a soft pink, edged with purple, and very pretty. But why attempt to enumerate and single out all the good things where so many come into that category? All the leading and standard varieties, notable alike for colour, form and other exhibition qualities, may be seen in the collection that must now be in prime condition, and worthy of inspection.

Decorative and Cactus Dahlias are as well represented as the show and fancy sorts. Of the former class Maid of Kent is very beautiful with its long crimson florets and white tips. Rayon d'Or is an equally charming variety, belonging to the decorative class. The orange florets are tipped with white, and possess an attraction which few can command. Of the true Cactus types, with long, narrow, pointed florets, the undermentioned sorts would be difficult to beat:—Bertha Mawley is scarlet with magenta tips, and the dark velvety-marcon Matchless has only recently been put into commerce. The orange-scarlet Professor Baldwin was one of the first breaks from the progenitor of this section, namely, Juarezi. Kathleen Picta is a fine thing of a brilliant scarlet, and Lady Penzance is one of the finest bright yellow sorts in cultivation. Equally charming is Countess of Radnor, with rose flowers tinted with salmon and shaded with yellow in the centre. Empress of India is a well-known maroon-coloured Dahlia that finds many admirers. The above constitute but a small percentage of the varieties included in this very extensive collection, and merely serve as a guide as to what may be found at Thame.

ZONAL PELARGONIUMS.

A heavy downpour of rain compelled us to retreat into the greenhouses, where a display of Pelargoniums, single and double, claimed our attention, so that no time was lost while the then welcome rain was saturating everything out-of-doors. The collection seemed equally as rich as the Dahlias, and amongst double varieties we noted such fine things as Baronne de St. Didier, salmon-pink; Geoffrey St. Hilaire, red, tinted scarlet; and the dwarf and bushy Swanley Double White. A beautiful variety is Darwini, of a magenta hue, with a scarlet blotch on the upper petals. The free-flowering character of Neptune, with delicate pink or flesh-coloured flowers, is well marked. F. P. Raspail requires no recommendation, and an equally attractive flower in its way is Hollyhock, the orange-scarlet flowers of which are attractive and conspicuous even from a distance. La Favourite seems more robust in growth, and purer white than Swanley Double White. Other handsome varieties to be seen here are A. Dupre, large, salmon-rose; Gustave Widemann, crimson; and Beauté Poitevine, semi-double and salmon.

Single varieties of fine form are more numerous and varied than the doubles, and include such as Maud of Wales, warm pink; Agnes, white; Perdita, orange-salmon; Nora, of a charming and delicate pink; Nellie Thomas, vivid scarlet; Edith Little, soft pink; Miller's Favourite, large, bright orange-scarlet; Lady Chesterfield, salmon-buff; Mrs. Norman, salmon, tinted with orange; and Lady Brooke, white, washed with light pink. The bright scarlet flowers of C. N. Fraser are borne in large trusses on long peduncles. Charles Mason seems an improvement upon the old Jean Sisley. King of the Purples recalls Darwini amongst the doubles. Rev. Harris is salmon-red, clear, and bright.

MISCELLANEOUS.

Other houses were devoted to a great variety of plants, including Carnations and Picotees, and an unnamed variety amongst the latter was notable for the brightness of its yellow ground and heavy crimson edge. In one house was a collection of tuberous Begonias, Cyclamens, and flowering specimens of Rochea falcata. The stove was occupied with Coleus, Dracaenas, Pandanus, Crotons, Strobilanthes dyerianus, Begonia picta, and others. The roof of the Fernery was draped with Bougainvillea and Stephanotis. And elsewhere we noted the variegated Cape Lily, the Tiger Lily, the charming little Fuchsia triphylla, and a named collection of choice hardy Ferns, mostly British, including the crested Male Fern, also Athyrium Filix-foemina plumosa cristata, and the comparatively little-known Lastrea Filix-mas crispa gracilis. The free-flowering Campanula isophylla, and C. i. alba were flowering as profusely as ever. In the open air was a large quantity of seedling Carnations, a large percentage of which were double; and near by we were attracted by the fruitful character of Magnum Bonum Red Currant, sent out about three or four years ago, and one of the largest and best.

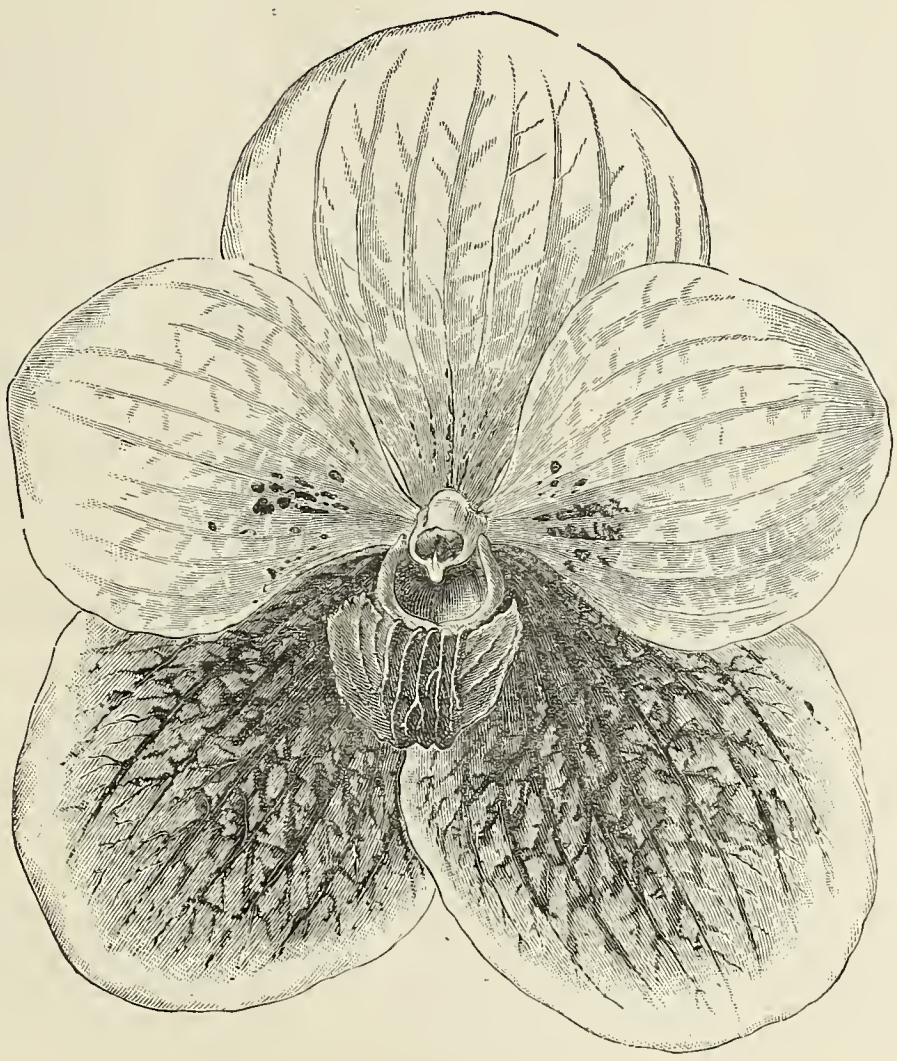
ROSES.

Planted round the sides of a span-roofed house a collection of Roses may be seen, including Pearl de Jardin, soft yellow; Homer, rose; Souvenir d'Un

Ami, pink; and large plants as well as vigorous young specimens of Marechal Niel. The famous plants which produce the well-known large blooms are grown in another nursery some distance off. In pots beneath the Roses here we noted floriferous specimens of Erythrina Crista-galli, double rose Oleanders, and the orange-flowered Cestrum aurantiacum, so useful for covering the pillars of greenhouses and conservatories. The Rose Nursery is at some distance from that containing the Dahlias, and is well furnished with a large assortment of all the leading and standard varieties, both hybrid perpetual and Tea Roses. The dwarf Roses are grown upon the Manetti and on the cultivated Briar. Mr. Walker also grows a collection of climbing Roses, Noisette Roses, and the new Polyantha Rose, Turner's Crimson Rambler. He also grows a quantity of pot Roses, Moss, China, and Bourbon Roses, the latter of which being peculiarly an autumn-flowering race. The leading Carnations, Picotees, Cloves, and Pinks are grown rather extensively. Fruit and ornamental trees, shrubs, and hardy herbaceous plants are also features of the nurseries of which Mr. Walker has several in more or less widely separated localities.

VANDA SANDERIANA.

When this singular and magnificent Vanda first flowered in this country, it gave rise to a considerable amount of excitement amongst Orchid growers. The size and beauty of the flowers still appeal to all lovers of Vandas, or Orchids generally, each time it comes into bloom. We noted a very fine variety of it the other day in one of the East Indian houses, in the nursery of Messrs. J Veitch & Sons, Chelsea. The upper sepal and the petals were pink, spotted with crimson at the base. The large lateral sepals are yellow with bronzy-purple veins, and constitute the most conspicuous and attractive part of the flower. The accompanying illustration will give an idea of the form of the flower and the distribution of colour, but only the flower itself can convey an impression of its striking and beautiful appearance. The absence of a spur to the lip, and the transverse arrangement of colours, place this plant close to Arachnanthe Cathcartii.



Vanda sanderiana.

LOOK TO YOUR BOILERS.

The time of year has now come when these should be examined, and every thing in connection with them and their settings requiring attention should be taken in hand without much further delay. But it is not this which we especially wish to draw attention to in the present instance. Inasmuch as the inadequate heating power of an enormous number of heating apparatus scattered about the country, results in many instances in most provoking losses, and entails upon those in charge of them an amount of anxiety and labour to an unreasonable extent, it is not going too far to describe it as a positive act of cruelty. Numbers of men have, during a severe spell of frost, to sit up to the small hours of the morning, and, indeed, in some instances the livelong night, in order to keep the frost out.

We submit that this, in addition to a fair day's work, is a state of affairs which would not be tolerated outside of the gardening profession, and which will never be entirely altered unless by legislative enactment; for the unfortunate ones who find themselves placed in these circumstances are too often told, when they ask for an alteration: "Why you kept out the frost last winter, why not do it again?" A short Act of Parliament making it compulsory to put efficient heating apparatus into glass houses, where hired labour is employed to attend to the fires, might easily be framed, and if put in force would lighten the burden of many deserving men, who really ought to have similar protection to that afforded to factory hands. Cannot some private member be induced to bring in a Bill.—*W.G.B.*

A GARDEN INDEED.

The gentle William Cowper, in his pleasing and meritorious poem, "The Task," says that

"Who loves a garden loves a greenhouse too,"

and if, in any place, this is more truly to be seen, it is at Hillside, Cumnock, the country residence here of Hew H. Crichton, Esq, W.S. Certainly never did some three imperial acres or so of ground show so fair and beautiful a flower garden before, or such an array of the most perfect greenhouses which it is possible anywhere to find or set eyes upon. As all great poets are said also to be prophets, then surely Edmund Spenser must have the Hillside gardens in his prophetic eye when, three centuries ago, he thus wrote in his great and immortal poem, "The Fairie Queene,"

"No dainty flower or plant that grows on ground,
No arbore with painted blossoms drest
And smelling sweet, but there it might be found
To bud out fair and throw her sweet smells all around."

Outside, the ground is laid out in the finest and most graceful figures, and filled with some forty thousand plants of many various kinds, whose colours blend in a way which pleases the eye of taste in the most perfect manner possible. The greenhouses, as we have said, are numerous, each, generally, having its own kind of plants. In some, the flowers are everything, and they are as gorgeous as profuse, and the colours made to blend with the most wonderful good taste. In others, foliage is the all in all sought after, and obtained to the fullest extent which could be desired; and in all the most costly and fair tropical plants and flowers grow as well as they ever can do in their own far-off and native "climes of the sun." We speak not here of the vineries, where the most luscious Grapes cluster and grow, nor of the large and costly house recently erected, where the most delicious Pears and Plums grow under glass, safe from piercing beak of plundering bird, or the ravages of wicked or venomous wasps. The tool-house is, perhaps, the most perfect and complete in the kingdom. Everything required for the garden and greenhouses is to be found there, all of the best quality and construction, all arranged in the most perfect order, all, like everything else, in the most faultless condition, which, with the garden and greenhouses, show how excellent, cultured, and extensive Mr. Crichton's taste is, and also that in Mr. M'Donald he has one of the most skilful and painstaking gardeners who is anywhere to be met with all the country over. Some two years ago Mr. Andrew Carnegie, who has seen so much of the kind and in so many lands, and who has an excellent and a most discriminating eye for all that's fair and beautiful in nature, pronounced the Hillside garden to have been the most beautiful he had ever seen; and such was the opinion expressed by Mr. Carnegie's equally observant and highly accomplished wife.—*Cumnock Express.*

ORCHID NOTES & GLEANINGS.

By The Editor.

The undermentioned awards were made by the Orchid Committee of the Royal Horticultural Society on the 13th inst.:—

Cattleya Eros, *Nov. hyb.*—The seed parent of this magnificent and remarkably distinct hybrid was C. Mossiae crossed with the pollen of C. walkeriana, which has given both its shape and colour to the progeny. The fusiform pseudobulbs are 2 in. to 3 in. long, and like those of the mother. The sepals are soft clear rose, while the ovate petals are somewhat darker. The tube of the lip is wide open in the upper portion like that of C. walkeriana, and the side lobes are soft purple. The terminal lobe is bifid, reflexed at the sides, twice as large as that of C. walkeriana, and dark purple. The hybrid is a handsome and rare acquisition to its class. First-class Certificate. Messrs. J. Veitch & Sons, Chelsea.

Cypripedium massaianum superbum, *Nov. hyb.*—This is the result of crossing C. Rothschildianum with C. superbiens, and is remarkable for its great size. The leaves are light green, tessellated with a darker hue. The upper sepal is white, tinted with green in the centre, and lined with brown and purple towards the sides. The long petals are yellowish, fading to white at the apex, and densely spotted blackish-purple. The huge lip is deep purple. First-class Certificate. Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Dendrobium Phalaenopsis hololeucum, *Nov. var.*—Unlike D. P. album this is pure white with exception of a purple anther cap, and is certainly very choice. First-class Certificate. J. T. Holmes, Esq., Beechen Cliff, Bath.

Vanda caerulea.—A remarkably richly-coloured form of this was exhibited by E. H. Woodall, Esq., St. Nicholas House, Scarborough. First-class Certificate.

Odontoglossum harryanum.—The flowering plants in a unique group set up by T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), consisted largely of healthy well-grown and superbly flowered specimens of Odontoglossum harryanum, the segments of which were remarkably firm in texture. The sepals were of a deep chocolate with a few transverse yellow streaks. The petals had longitudinal white or pale coloured lines on the lower half. The lip was very handsome, being of a dark violet on the lower half and pure white upwards. There was little to choose in quality between all of the flowers in the group. Award of Merit.

Odontoglossum wattianum.—The lanceolate sepals of this beautiful Odontoglot are rich brown, marbled with yellow, and have a yellow tip. The petals are blotched and spotted with brown on a yellow ground. The large lip is white with a large, central purple blotch and numerous small spots of the same hue. It received a First-class Certificate, a well-deserved recognition. Messrs. F. Sander & Co., St. Albans.

Cattleya Leopoldii Sander's var, *Nov. var.*—The sepals and petals of this fine Cattleya are richly spotted with dark purple on a pale rosy ground. The transverse middle lobe of the lip is intense crimson-purple, and the side lobes rosy. The plant bore a magnificent spike. Award of Merit. Messrs. F. Sander & Co.

Cattleya Fowleri, *Nov. hyb.*—The parentage of this hybrid was C. Leopoldii crossed with C. hardyana. The long stems are slender and compressed. The sepals are purple, and the obovate petals of a darker hue. The upper lobe of the lip is transverse like the seed bearer, very broad, wavy, crenate, and of a rich dark purple; the side lobes are folded over the column and rosy purple. It is a distinct and highly-coloured Cattleya. First-class Certificate. J. Gurney Fowler, Esq. (gardener, Mr. Davis), South Woodford, Essex.

Vanda caerulea Fowler's var, *Nov. var.*—The flowers of this Vanda were notable for their great size and rich blue colour, most intensified upon the lip. Each spike carried six to ten flowers. Those who saw the plants said they never saw the flowers more highly coloured. First-class Certificate. J. Gurney Fowler, Esq.

Eria stellata.—The scapes of this species are 12 in. to 18 in. long, and bear a long raceme of starry flowers. The sepals are deep purple lined with white and the petals are paler. The lip is yellowish. Botanical Certificate. Admiral R. P. Cator (gardener, Mr. G. E. Day), King's Langley.

Laelio-Cattleya Elstead Gem, *Nov. hyb. bigen.*—This was obtained from Cattleya bicolor crossed with L. xanthina, and is very distinct. The smooth sepals are golden yellow, but the oblong petals are more corrugated, revolute at the sides and pale yellow. The terminal, transverse lobe of the lip is dark purple and ribbed; the side lobes cover the column, and are yellow except the purple tips, and the tube is yellow. Award of Merit. Charles Ingram, Esq. (gardener, Mr. T. Bond), Elstead House, Godalming.

Maxillaria fucata.—The sepals and petals of this pretty species are white at the base and orange-brown upwards, spotted with darker markings. The lip is yellow with reddish-brown, wavy side lobes. Award of Merit. Sir Trevor Lawrence, Bart. (grower, Mr. W. White), Burford Lodge, Dorking.

Laelia monophylla.—The slender stems of this rare species are 2 in. to 3 in. long, and bear a solitary leaf and flower which is bright orange-scarlet. Award of Merit. A well-flowered plant was shown by Sir Trevor Lawrence, Bart.

Polycycnis Lehmannii.—The sepals of this singularly curious species are concave, the upper one being folded together and heavily spotted purple on a pale ground. The petals are smaller but similar. The lip is a curious organ, white, spotted with dark purple, and furnished on the middle with a downy, woolly, white patch of hairs. The lateral lobes clasp the slender column. Botanical Certificate. Sir Trevor Lawrence, Bart.

Polystachya odorata.—The ligulate leaves are numerous, and from amongst them springs the panicled scape bearing very numerous, small, yellow and white flowers. Botanical Certificate. Sir Trevor Lawrence, Bart.

Dendrobium longicornu.—The flowers of this pretty Dendrobe are characterised by a long, conical, white spur, tinted blush. The segments are white, and the interior of the lip is striped with salmon and has a median orange band. Botanical Certificate. Sir Trevor Lawrence, Bart.

Odontoglossum coronarium.—A flower of a fine form of this Odontoglot is now flowering splendidly with Mr. T. Henderson, gardener to A. O. Shalders, Esq., Elmleigh, Ilkley. The plant was bought at a sale of Orchids belonging to E. Salts, Esq., Ferniehirst, near Bradford, Yorks, and is now flowering at Elmleigh for the first time. It carries twenty-three flowers on a spike and must present a fine appearance. The sepals and petals are crisped and of usual rich reddish coppery brown, margined with golden-yellow, and as glossy as if they were polished. The lip is rich yellow, with exception of the brownish-orange crest and surroundings as well as a darker blotch in front of the same. The column of the species is usually white as well as the crest, but in this case it is of a dark chocolate-purple. Altogether we consider this a very fine and highly coloured variety. Unfortunately the plant is rather difficult to cultivate, and requires special treatment. Its rambling habit prevents it from being grown successfully for any length of time in a pot; but it responds better to good cultural treatment when grown in a long, narrow, teak box or on a raft of similar form so that the rhizomes may have some room to run. A compost of peat and sphagnum, with plenty of the latter, answers its requirements admirably; and the other special conditions are that it should be suspended near the glass and kept moist all the year round.

Cypripedium superbiens (Veitchii).—The various forms of deformed flowers to be seen occasionally amongst Orchids, are always interesting and worth recording. From time to time we hear of twin-lipped flowers of Cypripediums, but there is at present in flower at Falkland Park, South Norwood, a plant of C. superbiens with four good flowers, two of which have twin lips, each flower producing two pouches, each lip being complete and divided from the base of the column; otherwise the flowers are normal. I have long been of the opinion that twin flowers—two flowers on one stalk—were the result of good culture; and in many other plants good culture gives rise to doubling. Is this twin-lipped slipper the forerunner of the same thing in Cypripedium?—"*Norwoodense.*"

GARDENING MISCELLANY.

THE MONTBRETIA.

About this time last year I wrote you on the hardiness of the Montbretia, and now, after an experience of one of the most severe and prolonged winters, I can confirm the opinion I then expressed, that it is perfectly hardy, suitable, and highly decorative as a herbaceous subject. I have the same fine bed I had last year, now crowded with spikes of bloom just beginning to burst; and of the thousands of bulbs of which this bed is composed I cannot discover a single failure, although exposed even without the slightest mulch during the whole of last winter. It is thus one of the most useful plants cultivated for supplying what may be considered a choice ornament for table and general house decoration.—*D. P. Bell.*

AN EARLY FLOWERING CAMELLIA.

I enclose you a bloom of a white Camellia which is further advanced than I remember ever having seen so early in the season. Two buds were left on each shoot, the total number of the former being 170 or thereby. The plant on which these are growing is a rather old specimen, growing in a 12 in. pot and considerably root-bound. It measures 4½ ft. from the rim of the pot to the top of the plant, the greatest diameter being only 3½ ft. It will be perceived that the plant is not a large one in proportion to the number of buds it carries. It has stood in the open for about three months.—*D. Mackie, Montgomerie, Ayrshire.* [The fully-expanded flower sent us measured 4 in. in diameter, and was perfectly developed in all its parts, with broad, neatly imbricated petals of firm texture, and pure white. Several sprays bore fine buds, which, in the ordinary course of growth would have opened in a short time. The dark green, leathery leaves bore evidence of good cultivation. Such early flowering should insure a long season of Camellia blossom.—Ed.]

TWO CHOICE FUCHSIAS.

The varieties of Fuchsia are so numerous that selection often becomes a difficult matter. Here and there, however, some stand out more prominently from the rest, and amongst these we would place Duchess of Edinburgh and Ballet Girl. Both are double, light-coloured, and charming in their way, owing to the regular arrangement of the flat, ample, and imbricating petals. In the case of Duchess of Edinburgh the sepals are red and reflexed. The broad petals are very numerous, giving the flower a solid appearance, without being lumpy, as in the case of those whose petals are crumpled and project more or less from the flower in an irregular way. Slightly smaller is Ballet Girl, but sufficiently large to take a place in a very choice collection. The sepals are short, bright red, and so recurved as to give the flower a neat and sprightly appearance. The petals are white, with rosy veins at the base, and exceedingly neat in form, as the name would suggest. We saw both of these sorts in the collection of Messrs. J. Veitch & Sons, Chelsea, and have no hesitation in saying that they are two of the finest Fuchsias in cultivation.

A FINE STRAIN OF STREPTOCARPUS.

Great interest still continues to be manifested in the cultivation and improvement of the hybrid strain of Streptocarpus in the nursery of Messrs. J. Veitch & Sons, Chelsea. The seeds were sown in January, and afterwards planted out in a frame which is heated with a 2 in. flow and return pipe, but which is barely sufficient to keep out the frost in winter when the lights are frozen down. The seedlings are planted out, and will give an idea of the number grown from the fact that twenty lights are occupied with them. The flowers possess an endless range of colour, from pure white to intense violet or purple-violet. In some of the white varieties the blue and other hues are so reduced that nothing but three faint blue lines or a pale yellow band in the throat are seen. Other colours are rose, intense rose, violet with blackish-violet bands, blue and violet bands, purple, intense purple-violet, intense purple-red, and other hues too numerous to mention, but which give a charm and vivacity to a collection in which but a tithe of the existing colours are represented. Whether grown in pots or planted out these Streptocarpi succeed equally well.

A BLUE ROSE.

According to report, a reward of 30,000 francs has been offered by a florist in Mayenne, France, to any one who can raise a blue Rose.

FLOWER GALA AT ABERDEEN.

The annual show and gala of the Royal Horticultural Society of Aberdeen was held within the Duthie Park on the 22nd, 23rd, and 24th inst. Beautiful weather favoured the event. Overnight heavy rain fell, and the early morning of Thursday looked far from auspicious. In the course of the forenoon the atmosphere cleared, and bright sunshine, tempered by a cooling breeze from the south-west, was experienced for the remainder of the day. The entire park was utilised for the purpose of the fête, but in view of the fact that the charge for admission was fixed at a nominal figure, and that the attractions were numerous, few, if any, of the public could complain of the slight inconvenience of being for a time kept outside the place which they have come to regard as peculiarly their own property. The exhibits were superior to anything previously got together. The total amounted to 2,021, as compared with 1,375 in 1893, the figures in the different sections being:—Pot plants, 282 against 156 last year; cut flowers, 620, against 533; fruit, 392, compared with 129; and vegetables, 727, as against 557. The various sectional displays were laid out in large marquees. The quality of the exhibits was also very good, considering the backward season. Cut flowers constituted one of the prettiest items. In the arrangements of these for table decoration, Mr. Robert Burns, of the New Market, with a capital show, carried off first prize. Among professional gardeners, Sir William Henderson's representative took the blue ribbon for a nice group of plants, defeating many competitors.

Roses were well represented, and gave rise to keen rivalry. Messrs. D. and W. Croll were successful for Tea Roses, the Messrs. Cocker, Aberdeen, being second. In hybrid perpetuals, however, the position of the two firms referred to was reversed. Vegetables were all round an excellent lot. Mr. George Milne, gardener to Lady Gordon Cathcart, of Cluny Castle, took the premier place for the best basket of vegetables and a fine collection of vegetables. The latter, by the way, were all over an exceedingly fine exhibit. With the exception of some very superior Gooseberries and Grapes there was nothing of outstanding merit in fruit. Mr. Alexander Reid, gardener to Mr. Alexander Baird of Urie, was first for Gooseberries. Mr. George Duncan, gardener to Mr. Fitzroy C. Fletcher, Letham Grange, Arbroath, was awarded first place for a collection of nine dishes of different kinds of fruit, and the same exhibitor took the premier place for Grapes. Mr. Alexander Reid defeated all comers for Apples. The sections reserved for the working class and amateurs generally were very interesting. In both a fine representation of flowers and plants were shown, but it was in the vegetable class that the amateurs were seen to best advantage. For the best basket of vegetables containing six varieties, Mr. G. Maitland, Woodside, was an easy first, and he also took first place for the best table of greenhouse plants in the amateur section. Mr. J. M. Simpson, King Street, Aberdeen, came first with a very good lot of Leeks, and the same competitor succeeded in taking the second place for a table of greenhouse plants that were very little inferior to the first lot. The awards for the finest basket of vegetables in the amateur class went to Mr. George Rae, Woodend Cottage, Netherley, but here it is only right to mention that the competition was not nearly so stiff as one would naturally have expected.

NATIONAL CO-OPERATIVE FLOWER SHOW.

The tenth annual festival, flower show, and exhibition of the National Co-operative Association was held at the Crystal Palace on the 24th and 25th inst. Congresses and meetings for various purposes were held somewhere or other all the week, and the gardeners' section of the exhibition was opened on Friday, while the cottagers' exhibits were staged on Saturday.

Owing to the presence of the African Exhibition at one end of the building, the exhibits of this association were rather congested in the other. The gardeners' section presented a bright appearance owing to the quantity of bright coloured flowers brought together; but some of the classes of more importance to cottagers than gardeners might have been left unscheduled to the advantage of the rest. The vegetables presented a well-grown appearance, and were presented in clean and attractive condition, the result, no doubt, of previous experience and competition. The Potatos were wonderfully fine, better, in fact, than we have seen them for some years at this show.

The first prize for round white Potatos was taken by Mr. J. Holton, Oxford, with a magnificent dish of Satisfaction. He took the gold medal last year as the most successful exhibitor, and though he took many first prizes on Friday, is, of course, ineligible this year for the same honour. Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Glenhurst, Esher, took the second prize for round white Potatos, showing Windsor Castle. He came to the front with coloured kidney Potatos, showing Edgecote Purple; he was followed by W. Stevens, Esq. For coloured round Potatos Mr. Hawkins, Oxford, was first, and Mr. C. J. Waite, second. In the class for white kidney Potatos, Mr. J. Holton and Mr. C. J. Waite took the leading awards in the order named, but in the class for a collection of white Potatos, the order was reversed, Mr. C. J. Waite taking the first prize. Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Ross, took the leading position with a collection of vegetables, the Cauliflower, Peas, Beans, Celery, and Potatos being very fine. Mr. J. Holton was a good second, being weak in a few points only. Mr. C. Osman, Sutton, was third with a very nice and fresh exhibit. In another class for vegetables, Mr. C. J. Waite set up a splendid exhibit of Cauliflower, Tomatos, Onions, Beet, Leeks, Marrows, Carrots, Scarlet Runners, and Peas. Mr. J. Holton had the best giant Scarlet Runners, the best Runner Beans, and the best Dwarf Beans. Mr. J. Mossman, gardener to G. W. Pollock, Esq., Bagshot, took the first award for Long Pod Beans, as well as for Windsor Beans. Mr. G. Martin, gardener to H. J. V. Neale, Esq., Marlow, had the best Blood Red Beet, and Mr. Holton took this honour for the turnip-rooted types. Mr. Mossman had the best Long Surrey Carrots; Mr. J. C. Waite was first for the Scarlet Intermediate; and Mr. R. Chamberlain, gardener to F. Lonergan, Esq., Reading, had the best red Intermediate Carrots. Vegetable Marrows were shown in quantity.

Fruit was shown in considerable quantity, particularly the hardy kinds. Mr. A. Axell, Sittingbourne, had the best dessert Apples, which were highly coloured. Mr. A. Gavin, Sittingbourne, took a similar position for Cooking Apples, which were of large size. Mr. H. Pitt, Hereford, took the first prize for a collection of fruit including fine black and white Grapes, Figs, and Peaches. He also had the best collection of open-air fruit, the best Apricots, Morello Cherries, and Currants. Mr. Popple, Hackthorn, was first for Gooseberries. Mr. C. J. Waite had the best black Grapes; but Mr. H. Pitt was far ahead with white sorts, showing well-finished Muscat of Alexandria. Mr. C. J. Waite came to the front with dessert Pears. Mr. S. Bolton, gardener to W. Tipping, Esq., Brasted, had the best cooking Plums; but Mr. C. J. Waite came to the front with dessert varieties. Mr. J. Mossman was first for Raspberries. Mr. A. Colbourn, gardener to W. Stevens, Esq., Croydon, was first for the Epicure Tomato.

Cut flowers of various annual and perrenial herbaceous plants were much more abundant than we have usually seen them, and presented in much better condition. The Sweet Peas, Dahlias, Phloxes, Asters, attracted a considerable amount of attention. The Fuchsias in pots were better than we have hitherto seen them here.

The exhibits by the cottagers and working classes on Saturday were exceedingly numerous, and some of them were excellent examples of good cultivation. Space forbids us going into detail, but we may state that there were something like 43 entries of Dwarf Beans, 91 for Beet, 63 for Peas, 74 for Onions, 117 for Vegetable Marrows, 171 for Potatos, 203; and so on in proportion. The entries for cut flowers were also exceedingly numerous. Altogether there were 4,110 entries in the exhibition, being 380 in excess of last year; and it was the biggest show the Association has had.

SOCIETIES.

Shrewsbury Horticultural Society, *August 21st and 22nd.*—The above Society held its 21st Annual Floral Fête on Wednesday and Thursday of the above dates, in the beautiful and picturesque Quarry grounds, under the most favourable and delightful weather. Although these shows in previous years have always been satisfactory, the present is a record year, their being in all 2,740 entries in the floral and horticultural sections, or 362 entries in excess of last year. The cash prizes offered in the schedule amount to nearly £800, besides the Society's gold and silver medals offered for non-competitive groups, etc. Under a favourable sky and genial weather, special excursion trains brought thousands of people from all parts who flocked through the gates to feast upon the floral beauty and horticultural craft that is seldom seen. The quaint old town was bedecked with flags, banners, and other decorations along the principal streets to help make the place look more gay. On entering the Quarry grounds the huge tents were at once visible to the visitors, and were soon filled with spectators and enthusiasm. Here I may say that Messrs. Adnitt and Naunton, the Hon. Secs., are to be highly congratulated for their combined efforts in preparing a show of such gigantic proportions. I subjoin a list of the chief prize winners in the more important classes.

Mr. James Cypher, of Cheltenham, carried off the premier prize (open to all) for the most artistic arrangement of miscellaneous plants, occupying a space of 300 square feet; the Duke of St. Albans was second; Mr. James Marriott, Coventry, was third; Mr. C. H. Wright, Oswestry, came in fourth; and Messrs. Jones & Sons, Shrewsbury, took the fifth position. In the class for twenty stove and greenhouse plants, in bloom or foliage, Mr. Cypher again headed the list, and Mr. Marriott was a good second. For six plants in flower (Orchids excluded) Mr. Marriott was first; Mr. Cypher was second; and Mrs. Juson, Shrewsbury, took the third place. In the class for four Crotons Mr. Cypher was again to the fore; and Mr. Marriott was second. For six Orchids Mr. Cypher was again first; Col. Lloyd, Oswestry, being second. In the display of floral arrangements for tasteful staging, any design, Messrs. Perkins & Sons, Coventry, were first; Messrs. Jones & Sons were second; Mr. J. W. Chard, Stoke Newington, came in third; and Mr. W. F. Gunn, Birmingham, took the fourth position. For a ball and bridal bouquet, Messrs. Pope & Sons, Birmingham, secured the first award; Mr. G. H. Kenrick, Birmingham, was second; and Mr. F. H. Norris, Birmingham, was third. For a collection of Gladioli Messrs. Harkness & Sons, Bedale, were a good first, with some splendid spikes; Mr. R. Morrow, Leominster, being second. Messrs. Crassling, Penarth, & Murrell, of Shrewsbury, made a grand display of cut Roses, arranged in various ways, taking the first and second prizes in the order named. In Dahlias, all kinds, Messrs. Keynes, Williams & Co., Salisbury, came first; Messrs. Pope & Sons were second; and Messrs. Jones & Sons were third. Herbaceous flowers were well represented, and contributed largely to the effect and beauty of the show. In a space to occupy 15 ft. by 6 ft., Messrs. Dicksons, Limited, Chester, took the leading prize; Messrs. Harkness & Son were a close second; and Mr. W. F. Gunn, Alton, Birmingham, was third. For bulbous plants Messrs. Dickson & Sons again came to the front; Messrs. Harkness & Son were second; and Messrs. Barr & Son, Covent Garden, took the third award. In the class for Carnations and Picotees, in variety and not dressed in any way, Mr. M. Campbell, Blantyre, N.B., took the first prize; and Messrs. Laing & Mather, Kelso, N.B., were a good second. For twenty-four Dahlias, distinct, Mr. S. Mortimer, Farnham, was first; Messrs. Kimberley & Son were second; and Messrs. Keynes, Williams & Co. were third.

For a collection of twenty-four varieties of fruit, staged to occupy a space 10 ft. by 4 ft. 6 in., Ferns and foliage plants being allowed to give effect, the premier honour was carried off by the Earl of Harrington, Derby; the second by Sir J. W. Pease, Bart., M.P., of Guisbro'; the third by the Duke of St. Albans, Notts; and the fourth by H. Pitt, Esq., Abergavenny. For six bunches of black Grapes in three varieties, Mr. J. Grant Morris, Liverpool, was first; Mr. J. W. Raines, Rock Ferry, was second; Lord Harlech, Oswestry, was third; and Lord Bagot took the fourth place. In the collections of hardy fruits there were some very fine examples of Peaches, Apricots, and Nectarines, Mr. T. Meares taking the premier award. For cooking Apples Mr. W. E. King-King secured the first prize; Mr. T. Lewis was second; and Mr. T. Parkinson took the third place. The leading winners for dessert Apples, Pears, and Plums were Messrs. J. Slaney, Mr. T. Lewis, and Mr. W. Richards.

In the cottagers' tent there was a close competition for fruits and vegetables in which the standard of excellence prevailed, especially in Celery. Cauliflowers, autumn Onions and Potatos, Broad Beans and French Beans formed strong classes, both as regards quality and number of exhibits. Parsnips and Vegetable Marrows were especially fine. Carrots and Turnips were fine. The best brace of Cucumbers came from Mrs. R. Darby, and were very uniform and smooth specimens.

Special awards were offered by the trade; and the successful competitors were:—For Messrs. Webb & Sons', Wordsley, prizes for a collection of vegetables, eight distinct kinds, Lady Theodora Guest was first; The Earl of Carnarvon, Newbury, was second; the Earl of Lathom, Ormskirk, was third; Col. the Hon. W. P. Talbot was fourth, and Mr. J. H. Davies, took the fifth place. For the best dish of Webb's Tomatos, Lady T. Guest took the first prize; Mr. J. Cooke, Shrewsbury, was second; Col. the Hon. W. P. Talbot was third; and Mr. J. H. Davies came in fourth. For Messrs. Sutton & Sons', Reading, prizes for a collection of vegetables, nine distinct kinds, The Earl of Lathom was first; Earl of Carnarvon took the second prize; Col. the Hon. W. P. Talbot was third; Mr. J. R. Greatorex, Shrewsbury, took the fourth place; Lady T. Guest was fifth; and Miss Talbot, South Wales, secured the sixth award. For Messrs. Carter & Co. s, High

Holborn, for the best nine pods of their "Jubilee" or "Elephant" Runner Beans. Mr. J. Grant Morris, Liverpool, came to the front; Mrs. Watkins, Shrewsbury, was second; Mr. W. Richards, Ludlow, came in third; and Col. the Hon. W. P. Talbot took the fourth place. For best specimen of Melon Blenheim Orange or Holborn Favourite, Col. the Hon. W. P. Talbot was first; Mr. J. G. Morris was second; and Mrs. Watkins came in third. For the best four dishes of salading, selected from Radish, Lettuce, Endive, best Cucumber or Onions, Mrs. Wingfield, Ampthill, came in first; Col. the Hon. W. P. Talbot, was second; and Lady T. Guest came in third. For Mr. H. Deverill's, Banbury, prizes for a collection of any three varieties of his Pedigree Onion, six bulbs of each variety, Earl of Carnarvon was first; Lady T. Guest was second; and Miss Talbot, Penrice Castle, took the third place. For Messrs. Clibran & Son's, Altrincham, prizes for the best twelve fruits of Clibran's Tomato, Rev. T. M. Bulkeley-Owen, West Felton, secured the first prize; and for a brace of Clibran's Cucumbers Mr. A. Lowe, Donnington Wood, secured the leading award.

The following were the non-competitive exhibits, and which received the Society's medals upon the recommendation of the judges:—Mr. H. Eckford, Wem, for a collection of Sweet Peas (Gold Medal); Messrs. W. & J. Birkenhead, Sale, for a collection of Ferns (Gold Medal); Messrs. J. Veitch & Sons, Chelsea, for a grand display of Caladiums and miscellaneous plants (Gold Medal). Messrs. de Rothschild, Gunnersbury, contributed a magnificent group of sweet-scented leaved Pelargoniums, in which Radula major, flat trained, filicifolium odoratum, fumarifolia, Pretty Polly, Little Gem, denticulatum and d. minor, Scarlet Unique, and tomentosum were conspicuous; the collection consisted of about 25 to 30 varieties, for which the exhibitor richly deserved the Gold Medal awarded. Messrs. Pritchard & Son, Shrewsbury, had a Gold Medal for stove and greenhouse plants, etc. Messrs. Cutbush & Sons received a Silver Medal for cut herbaceous plants, etc.; Mr. B. R. Davis, Yeovil, had a Silver Medal for Begonias; Messrs. Hewitt & Co., Solihull, had a Silver Medal for cut herbaceous plants, etc.; Mr. Murrell, Shrewsbury, received a Silver Medal for Begonias. Messrs. R. Smith & Co., Worcester, for a collection of stove and greenhouse plants, etc. were awarded a Silver Medal. Messrs. Clibran & Sons, Altrincham, had a Silver-gilt Medal for a collection of Cacti and herbaceous plants; and to Messrs. J. Cowan & Co., Liverpool, a Silver Medal for a group of Roses was presented.

The programme for the two days was a remarkable one, for in addition to the six bands in attendance, there were horse-leaping, acrobatic performances, balloon ascents, etc., and each evening a grand display of fireworks closed each day. Mention may be made of the very advantageous results of Colchester's "Pure Ichthemic Guano" for cards denoting that Onions, Grapes, Tomatos, Begonias, etc. were to the front by securing premier honours in the various classes.—*W.L.*

Royal Horticultural, *27th August.*—The features of the meeting on Tuesday last were large groups of hardy herbaceous plants, Gladioli, China Asters, Crotons, and various smaller groups of choice stove plants. Orchids held their own as usual, and hardy fruits were largely in evidence. A choice group of Orchids was exhibited by Messrs. J. Veitch & Sons, Chelsea, including the new Coelogyne Veitchii, Vanda sanderiana, Grammatophyllum rumphianum, Cattleya Eldorado alba, and fine pieces of C. dowiana (Silver Flora Medal). A good sized group of Orchids was staged by Messrs. F. Sander & Co., St. Albans, amongst which we noted the curious Dendrobium bracteosum, D. b. album, both well-flowered; D. Phalaenopsis Schroderianum in great variety; Burlingtonia pubescens, profusely flowered; Cattleya aurea statteriana, and C. a. Mrs. F. Hardy. Both of the latter are handsome varieties (Silver Banksian Medal). A small group of Orchids was exhibited by Messrs. Hugh Low & Co, Clapton. The most conspicuous plants here were Cycnoches chlorochilon, Odontoglossum harryanum, and Oncidium gardnerianum. Messrs. W. L. Lewis & Co., Southgate, staged a group of Orchids, including Habenaria Susannae, Cattleya gigas, C. Harrisonae, Odontoglossum grande, Miltonia moreliana, M. spectabilis virginalis, and other choice things. A large plant of Vanda caerulea in a basket, and bearing eight spikes, Odontoglossum coronarium (Cultural Commendation), and Cypripedium Morganiae were staged in fine condition by E. H. Woodall, Esq. (gardener, Mr. W. Hughes), St. Nicholas House, Scarboro'. A collection of Orchids consisting largely of cut flowers, was exhibited by T. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. Amongst others were the new Laelia elegans Oweniae, Cattleya gaskeliana alba, C. aurea, C. Rex, Dendrobium Phalaenopsis Schroderianum, Laelio-cattleya calistoglossa, Cypripedium Lord Derby, and other fine things (Silver Flora Medal). A Cultural Commendation was awarded to De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks, for a fine piece of Odontoglossum Uro-Skinneri. The rare Odontoglossum Krameri and Pachystoma thomsonianum were shown by Messrs. B. S. Williams & Son, Upper Holloway. Catasetum Bungerothii in magnificent condition, Dendrobium hookerianum, Cypripedium Morganiae burfordiense and other choice Orchids were exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking. Aeranthus grandiflorus and a Catasetum were shown by A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Wallington; Laelio-cattleya Elstead Gem, L. Charles Darwin, Laelia elegans Turneri Ingram's var., and others were shown by C. Ingram, Esq. (gardener, Mr. T. W. Bond), Elstead House Godalming.

A group of stove and greenhouse plants, including two magnificent specimens of the beautiful Alocasia Lowi grandis, Erica cerinthoides coronata, and other Heaths. A group of Phrynium variegatum and Maranta major was set up by Mr. J. Ouvrard, Child's Hill, Kilburn (Bronze Banksian Medal). Mr. Prichard, Christchurch, Hants, staged a large and showy group of hardy herbaceous plants, including Lobelia cardinalis Robert Parker, Lilium tigrinum splendens, Kniphofia Pfitzeri, Phloxes, Aconitum, Coreopsis, Sunflowers, and various others (Silver Banksian Medal). A large collection of Phloxes, also some Sunflowers, Japan Anemones, and other herbaceous plants were shown by Messrs. Paul & Son, Cheshunt. They also had cut specimens of flowering and fruiting trees and shrubs (Silver Flora Medal). Messrs. Barr & Son, King Street, Covent Garden, exhibited a large and very varied group of hardy herbaceous plants, including Sunflowers, Phloxes, Pyrethrums, Gaillardias, Gladioli, and Lilies in variety. They also had some Dahlias, China Asters, Marigolds, Sweet Peas, and many other popular subjects (Silver Flora Medal). Messrs. H. Cannell & Sons, Swanley, Kent, had a fine exhibit of tuberous Begonias, Cannas, Combscombs and Cactus Dahlias all arranged in separate groups of a kind. The Begonias were double seedlings of this year and very showy they were, and of good quality. The Cannas included some of the best in cultivation. The Cockscombs were varied and well grown. Amongst the Dahlias we noted a decorative variety named Germania of a charming pink colour. Behind these were some fine heads of the double Sunflower (Silver Flora Medal). Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had a showy group of Lilies, including several magnificent varieties of L. auratum, also L. sulphureum, and L. nepalense (Bronze Flora Medal). An extensive group of Crotons of a suitable size for table and other decorations of a similar nature, was exhibited by J. P. Morgan, Esq. (gardener, Mr. J. F. McLeod), Dover Bouse, Rockhampton, Surrey. Broad and narrow leaved kinds were judiciously intermixed on a groundwork of Maidenhair Fern. He had 50 varieties (Silver Flora Medal). A very extensive collection of China Asters in numerous races and varieties was exhibited by Messrs. J. Veitch & Sons. The plants were in pots, and both dwarf and tall sorts were splendidly flowered. The Rose Bedding variety would constitute an excellent subject for bedding purposes (Silver Flora Medal). A very extensive collection of Gladioli was exhibited by Messrs. Kelway & Son, Langport, Somerset. A large percentage were varieties of their own raising and 36 were seedlings flowering for the first time. Some were hybrids of Kelwayi and others owed their parentage to Gladiolus Saundersii crossed with G. gandavensis (Silver-gilt Flora Medal). A collection of China Asters, including the Quilled Globe, Paeony-flowered, Comet, and Victoria, was exhibited by Messrs. Dobbie & Co., Orpington, Kent. They consisted entirely of cut flowers, but the individual flowers in the bunches were all in good form (Silver Banksian Medal). Some fancy Dahlias, including the giant Le Colosse, were shown by Messrs. H. Cannell & Sons. Some hybrid Fuchsias were shown by Mr. Philip Fry, Addington Green, West Malling. A box of Saxifraga sarmentosa tricolor superba was brought up from the gardens of the Royal Horticultural Society at Chiswick. Messrs. J. Peed & Sons, Norwood Road, S. E., showed some Pompon Dahlias. Several stands and boxes of show, Pompon and Cactus Dahlias were exhibited by Mr. C. Turner, Slough. Beatrice and Leonora are distinct new colours amongst the Cactus Dahlias.

At a meeting of the Fruit and Vegetable Committee a Silver-gilt Knightian Medal was awarded to Messrs. J. Veitch & Sons, for a grand collection of fruit, consisting of the leading varieties of Apples grown in the open air and in the finest condition; also a large collection of Plums, including Victoria, Pond's seedling, Lawson's Golden Gage, Denniston's Superb, Oulin's Golden, Diamond and Reine Claude du Comte d'Althan. They also showed splendidly fruited Rubus laciniatus, and The Transcendent and John Downie Crabs, which were very ornamental indeed. Earl Percy (gardener, Mr. G. Wythes), Syon House, Brentford, exhibited the Dwarf Bean Syon House Prolific, in fine condition. W. H. Harford, Esq., (gardener, Mr. A. G. Hookings), Almondsbury, Gloucester, exhibited some samples of Hookings' New Prolific Dwarf Bean. A Silver Knightian Medal was awarded to Her Majesty The Queen (gardener, Mr. Owen Thomas), for a fine collection of Plums, many of which were admirable samples of cultivation. Some Melons were shown by Earl Percy, and by the Earl of Derby (gardener, Mr. Rob. Doe), Knowsley, Prescot. Tomato, Cannell's King was shown by Messrs. H. Cannell & Sons. William's Favourite Apple was shown by Messrs. Geo. Bunyard & Co., Maidstone. A Silver Banksian Medal was awarded to Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, for a collection of Apples, Plums and Damsons.

QUESTIONS AND ANSWERS

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

NAMES OF PLANTS.—*J. C.*: 1, Rubus phoenicolasius; 2, Hibiscus syriacus var.; 3, Anemone japonica alba; 4, Phlox paniculata var.; 5. Coreopsis lanceolata; 6, C. grandiflora.—*H. W.*: 1, Serratula tinctoria; 2, Epilobium hirsutum; 3, Centaurea Scabiosa; 4, Scabiosa succisa; 5, Lysimachia nemorum.—*A. R. M.*: 1, Polygonum cuspidatum; 2, Polygonum Bistorta; 3, Campanula isophylla alba.—*J. McRobie*: 1, Abies nordmanniana; 2, Abies Pinsapo.—*C. W.*: Celsia arcturus.

POLYGONUM SACHALINENSE.—*R. J.*: This was originally introduced in 1869, and has been knocking about in gardens without any special attention being given it till recently. Its ornamental character lies in its foliage and profusion of small, white flowers, which have a fine effect when the plant forms a huge bush 8 ft. to 12 ft. high. For the production of leafage and stems for fodder, plant it in any ordinary garden soil; but if the same is fairly rich, you will of course get a greater return in bulk, and be able to cut it down the oftener. Watering would also help growth greatly.

ROSE CUTTINGS.—*A. H. B.*: The hardier kinds may be inserted in a shady border out-of-doors. Take them off about 9 in. long, and insert them about 5 in. in the ground or even more. Under these conditions there is less danger of their being thrown out of the ground by frost. More tender kinds you might insert in the same way in a cold frame, or you might even insert them singly in thumb pots, plunging the latter in sandy soil. When pots are used, smaller cuttings will suffice.

ROOTING PELARGONIUMS IN THE OPEN AIR.—*J. Cassie*: The cuttings are now plentiful as you say, but we are afraid they would root very imperfectly if put in the open ground after this date. A better plan would be to put them in pots or boxes, so that you could lift them indoors without disturbing the rooting process when the weather becomes too uncertain for them to be left out-of-doors longer. Mrs. Pollock and other tender, slow growing kinds of that sort should be put in pots.

NAMES OF FRUITS.—*W. Shrives*: 1, Apple Queen Caroline; 2, three of the four fruits sent were Duchess of Oldenburgh.

COMMUNICATIONS RECEIVED.—Diosma.—R. T. Clarke.—J. Downie.—Webb & Sons.—Daniels Bros.—Doubtful.—C. Walker.—G. Coulson, next week.—B. R. Davis.—R. Owen.—N. McF.—Begonia.—R. B. Laird & Sons.